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Challenges for International Business in Central and Eastern Europe

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Faculty of Economics and International Relations
Centre for Strategic and International Entrepreneurship
Department of International Trade

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Challenges for International Business in Central and Eastern Europe

edited by
Krzysztof Wach, Blaženka Knežević, Nika Šimurina

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Foreword

Regional idiosyncrasies of international business are recognized in both Central and Eastern Europe (CEE) and South-East Europe (SEE) countries. There is a theoretical and empirical gap in the literature, however, which is bridged by this thematic volume. It is important that the possibilities, which are created for businesses in the region of CEE and SEE, became fully utilized.

This volume presents current research findings from different parts of Europe making a valuable polyphonic contribution to the puzzle of both regional business and international business nexus. It contains 13 papers grouped in two parts. The first one is dedicated to general issues such as business environment and entrepreneurial challenges, while the second part discusses specific industries and trends.

This volume attempts to integrate general theory and empirics of specific industries and trends. The theory of business environment and entrepreneurial challenges focuses on economic determinates of entrepreneurial orientation in international business, while analysis of specific industries and trends deals with the dynamic evolution of comparative advantage and the consequences of international trade. In the light of dual focus of this study, we believe that it will be of interest both to business analysts and to international economists concerned with the evolution of trading patterns. Individual authors and the editors hope that readers will appreciate the work assembled here and that it will encourage further interests in these issues within the scope of CEE and SEE.

Krzysztof Wach
Blaženka Knežević
Nika Šimurina

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Theorizing on entrepreneurial orientation in international business: A synthetic review

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Abstract:

Both, entrepreneurship and international business have been topics of interest for academicians, businessmen and policy-makers around the world. Now it is obvious that entrepreneurs also do business internationally. International entrepreneurship is still a new research domain within international business studies and current empirical investigations focus on entrepreneurial orientation while internationalizing. The main objective of the paper is to discuss the concept of the international entrepreneurial orientation, by linking entrepreneurial orientation and internationalisation of the firm. The article is based on in-depth literature review and its critics.

Keywords: international entrepreneurship, entrepreneurial orientation, internationalization, international business
JEL codes: F23, L20

1. INTRODUCTION

The global business environment has changed drastically in the last years. The traditional markets were predominantly dominated by larger companies and SMEs were more focussed on regional and domestic markets. This has changed substantially because of the reduction in trade barriers, improvements in technology, logistics and communication. This has enabled even for the smallest players to participate in global competition (Naisbitt, 1995). One major change coming out of these changes is the change in management and competitive strategies of both large and small firms (Wright & Dana, 2003; Narayanan 2015b).

The main objective of the paper is to discuss the concept of the international entrepreneurial orientation, by linking entrepreneurial orientation and internationalisation of the firm. The article is based on in-depth literature review and its critics. The article consists of three sections. The first section discusses the roots

and basics of international entrepreneurship. The second section includes theoretical conceptualisation of entrepreneurial orientation. The last section tries to link entrepreneurial orientation and internationalisation.

2. BASICS OF INTERNATIONAL ENTREPRENEURSHIP

Both, entrepreneurship and international business have been topics of interest for academicians, businessmen and policy-makers around the world. Now it is obvious that entrepreneurs also do business internationally. Still both topics (entrepreneurship and international business) have not been so frequently studied together. International business has primarily been focused on studies of large multinational companies (MNCs). Entrepreneurship has had its focus on new ventures and SMEs (Narayanan, 2015a). However in recent years this trend has seen a decline and both these topics of entrepreneurship and international business are studied together (Oviatt & McDougall, 2000). The roots of international entrepreneurship (IE) can be traced back to the 1994 article written by Oviatt and McDougall which predominantly focused on small and medium scale ventures and their path to internationalisation. Studies done in the later years moved away from the focus on small ventures and tried to conceive IE from a generalized and broad range. This change in focus was seen in Oviatt and McDougall's 1997 and 2000 studies which moved away from the focus on the size of firm and age of the firm. In 2003, the definition of IE changed again with focus being opportunity recognition that brought IE more towards entrepreneurship paradigm (Keupp & Gassmann, 2009). Based on Oviatt and McDougall (2005), Kiss *et al.*, (2012) defined international entrepreneurship as "the discovery, enactment, evaluation, and exploitation of opportunities across national borders to create future goods and services". They further define international entrepreneurship as an amalgamation of two branches of studies namely "behaviour of international entrepreneur actors namely organisations, groups or individuals and comparative analysis of entrepreneurship based on different national parameters" (Kiss, Danis & Cauvsgil, 2012). According to Young *et al.*, (2003), IE has been to a great extent influenced by two research views: (i) research based view which considers key factors that contributes to enhanced performance of firms and (ii) network perspective that discusses about alliance formation in international activities (Young & Dimitratos, 2003). Continued research in the past two decades have helped in developing IE on many perspectives like international business (IB), entrepreneurship, strategic management, network and marketing (Peiris, Akoorie & Sinha, 2012). As per Oviatt & McDougall (2000) and McDougall-Covin *et al*., (2014), IE is not only an intersection of two business disciplines namely economics and management, but also form non-business fields "as diverse as sociology, economic geography, political science, development economics, and psychology" (Wach, 2015).

IE is primarily concerned with research in the fields of international business, entrepreneurship and strategic management (Wright & Ricks, 1994; Zahra *et al.*, 1999; Hitt & Ireland, 2000; Young & Dimitratos, 2003). International entrepreneurship as defined by McDougall-Covin *et al.*, 2014 is a cross functional study of entrepreneurship and international business. Zucchella & Sciabini (2007) added one

more perspective in the study by showing international entrepreneurship as a three faced study of entrepreneurship, international business and strategic management. Strategic entrepreneurship (Figure 1) is also defined in both strategic management as well as entrepreneurship (Wach & Wehrmann, 2014).

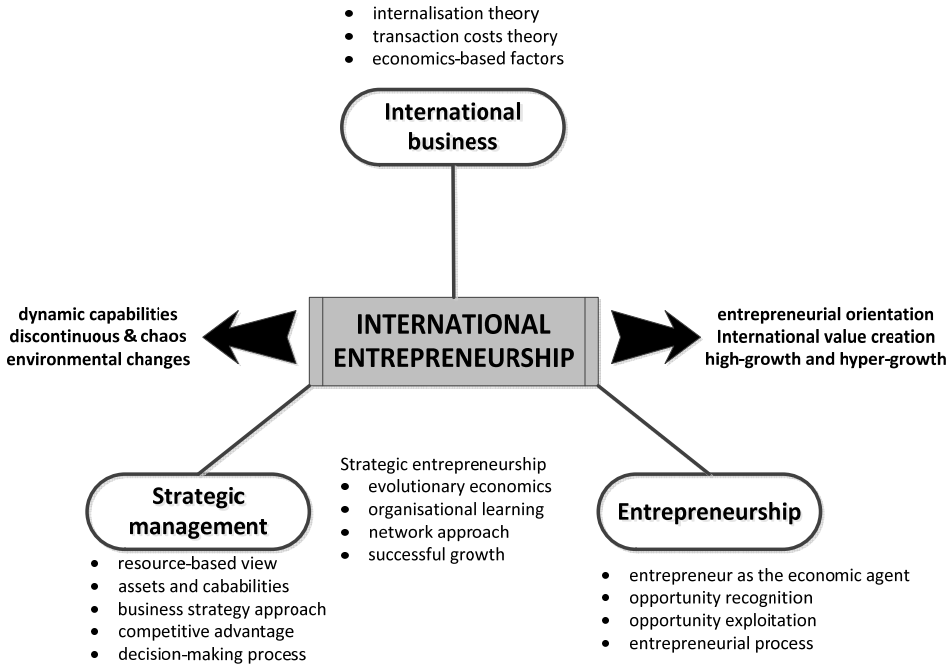

Figure 1. International entrepreneurship as the amalgamation of three fields
Source: Wach (2014, p. 12) adapted from Zucchella & Sciabini (2007, p. 22).

In an attempt to provide an integrated and holistic model to IE, Peiris *et al.*, (2012) developed a unified framework depicting the effects of industry, market and competitive forces. Keupp and Gassmann in their study in 2009 on IE, explain it as a function of four branches of research namely:

1. Entrepreneurship,
2. Strategy,
3. International business,
4. Technology and innovation management.

They found that there existed gaps in knowledge and theoretical understanding within international entrepreneurship (Keupp & Gassmann, 2009) such as:

1. Differing viewpoints on what entrepreneurial component supported internationalisation.
2. Contradicting reasons why quick and rapid internationalisation is possible.
3. Knowledge gaps because of primary focus being on SMEs.

4. Knowledge gaps because of the overlapping of international business and entrepreneurship theory.

Based on prior research IE theory can be investigated into three basic elements such as (i) the entrepreneur, (ii) the external business environment and (iii) the entrepreneurial process (Coviello *et al.*, 2011; Wach, 2012; Wach, 2015).

3. THEORETICAL CONCEPTUALISATION OF ENTREPRENEURIAL ORIENTATION

Entrepreneurship is defined as an act of a new entry. The new entry can be either an entry to a new market or to an existing market with a new product or service. Entrepreneurial **o**rientation (EO) is primarily identified as the process, practices and decision making actions that had led to the development of the new entry (Lumpkin & Dess, 1996). The roots of entrepreneurial orientation that explain a firm's entrepreneurial and strategic intent can be traced back to the early works of Khandwalla (1977) and Mintzberg (1979). The works of these scholars help us to understand the difficulties of the external environment in which a firm acts and the difficulties the strategy makers face within the firm. Miller (1983) in his study defined an entrepreneurial firm as "engages in product market innovation, undertakes somewhat risky ventures". He was the first to coin the statement "pro-active' innovations, beating competitors to the punch". These definitions were the first in the direction of providing a unified definition of EO (Etemad, 2015). Miller linked EO to strategy making emphasizing that firms that are entrepreneurial are more aggressive, aspire for more innovation and undertake a certain amount of risk when they seek opportunities. Firms can be classified as entrepreneurial and conservative based on their EO. This can be characterised by how they make their decisions, their managerial philosophy and their strategic behaviours that align with entrepreneurial thinking. Entrepreneurial nature can be best described by three attributes such as (i) innovativeness, (ii) pro-activeness and (iii) risk taking. Though research scholars debate on the definitions and implementations of EO, it is generally seen that firms with higher degree of EO outperform conservative firms (Anderson, Kreiser, Kuratko, Hornsby & Eshima, 2015). The relevance of EO is that it can be measured at firm level across industries and cultures thus making comparative studies possible (Covin & Miller, 2014). As such the term entrepreneurship is a term that is ambiguous in nature and is multi-faceted term. But in general and broader sense the term entrepreneurship is understood as entrepreneurial orientation. This has helped us to use the concepts of entrepreneurship theory in international business. The literature identifies two schools of thought when we discuss firm level entrepreneurship namely (i) entrepreneurial orientation (EO) and (ii) corporate entrepreneurship (CE). Some authors identify EO as potential intentions and attitudes of the firm and CE as the actual entrepreneurial activities done by the firm. Some authors believe that these two constructs actually complement each other (Wach, 2015).

EO explains how the firm acts strategically to collect competitive advantage. The difference between EO and other theories of entrepreneurship is that EO focuses on the firm level processes. The earlier theories focused on individual level

variables (Rauch & Frese, 2009). Many authors have provided their definition of EO and have tried to provide a framework for it. Most of them have agreed on one aspect at least that EO is to be treated as firm level phenomena (Wach, 2015).

EO being addressed as firm level phenomena has its practical implications as it has been found to affect firm performance thus making it vital for the firm's success (Vora, Vora & Polley, 2012). Table 1 shows a selected list of definitions of EO.

Table 1. Selected past definitions of (or pertaining to) entrepreneurial orientation

Authors	Definition of EO
Mintzberg (1973)	"In the entrepreneurial mode, strategy-making is dominated by the active search for new opportunities" as well as "dramatic leaps forward in the face of uncertainty" (p. 45).
Khandwalla (1976/1977)	"The entrepreneurial [management] style is characterized by bold, risky, aggressive decision-making" (p. 25).
Miller & Friesen (1982)	The entrepreneurial model applies to firms that innovate boldly and regularly while taking considerable risks in their product-market strategies" (p. 5).
Miller (1983)	"An entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with 'proactive' innovations, beating competitors to the punch" (p. 771).
Morris & Paul (1987)	"An entrepreneurial firm is one with decision-making norms that emphasize proactive, innovative strategies that contain an element of risk" (p. 249).
Covin & Slevin (1998)	"Entrepreneurial firms are those in which the top managers have entrepreneurial management styles, as evidenced by the firms' strategic decisions and operating management philosophies. Non-entrepreneurial or conservative firms are those in which the top management style is decidedly risk-averse, non-innovative, and passive or reactive" (p. 218).
Merz & Sauber (1995)	". . . entrepreneurial orientation is defined as the firm's degree of proactiveness (aggressiveness) in its chosen product-market unit (PMU) and its willingness to innovate and create new offerings" (p. 554)
Lumpkin & Dess (1996)	"EO refers to the processes, practices, and decision-making activities that lead to new entry" as characterized by one, or more of the following dimensions: "a propensity to act autonomously, a willingness to innovate and take-risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities" (pp. 136-137)
Zahra & Neubaum (1998)	EO is "the sum total of a firm's radical innovation, proactive strategic action, and risk taking activities that are manifested in support of projects with uncertain outcomes" (p. 124)
Voss, Voss, & Moorman (2005)	"...wedefine EO as a firm-level disposition to engage in behaviors [reflecting risk-taking, innovativeness, proactiveness, autonomy, and competitive aggressiveness] that lead to change in the organization or marketplace" (p. 1134, [ ] added).
Avlonitis and Salavou (2007)	"EO constitutes an organizational phenomenon that reflects a managerial capability by which firms embark on proactive and aggressive initiatives to alter the competitive scene to their advantage" (p. 567)
Cools & Van den Broeck (2007/2008)	"Entrepreneurial orientation (EO) refers to the top management's strategy in relation to innovativeness, proactiveness, and risk taking" (p. 27).
Pearce, Fritz, & Davis (2010)	"An EO is conceptualized as a set of distinct but related behaviors that have the qualities of innovativeness, proactiveness, competitive aggressiveness, risk taking, and autonomy" (p. 219).

Source: Covin & Wales (2011, p. 679).

Empirical studies done in countries like the United States, China, Thailand, Vietnam, indicate that EO is positively correlated to firm performance. It would make sense for firms to understand the characteristics of the firm that promotes EO. Covin and Slevin (1991) study indicate that EO is made up of the firm's organisational culture. This study makes a valid point that the organisational culture is made up of attitudes and behaviours of individuals that are shared across the organisation (Engelen, Flatten, Thalmann & Bretteel, 2014). However, the expression of EO having a positive relationship with firm performance has had mixed results in empirical studies. Results have shown that EO on performance has varied depending on the type of external environment the firm has been exposed to. Also, it has been found that entrepreneurial strategies need financial resources to be successful (Wiklund & Shepherd, 2005). In today's competitive world, EO is getting important irrespective of the nature, size, age or industry sector to which the firm belongs to. In a study based on 310 service firms from Austria, it was found that there existed a clear influence of EO on the corporate performance of the firms. It was also seen that of the different dimensions of EO, innovative behaviour was identified as the most important sub-dimension (Karus, 2013). Firms that possess a high degree of EO come up with innovative ideas frequently, take risks and act in a proactive way when presented with opportunities. Thus EO can be summed up as the process of getting a competitive advantage by looking out for new possibilities, pushing for demands in an aggressive and proactive way, risk taking ability and bringing out new and innovative products in the market (Lumpkin & Dess, 1996; Rauch & Frese, 2009). EO is generally classified as whose decision making styles have proactive, risk taking and innovative. Along with these characteristics, the other important contributors include the environment in which the firm operates in (external) and the organisational values (internal) play a significant role especially the external factors. External environment is a source of uncertainty as well as an option for new possibilities for the firm (Cruz & Nordqvist, 2012). Firms that exhibit EO characteristics come up with innovative products and often get the first mover advantage or can target premium segments (Engelen, Flatten, Thalmann & Bretteel, 2014). In a study in 2001, Lumpkin and Dess attempted to find the relationship between the two dimensional constructs of pro-activeness and competitive aggressiveness. There has been a debate among scholars that both of these constructs are similar. This study proved otherwise. As a part of the study, 124 executives were interviewed from 96 firms. It was fond that both constructs were distinct and played different roles. For the success of firms in a nascent stage, pro-activeness played an important role. Competitive aggressiveness on the other hand was an important strategy for firms that were more matured and had to fight of fierce competition for survival (Lumpkin & Dess, 2001).

In explaining the concept of EO, Miller (1983) and later on, Covin & Slevin (1989) came up with a three dimensional concept that explained the qualities of EO namely (i) proactive, (ii) innovative, (iii) and risk taking characteristics of the firm. Lumpkin and Dess (1996) added two more, which are (iv) competitive aggressiveness

and (v) autonomy to the above three qualities and proposed a five quality multidimensional construct. In practice, researchers still tend to use the three dimensional construct as against the multidimensional. The same can be explained by Table 2 (Wach, 2015).

Table 2. The construct of EO

No.	Basic Dimensions	Composite Qualities
Three-dimensional construct of EO		
1	Pro-activeness	- predicting future market changes (Rauch *et al*., 2009) - opportunity creation vs. opportunity identification (Sundqvist, Kylaheiko & Kuivalainen, 2012; Covin & Slevin, 1989)
2	Innovativeness	- openness to new ideas (Frishammar & Horte, 2007) - process and product creativity (Dess & Lumpkin, 2005) - pursuit of creative or novel solutions (Knight, 2001)
3	Risk taking	- decisions in uncertainty (Dess & Lumplik, 2005) - implementation of projects entailing significant chances of costly failure (Davis *et al.*, 1991; Khandwalla, 1977; Miller & Friesen, 1984)
Multi-dimensional Construct of EO		
4	Competitive aggressiveness	- competitive advantage over competitors (Dess & Lumplin, 2005) - aggressive posturing relative to competitors (Knight, 2001)
5	Autonomy	- independent human activities (Dess & Lumplin, 2005) - self-acting (Lumpkin & Dess, 1996)

Source: Wach (2015, p. 16).

EO in principle addresses to the process of making new entries to markets or bringing new products to existing markets. The primary EO dimensions that are defined in the literature like pro-activeness, innovativeness, risk taking, competitive aggressiveness and autonomy may be exhibited by the firm while making a new entry. It can also be possible that for successful entry only some of these factors may be present. The reason for this may be because of the interaction between the EO dimensions with the internal and external factors in which the firm conducts the business (Lumpkin & Dess, 1996).

Competitive aggressiveness can be expressed as the aggressive stand a firm takes against its competition in an intensive market situation. This combative posture is done to wade of competition either to survive or to dominate the market (Lyon, Lumpkin, Dess, 2000). According to Hughes and Morgan (2007) competitive aggressiveness is the effort the firm puts to outdo and out-manoeuvre their competitors (Hughes &Morgan, 2007). Competitive aggressiveness also represents the high intensity and aggressive posture new entrants more often need to display when facing the competition from existing rivals (Lumpkin & Dess, 1996). From the perspective of new entrants, competitive aggressiveness is an important EO dimension because new entrants are much more likely to fail than mature and established businesses. Thus for new startups, taking an aggressive stand and intensifying the competition is essential for survival (Lee & Peterson, 2001).

Innovativeness refers to the trait of coming up with new ideas and indulgence in experimentation and striving for technological leadership in both products and

processes. Such traits help the firm to get first mover advantage and/or target premium segments (Lyon, Lumpkin, Dess, 2000). Innovativeness also captures the bias the firm has towards experimentation and development of new products and processes (Hughes &Morgan, 2007). According to Schumpeter (1942), wealth is created in a market when the existing structure is disturbed by launching new products or services. For family firms, innovativeness is the key for long term survival of the firm. It is also seen that new and younger firms have a higher urge to innovate than established firms (Zellweger & Sieger, 2012).

Pro-activeness refers to the ability to anticipate future possibilities and threats alike and start taking actions either to exploit opportunities or prevent failures and threats (Lyon, Lumpkin, Dess, 2000). In order to establish and sustain in international markets, firms must act in a proactive way so as to find opportunities in different markets. This also includes making bold decisions as to launching new products or services often providing the firm with the first mover advantage. Ideally such proactive firms actively search for foreign markets so that they have a higher spread in the international markets compared to its competition. Being highly proactive comes with a cost. Firms need to collect specific market knowledge, information about customers, suppliers and partners and all this involves money (Dai, Maksimov, Gilbert & Fernhaber, 2014).

Risk taking attribute of the firm would mean taking high risks like borrowing heavily or committing a huge amount of resources on projects with unclear outcomes (Lyon, Lumpkin, Dess, 2000). Risk taking dimension shows the ability of the manager to take considerable risk with the intention to pursue a potential opportunity with reasonable possibility of attaining the desired goals at the same time when there exists a possibility for a costly failure. The essence in defining entrepreneurship is the ability to find undiscovered opportunities and to take risks to convert those opportunities to successful ventures. The amount of risks an entrepreneur faces in an international environment is multitude when compared to the domestic market. This is also clear that the firms that take risks only realize the dream of internationalisation (Zhang, Ma & Wang, 2012).

Autonomy means encouraging teams or individuals to come up with and establish new ideas, concepts or visions (Lyon, Lumpkin, Dess, 2000). The history of firm level entrepreneurship is made of events of self-determined pioneers who have pursed new, novel or better ideas and have made a business case for it. In general, entrepreneurship has grown and prospered because of the independently thinking individuals who have left the shores of safety and comfort in the search of finding and promoting new ideas or new ventures. The same thing can be seen within organisations also. The freedom given to individuals to pursue and champion ideas is the key driver for firm level entrepreneurship and this freedom to pursue ideas is often refereed as autonomy (Lumpkin & Dess, 1996). Van Dooran *et al.*, investigated the effect of senior team of a firm on EO and its relationship with firm performance. It was found that senior team provides the heterogeneity needed and help in the screening process and selection of initiatives. They also serve as guides for

the EO process to prosper thus fulfilling the autonomy dimension (Van Doorn, Jansen, Bosch & Volberda, 2013).

4. LINKING ENTREPRENEURIAL ORIENTATION AND INTERNATIONALISATION

Firms normally expand their international scope through their entrepreneurial actions which basically stem out of EO. Based on past researches, EO is said to have an impact in international learning, speed of entry and firm performance (Dai, Maksimov, Gilbert & Fernhaber, 2014). According to Wach (2015), the internationalisation process of the firm is further intensified and accelerated through entrepreneurial orientation (Wach, 2015). It is difficult to predict future benefits based on current strategies and decisions. Firms should proactively take up EO in terms of doing innovations so that it can counter act against reduction of product life cycle and stone wall the efforts of the competition. Such policies involve risk and risk taking may provide the firm opportunities to perform and enhancing the firms to face competition and ultimately provide a positive impact on the performance (Etemad, 2015). Oviatt and McDougall (1995) indicate that internationalisation is actually triggered by the entrepreneur in the process identifying new business opportunities obtained through relationship building and social networking. Thus internationalisation itself can be viewed as an entrepreneurial action (Zhang, Ma & Wang, 2012). EO was initially designed to explain the entrepreneurial behaviour of a firm more from a domestic environment perspective. Covin and Slevin (1991) & Miller (1983) suggested that before coming up with new innovations, products or expansion activities into new markets, the firms should possess entrepreneurial capabilities. Further studies by many authors have found out that EO has a strong positive influence on firm performance. It is also seen that EO capabilities are more important for SMEs compared to larger firms as SMEs have limited financial capability, technical and managerial resources (Brouthers, Nakos & Dimitratos, 2014). Evidence of entrepreneurial culture influencing internationalisation has been in seen in studies relating to international new ventures, born globals, SMEs etc. It has been seen that the earlier the firms acquire entrepreneurial orientation; the entrepreneurial culture that develops positively influences the firm's internationalisation intent. This allows the firm to be more capable and willing to pursue international opportunities (Rajshekar, Javalgi & Todd, 2011). There is a huge amount of literature showing positive support to entrepreneurship on the growth of firms. The important question however is there enough empirical support to show that the relationship actually exists (Kraus, 2013). Wach (2015) developed the relationship between the dimensions of EO, decision making process and international performance.

According to Williams *et al.*, MNCs in pursuing EO apply two kinds of strategies. The first of these is R&D specific building long term know-how. The other strategy is in the form of investments that help in asset growth. The former is for long term initiative and the latter is for short term initiative. Pursing either strategy

will involve in applying the same principles namely identifying the potential, evaluating the risk and exploiting the opportunity. Both strategies may involve considerable risk and may take the firm into uncharted territories and put them ahead of competition. Aggressive (R&D) MNCs will deploy more resources in innovation where as Aggressive (Asset) MNCs will deploy more resources in gaining external advantage that gives the form a competitive advantage (like networking). The most aggressive firms (both R&D and Asset) will allocate higher amounts of resources in both R&D as well as assets growth to maximize the risk (Williams & Lee, 2009). Internationalisation itself is often referred to as an entrepreneurial act and has seen a huge surge especially among SMEs. It is also seen that SMEs with higher EO have shown a better export performance (Taylor, 2013).

Taylor (2013) proposed that the relationship between EO and internationalisation is positive and is moderated by the domestic market environment in which the firm is located. This can also be viewed as internationalisation providing viable survival and growth possibilities to SMEs in developing nations to grow by exporting and increasing their market share (Taylor, 2013). It is often seen that entrepreneurial SMEs face resource constraints compared to MNCs. To overcome resource constraints and foreign liabilities and to improve their international performance, SMEs to utilize higher levels of EO or by forming international alliance or both. It is suggested that alliance formation will greatly benefit both partners (Brouthers, Nakos & Dimitratos, 2014) Selected empirical studies done on establishing EO's relationship to internationalisation are tabulated below show a wide variety of themes addressed including both small and large scale enterprises (Table 3).

5. CONCLUSIONS

It is seen that at the moment IE is positioned as a multidisciplinary study with studies ranging from International Business, Strategic Management, Entrepreneurship, Marketing etc., as well as non-management fields like sociology, economic geography, political science, development economics, and psychology. It is also seen that IE is slowly evolving into an individual research field of its own. A literature review of selected papers published in the recent years show that IE is researched under a variety of topics like influence of social networks, emerging economics geographical distance, family owned businesses, effect of corruption etc. EO is studied as a subset of IE. EO is measured as a uni- or multidimensional variable. The constructs that define EO include pro-activeness, innovativeness, competitive aggressiveness, autonomy and risk taking. Effects of EO are studied both for LSE as well as SMEs though a look through the available literature shows heavy focus on SMEs due to the fact that decades of research on entrepreneurship was dedicated

Table 3. Selected list of literature review on relationship between EO and Internationalistion

Author	Research Sample	Typology	Explanation
Jantunen, Puumalainen, Saarenketo & Kylaheiko (2005)	Empirical study done on data from 217 manufacturing and service organisations.	The authors examine the relationship between EO and the firms reconfiguration capabilities have on internationalisation.	The authors found that EO along with the ability of the firm to have new assets configuring capability has a positive influence to international performance. This confirms that the dynamic capability of the firm is needed to take advantage of new opportunities by orchestrating changes.
Mostafa, Wheeler & Jones (2006)	Empirical study done on 158 manufacturing firms from United Kingdom.	This paper investigates the relationship between EO and internet usage for export among SMEs.	A study on the relationship of EO and commitment to the use of internet has on performance found that entrepreneurs with higher degree of EO tend to use internet to develop an export market for their products and services. It was found that such entrepreneurs also commit more resources to internet use and use it as a medium to contact customers and suppliers. It was also found that internet is also used to find out competitors. Such firms also use websites to market their firm as well as products. Export growth was also found to be higher for higher EO firms compared to less EO firms. This also proves that higher EO results in increased export growth and financial performance of firms and finally internationalisation.
Melia, Boulard & Peinado (2007)	Empirical analysis done on 155 Spanish firms.	The authors explore if internationalised firms develop EO compared to non-internationalised firms. Also, evidence for influence of EO on rapid internationalisation is explored.	The study found empirical evidence that firms that are already internationalised develop EO. It was also seen that EO positively influences rapid internationalisation of firms.
Kropp, Lindsay & Shoham (2007)	Empirical study done on sample data from 539 individuals from internationally focused firms from South Africa.	The authors examine the relationship between EO along with key demographic characteristics like age, education and gender of entrepreneurs in the start-up decision of international entrepreneurial business ventures (IEBVs).	The study found empirical evidence that risk taking and pro-activeness played an important role in establishment of IEBVs. It was also observed that innovativeness does not play a significant role on the decision making point for setting up of IEBVs.
Williams & Lee (2009)	Analysis was done on form level characteristics from 10-K filings. The sample list was taken from the Financial Times Global list of top 500 companies sorted by market capitalization.	This study analyses the EO of MNCs. The authors propose two dimensions of R&D and asset growth for analyzing EO. The two dimensions provide three strategies of 1. aggressive R&D, 2. aggressive asset growth and 3. balanced approach.	The results from the study show that smaller and less internationalized MNCs take a much aggressive approach when compared to highly internationalized who tend to take a much conservative approach. Knowledge management will be the key for MNCs. It was also seen that younger top management is likely to take higher risks and will take a more partnership approach. In case of highly internationalized MNCs top management taking an aggressive stand will be counterproductive as they may end up in saturating the knowledge base resulting in a diversity of opportunities that may become too difficult to handle.

Zhang, Ma & Wang (2012)	Empirical research conducted on data collected through survey from 117 Chinese SMEs during 2011 and early 2012	This study evaluates the effects of EO and social capital theory in facilitating internationalisation of Chinese SMEs.	The study found out that the different dimensions of EO in combination with different forms of social capital theory produce different influence. It was seen that pro-activeness and risk taking dimensions along with the different sources of social capitals have a positive influence in the internationalisation of the Chinese SMEs. It was also seen that innovativeness and political ties do not play an important role in internationalisation.
Basile (2012)	Empirical analysis of 71 SMEs from Sicilian area.	This paper analyses the factors affecting EO by the perspective of risk taking behavior of SMES in their attempt to internationalize. The author also checks the relationship between EO to internationalize.	Then study found positive relationship between EO and internationalisation. It was also seen that external environment factors like logistics and transportation play a vital role in providing firms with competitiveness. Internationalisation is likely to further grow not just for large scale firms but also SMEs as both of them compete for space in the international market, especially SMEs. It is also important for governmental and policy makers as SMEs growth internationally will help in improving the employment situation.
Dai, Maksimov, Gilbert & Fernhaber (2014)	Empirical analysis done on 500 SMEs from different industries.	The authors explore the relationship between the dimensions of EO namely pro-activeness, innovativeness and risk-taking and what effect it has on the scope of internationalisation of SMEs	The authors found that both high and low degrees of innovativeness and pro-activeness increase the scope of the firm's internationalisation. Moderate scale of these two dimensions has shown to negatively impact the scope of internationalisation and the firms start retracting from committed markets. On the contrary it was seen that with risk taking, moderate scale has a larger impact on international success and score compared to low and high values.
Dimitratos, Liouka, Young (2014)	Empirical analysis of 260 subsidiary firms located in the UK.	The authors investigate the EO of MNC subsidiaries compared to individual firms.	The authors analysed subsidiary EO of MNCs and found that local knowledge of subsidiaries can be useful for the MNCs that are traditionally dominated by the parent organisation. The study also points out those subsidiaries entrepreneurial activities can serve as an advantage for the MNCs though the level of entrepreneurship in a subsidiary firm will be lower than an independent firm because of the control from the headquater. The EO measuring construct include dimensions like innovativeness, risk-taking, pro-activeness, learning, intra-multinational networking, extra-multinational networking and autonomy.
Rodríguez, Moreno, Tejada (2015)	Empirical research conducted on data collected through survey from 1,122 Spanish SMEs during 2011 and early 2012.	This paper analyses the source of competitiveness of SMEs in the service industry.	The study identifies that the competitive success of the Spanish SMEs belonging to the service industry is due to the macroeconomic and social factors that primarily address the intrinsic characteristics of the firms. It was also found that there exist substantial differences in competitiveness among different industries supporting a macroeconomic approach. On the other hand statistical evidence suggests that among the different companies, performance varied showing that they were dependent on the combination of the resources as well as capabilities of each firm.

Source: Own study.

to the SMEs. Like in the case of IE, the definition of EO has changed and refined over time. Though multiple definitions exist EO is primarily seen as a firm level behaviour. The measurement of EO is done along the lines defined by Miller (1983) and Covin and Slevin (1989) and or Lumpkin and Dess (1996) with the help of a seven point Likert's scale. Decades of research has laid a strong theoretical foundation linking EO to firm performance. It has been seen that this is true for both LSEs and SMEs. The same can be said in the case of internationalisation. EO increases the propensity of internationalisation. This is seen in the case of SMEs that predominantly export as well as in the case of MNCs that are already internationalized to further expand. The concept that EO propels internationalisation is seen in studies spread across different continents as well as different industry sectors like manufacturing, service industry etc.

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Correlation between changes of business processes and organizational performances

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Abstract:

The main aim of this study was to determine whether a higher level of business process and process orientation lead to improved organizational performances. The companies observed for the research were subjected to rigorous statistical analysis and processing, in order to justify the model presented in the paper. The observed companies employ more than 250 employees and do the business in the Republic of Croatia whose economy is in transition. The research presented in this paper sets a model that statistically confirms strong and significant impact of business processes and process organization on financial and non-financial performances. It has been proven that process organization has a significant indirect impact on financial operations through non-financial performances.

Keywords: Business processes; organizational performance; financial and non-financial performance
JEL codes: L22, M11

1. INTRODUCTION

The contribution of this research has a twofold effect. It primarily expands the scope of the original study by (McCormack & Johnson, 2001) that closely monitors the effects of process organization on overall organizational performances. Secondly, this research has contributed to the involvement of key stakeholders (customers, employees, suppliers) in the assessment of non-financial performances and their impact on financial, as well as on overall organizational performances. This approach has demonstrated and proven the benefits of impact of process organization on organizational performances and detection of a deeper structural relationship between these variables. Another important feature of this research is that it was applied on companies in the transition economy. The research results confirm many implications and benefits for the managers in process organizations, as well as for the other stakeholders such as customers, employees or suppliers, all in order to create the useful business environment. (Hernaus, Pejić Bach, Bosilj Vukšić, 2012, p. 376-396.) in their research in 2008 talk about the importance of choosing the optimal strategy for

achieving organizational goals. The strategy should be tightly integrated with business processes (Spanyi, 2003, 2005; Ndede-Amadi, 2004; Brocke & Rosemann, 2010; Kohlbacher & Gruenwald, 2011). The strategic goals are achieved by using business processes which as their feedback create a new value for the company. The implementation and operational execution of the strategy inevitably depend on the processes and their interactions with other elements of the organization.

The form and the type of organization are defined by business processes, which can be a significant source of competitive advantage. Business Process Management (BPM) has become a concept that can be used to improve the entire range of organizational activities. Therefore, BPM represents a set of methods, techniques and tools that include analysis and improvement of business processes (Melao & Pidd, 2008). By implementing BPM, the managers try to harmonize the process activities with the strategic goals of the organization, design a flexible organization and implement procedures to establish a system for measuring, training and organization of the employees responsible for the effective process management (Chaffey & Wood, 2005).

2. DETERMINING ORGANIZATIONAL CHANGES AND CHANGE MANAGEMENT

In the context of organizational changes and change management in organizations there are many authors who have studied this particular issue, but more recently the ones that particularly stand out are (Burnes, 2009), (Carnall, 2007), (Luecke, 2003) and others. Changes as a management method can be classified into several categories. There are two approaches that encourage change. These two approaches are (fast) economic development or improving organizational skills. (Beer & Nohriaat, 2007, p. 69) Harvard University have created the terms "Theory E" and "Theory O" to more closely describe these approaches. In Theory E the explicit goal of changes is dramatic and quick increase of shareholder value, as measured by improving the circulation of money and the stock price. Proponents of the Theory E largely rely on mechanisms that are likely to increase short-term monetary circulation and share prices. These are: performance bonuses, reducing the number of employees, sales of assets, and strategic realignment of business units. This theory is basically committed to cutting costs, reducing organizational resources and in its reach it is short term oriented.

The goal of "Theory O" is the emergence of changes that encourage the development of a culture within the organization that supports learning and high performances of workers. Business organizations that follow this approach are trying to strengthen the culture and skills of their organizations through individual and organizational learning. This requires a high proportion of participation of employees, simpler organizational structure, as well as a strong link between the organization and the employee, because the employee commitment to changes and their participation in them is considered extremely important, since they represent a factor of continuity for the organization. Therefore, the "Theory O" is deemed a theory aimed at long-term goals.

Characteristics and factors that characterize an organization that is willing to change are reflected through the leadership, employees and teamwork. The first characteristic is the leaders (leadership) as well as effective employees who respect the leaders. It is known that leaders who no one respects, nor considers as valuable, can and will be hazardous to the business of an organization.

The other characteristic describes employees who are personally motivated to change. They are dissatisfied with standstill, but at the same time afraid of losing their job due to the inefficiency of the business process. Many changes have occurred in periods of crisis, but according to Beer it is not necessary to wait for the crises to occur. For him it is enough to have the so called complacency within the company, i.e. that there is a belief about its own size, success and importance. He believes that leaders of changes must ask questions among the employees about the existing and possible problems. It is often not clear to the managers how the employees do not care about the costs, while employees cannot understand how managers are not familiar with the problems they face every day during the performance of their tasks. It is therefore necessary to enable communication between both parties and the exchange of data. It is necessary to set goals and enable employees to achieve them.

The third organizational characteristic refers to an organization that is not only a hierarchical creation, but it represents certain achievements in organizational culture. Therefore, employees with individual work and assigned personal responsibility, in many cases favor teamwork as an organizational advantage.

The hierarchical structure of the organization tells people about the hierarchical relationships between employees, about the relationship between the superior and subordinate, individual responsibility for work, and in a number of examples of good practice we see neglect of the role of team and teamwork. The main "enemies" of changes lie in the hierarchy, such as bureaucracy and the tendency of employees to identify with the organization. Hierarchical structure can be overcome in two ways. The first is to give greater autonomy to individual small groups within the organization, and the second to encourage cooperation among employees from various departments at different levels.

If these three preconditions for change do not exist, proposed are the following four steps that will lead to the readiness of the organization to change. They are manifested by:

- making assessment of readiness to change for each part of the organization individually,
- developing an approach that allows everyone an insight into how business is done on a daily basis,
- giving employees a say in the matters,
- eradicating the fear among employees.

Organizational changes are difficult, because during change we need to deal with issues related to employees and uncertain future. The consequences of implementing changes are difficult to predict, and sometimes difficult to monitor and represent a dynamics of their own. The fact is that more and more changes are being

carried out. Organizations are oriented towards higher productivity, a higher level of activity and improving customer satisfaction. But that does not mean that all is well, or that all organizations are successful. Instead, it should be remembered that the organizations have increased in volume, activity and profits during the period in which they have more complex requirements (customer satisfaction and business ethics) in increasingly complex and more diverse environments in which they operate.

Resistance to change is actually often only resistance to uncertainty that a change could bring. So resistance comes from the process of management and change management, rather than from the change itself. If the reason for the change and what can be achieved by it is explained to the employees, it is very likely that their resistance will be reduced. In the context of the ambitions of the owners and stakeholders of business organizations, it is clear that the priority in the conduct of business is to improve the competitiveness as a key activity, but the understanding of the value of assets on which to build competitiveness is also clear. If the business orientation is such that we decided to focus on one factor, then one can expect immediate success and long-term failure. (Kay, 2007, p. 5) says that market forces are based on the term known as "distinctive capabilities". Distinctive capabilities are based on:

- reputation, which helps us to know how the market perceives the basis of presentation of products/ services in terms of material properties,
- architecture of the organization that includes the ratio of resources (including knowledge and flexibility), internal and external stakeholders, from which we learn how an organization can bear the "burden" of changes and how it can contribute to the changes itself,
- innovations from which the capacity for change can be recognized.

To be able to characterize recognizable abilities as a source of competitive advantage, they must be sustainable. Success will come to those whose strategic architecture continuously aligns the vision, mission, values, strategy and structure. Markides (2000) agrees with such ideas and reflections. He believes that the competitive advantage is achieved by organizing various activities into "tight" systems, which support and restrain each other. In fact, the advantage is continuous, because imitators can take a variety of ideas and techniques, but not the ability to manage, as they cannot copy the atmosphere of culture and relations among employees within the organization. He further believes that at the present time success comes from the originality, and not from copying.

3. EVOLUTION OF THE CHANGE MANAGEMENT OF BUSINESS PROCESSES

During the nineties of the twentieth century, (Beer, Eisenstat & Spector, 1988) have identified a number of steps that management in business units and at the level of production uses to create real change. These steps encouraged the strengthening of the circle of commitment, coordination and competence of employees, which combines all the columns representing the holder´s fundamental changes. Today, despite the

passage of time and the creation of new business practices, steps that mark the course of achieving the changes have not lost any of their power, and they are reflected in the launch of energy and commitment to work with the aim of establishing common business problems and their solutions. The starting point for any effective change is a clear definition of business problems. Identification of the problem corresponds to the most important question that employees ask: *"Why must we do it?"* The answer to this question can be the basis for motivation, and therefore the answer must be convincing. To answer "why" is important not only because of the motivational potential, but also because it creates a sense of urgency, without which changes do not happen. Also, it is important to know who, how and by what means did identify the problem. The motivation and commitment of employees are the biggest change when employees are the ones who will identify the problem and help solve it because finally they are the ones who will have to participate in change and to live with it. After defining the business problem, potential solutions to the problem are developed.

Persons responsible for the implementation of changes must clearly set out the vision of changed and improved future of the organization, you also need to clearly explain it to other employees. They have to be very exact in the interpretation of the effects of changes when thinking about how the change will: a) improve the business (through higher customer satisfaction, product quality, sales, and productivity), and b) what benefits will the employees have (higher salaries, bigger bonuses, new opportunities for advancement and greater job security). The vision has to be tempting and may contribute to the inclination of workers towards such changes, but the vision must correspond to the objective goals of the organization, and must be achievable. This is helped by the identification of management, whose role is to adjust all vital parts of the environment to the possibility of implementing the changes. In other words, leadership is the one that should, on the basis of their own knowledge, experience and universal competence, introduce other employees in the organization to the importance of rejecting the general resistance to change. This brings new flexibility to the organization that will significantly help in the process of organizational transformation.

Focus on results, not on activities, means to start the change at a peripheral unit, from where it will be extended to other units, and not to begin the change from the top. It is not necessary to change the entire organization at once, because it creates a large degree of uncertainty and inefficiency, but if employees realize positive results after the introduction of changes in a small, almost autonomous unit, they will then agree to the change of the general framework of management. The changes are to be implemented in order to see clear advantages over the status quo, that there is compatibility with the values of employees, experiences and needs. Requests for changes should be easy to understand, so that the employees who want it, are allowed experimentation with the model of changes on small-scale, and provide an opportunity for the rest of the internal environment to freely observe the results of the changes. It is necessary to institutionalize success through formal rules, systems and structures so that the future business activities may take place in

accordance with the formal rules, have a support system with implemented approach to change management, and develop the structure as a skeleton for internal and external process improvement of overall business activities.

Organizations respond to a variety of challenges with changes. None of the programs of change is easy, nor guarantees success. Changes may fall into the following categories (Carnall, 2007, p. 7):

- Structural changes in the organization are viewed as a machine or a set of functional parts. During structural changes, top management in cooperation with consultants is trying to change parts of the organization in order to achieve better overall performance. Mergers, acquisitions, consolidation and revocation of operating units are all examples of attempts at structural changes.
- Changes to the process by means of various programs direct the changes of the way in which things are done. Examples are, like, improving the process of loan approval or decision-making. Changes to the process are usually aimed at the processes to be faster, more efficient, more reliable and less expensive.
- Cultural changes have focused on changes related to employees. One such change is the transition from the management that supervises and commands to the management involved in the process.

Previously are described structural, cultural and institutional conditions for finding optimal solutions in the implementation of changes. The simplest definition of implementation of changes can be described as a process required for designing and organizing the process of change in order to improve efficiency. The question of diversity of success in implementing changes in the organization arises. In some organizations, certain changes succeed with a clear positive progress, and in some organizations progress is absent. The answer is found in the diversity and specific architecture of changes. We have only recently begun to observe the structure changes through the architecture of changes. (Jacobs, 1994) identifies three successive processes required to achieve a strategic change:

- construction of a common database,
- detection of the future in a variety of perspectives,
- creation of commitment plans.

The processes described in b) and c) require dialogue and involvement of all stakeholders of the change. Here processes are important for dialogue, as well as a good knowledge of them.

Architecture of changes does not imply a set of assertions, systems, resources and processes, through which we engage people in “productive thinking” aimed at creating a new future. It implies the principles through which the different techniques (forums, conferences communication, municipal meetings, 'open-space events') are designed to jointly clarify the management and responsibility for strategic change, and in an appropriate manner contribute to the affirmation of key stakeholders of change. Required are effective, credible and accessible measures of performance on a relatively transparent basis. It is necessary to acquire or develop new skills and

abilities of employees and trigger their commitment. Results of applied techniques need to be measured, i.e. strategic changes should be used as a learning process.

The formula by which to acts in the course of diagnosis and planning of radical changes, is expressed as a multiple of discontent, vision and the first step of the procedure, the result of which must be greater than the resistance to the implementation of changes:

$$Change = (dissatisfaction) \times (vision) \times (first\ steps) > resistance$$

Changes occur when three elements have both a synergistic effect in one place, such as dissatisfaction with the current situation, convincing and clear vision of what kind of a change we want to make for a better future, and the first steps towards achieving the vision. If any of these elements are missing organization creates greater resistance and reduces the power of organizational resistance to change, and thus the effect of changes is marginalized. All activities must be seamlessly linked and there must be a continuous flow of results between the activities for the process of implementation and evolution of organizational changes to achieve the desired effects.

4. CONCEPT AND TYPES OF ORGANIZATIONAL PERFORMANCE

Literature lists different definitions of organizational performance, but it can be said that the performance improvement is the purpose of the transformation of business processes. The goal of the promotion of a process is to determine its economic sense, and it is necessary to determine the effect that is thus produced, which is not possible without performance measurements. Most companies have no developed system of performance measurements, although we often encounter companies that measure financial performance, sales volume and customer satisfaction. (Darryl, 2007, p. 3) says that a large number of definitions of organizational performance are based on financial indicators such as profit margin, etc. Lack of access in which organizational performance is defined solely by financial performance is in the question: "What we need to do to achieve the desired profit, revenue or margin?"

To paraphrase this question, P. Drucker argues: "*See what your job is, do it well and the money will come.*" The realization of revenue is important to the success and survival of the organization in the market, and even non-profit organizations such as universities or cultural associations. The development of an organization is focused on improving organizational performance; successful organizations should solve their own problems and achieve key objectives. Known are many ways to measure performance which are used in process-oriented organizations. Here are separated two ways to measuring performance. The first method describes the measurement of performance on the principle of "end-to-end", from beginning to the end of the business processes and measuring the connections of people, teams or parts of the organization with the quality of the final result.

Performance measures can be defined as parameters in which to express the efficiency of realization of the chosen strategy. Since the chosen strategy is implemented and all levels of the organization are treated according to it therefore the

performance measures will also be established for each individual level of achieved performance within the organization -network goals (Buble, 2006) Therefore, the division to corporate performance, divisional performance, the performance of functional units and individual performance is alogical division with regard to the organizational unit and the goals that the unit wants to achieve (Buble, 2005, p. 256). Different performance measurements are carried out at different times, have different complexity and their value is measured at different times. Some measurements can be performed only after achieving a certain goal where it is necessary to take account of the relevance of the results in continuity. When discussing performance measures then we primarily, but not exclusively, refer to those criteria related to corporate performance. Corporate performance is the measure of success of the organization as a whole in relation to the target size. There are a number of indicators that are considered in the corporation, but there is no uniform classification, therefore, we usually considered indicators such as (Buble, 2005, p. 257):

- ROI – return on investment,
- ROE – return on equity,
- EPS – earnings per share,
- DPS – dividend per share.

All these indicators are among the category of accounting indicators, however, in recent times we are increasingly using new measures such as (Buble, 2005, p. 257):

- value added, ROVA, ROVA/ROI,
- MVA, EVA (market value added, economic value added),
- shareholder wealth.

All these indicators are among the performance measures from the standpoint of owners- shareholders.

Pressures on managers to take account of the value system of stakeholders without jeopardizing the interests of shareholders are more frequent, so it is necessary to coordinate the general interests of the organization with the interests and values of individual stakeholders in order to found in this conglomerate of desires a way to all human, organizational and intellectual resources in the service of creating new value (Sisek & Režek, 2007).

In addition to the measures that are of interest to the owners there are also performance measurements that are used by top management in order to fulfill its primary role, ensure growth and development of the company as a whole. In achieving progress of the company, qualitative and quantitative indicators are of interest for the management, where part of the indicators that are interesting to the owner are of particular interest for management because it is these indicators that will decide the fate of management. When talking about the success of the organization then there are a number of interested individuals or groups that fall into the category "*other interested parties"* such as, customers, suppliers, stakeholders, governments and other organizations. Each group has its own criteria for determining the desired

performance of the organization whereby these criteria are linked to direct or indirect influence of the company's activities on their interests. It is imperative that top management establishes a control system which will be formed by one or more measures for each of the stakeholders when it comes to the success of business organizations. The criteria can be divided into short-term and long-term measures by categories of customers, suppliers, employees, the financial community, congress, advocates of customers. Organizations whose structure is designed by the divisional principle form organizational units with the status of quasi-corporations whereby within these units they form different forms of immediate responsibility centers, such as (Buble, 2005, p. 261):

- cost centers,
- revenue centers,
- profit centers,
- investment centers.

The purpose of the establishment of centers under the divisional organization is the separation of parts of the organization in order to evaluate the performance of each department and see their real success and contribution to the corporation as a whole.

When it comes to measuring the performance of functional units then it is referred to parts of the organization that are carrying out similar or same operations that are classified as units of production, purchasing, sales, finance, human resources and so on. When you want to create a system of measurement in functional organizations then the choices of performance measure are great, but you should always choose those performances that the line managers can influence. If you are looking at production, then consider the measurement of the production effect, the effect of the employee, cost of processing, material utilization, capacity utilization, overhaul effect, etc. If we watch procurement measures, then we measure turnover, development of prices, dispersion range of procurement, storage use, etc. If we watch measures of financial impact, then we measure current ratio, quick ratio, the level of indebtedness, cash flow, level of coverage of foreign capital etc. All these indicators represent only a landmark in the choice of appropriate functional performance measures in the observed organization with respect to its specificity.

When we approach the measuring of individual performance, then the goal is to determine the contribution of the individual in the performance of assigned tasks that contributes to the performance of the overall task of the organization. Since different tasks are performed in an organization, the most common division is into three types of tasks including (Buble, 2005, p. 266):

- tasks for processing materials,
- tasks for processing information,
- managerial tasks.

When measuring individual performance the effect of an individual can be quantitatively unequivocally determined by determining the norms and standards. *Norms may be temporal and quantitative and standards quantitative and qualitative.*

According to (Darryl, 2007, p. 5) organizational performance is an indicator and accomplishment of visible, specific, measurable, valuable and personally measurable success. According to (Parmenter, 2010, p. 4-39) measuring organizational performance is done through indicators, which management chooses for the purpose of reporting and performance improvements. The measures of organizational performance are classified as K*ey* Performance Indicators (KPI). Parmenter has four measures of performance that include Key Result Indicators, Result Indicators, Performance Indicators, Key Performance Indicators:

- Key Result Indicators (KRI) determine how a task is carried out taking into account the critical success factors,
- Result Indicators (RI) determine what has been done,
- Performance Indicators (PI) determine what to do,
- Key Performance Indicators (KPI) determine what needs to be done in order to increase performance.

In practice, key result indicators are often substituted with key performance indicators. Critical results of success are customer satisfaction, profits before taxes, employee satisfaction, earnings of end users, return on investment, etc. The common characteristic of the key result indicators is that they represent the result of a series of activities that determine whether work is performed properly or not, but do not offer guidelines that do to improve results. Key results indicators are observed over a longer period of time, usually on a monthly and annual basis, while key performance indicators are observed on a daily and weekly basis. Performance indicators and outcome indicators are measures of performance that are located between the key result indicators and key performance indicators. Performance indicators are important for the overall course of business activities, however, they do not represent the key prerequisites for business. Their role is reflected in connecting teams to organizational strategy, complementing the key performance indicators and does not relate to finance. They are displayed on a scorecard in conjunction with key performance indicators and individually for every organization, part or team in that organization. They may include indicators such as the percentage increase in sales, number of proposals for improving the business received from employees in the last 30 days, user complaints, calls for sales in the coming period, delay in delivery to key customers and the like.

Result Indicators (RI) provide a brief overview of the activities, and all the financial performance measures are also indicators of results. Week's sales analysis is taken as an example of good practice. Result indicators include profit from core product lines, current sales in a given time interval and the objections of key users.

Key Performance Indicators (KPI) represent a set of measures oriented to those aspects of organizational performance that are most critical to current and future approach to the organization. Their seven characteristics include non-financial measures, measures on a daily or weekly basis, CEOs act because of them, they clearly show which actions should be taken by employees, they attribute the responsibility to the team and have a significant impact on other success factors, and

encourage the necessary business actions. Key performance indicators need to be continuously monitored and, when a synergistic effect between managers and employees is reached then comes to the achievement of objectives at all levels. The successful development and use of key performance indicators is determined by the presence or absence of these four basic things (Parmenter, 2010, p. 24):

- partnership with employees, unions, suppliers and key customers,
- transfer of power to employees,
- measuring and reporting on what is important,
- connection of measures of performance with strategy through critical success factors.

Partnership with the aforementioned implies perception that organizational and cultural changes complement, understand and accept each other. In the context described above, there is a need to transfer power to employees which means that the employees get to know what the critical success factors are, and that they can make decisions about situations that could have a negative impact on key performance indicators, and that they need to constantly be informed about critical success factors and key performance indicators. Managers should measure the indicators and report on them in such a way that each report requires a specific action. Each report should include a review of certain critical success factor, making sure that the content is short, precise and focused on the adoption of certain decisions.

Key success factors are the number of measures or aspects of organizational performance that determine the continuing vitality and good business results of an organization. There are usually five to seven critical success factors within an organization. The task of the critical success factors and performance measures that are within them are to connect daily activities with organizational strategies. There are known cases of many organizations that have been using key performance indicators for years to unsuccessfully try to make a profit and to adapt to the market, but to no avail. The reason lies in the poorly marked and thought out, and wrongly selected indicators, all as a result of ignorance of the critical success factors. Although most organizations know their success factors, not many organizations have clearly described and properly selected key success factors, which is consequently linked to not clarifying the factors to their employees properly and essential departure from the strategic objectives. In conclusion, without a clear definition and knowledge of critical success factors, performance management cannot function. The benefits that the knowledge of critical success factors yields are reflected in the selection of winning key performance indicators, elimination of measures that are not based on critical success factors, employees know the priorities and thus their daily activities are associated with organizational strategy, and the number of unnecessary reports is reduced. Critical success factors are focused on specific areas and are precisely defined in contrast to the strategic objectives that may be of a more general content. Critical success factors are defined as key areas that need to function in order for the businesses to progress. In identifying the critical success factors used are three basic theories (Škrinjar & Trkman, 2013, p. 50):

- contingency theory,

– dynamic capabilities theory,
– task technology fit theory.

These three basic theories indicate the need for harmony between the business environment and business processes. Organizational strategy and structure must be in accordance with its competitive environment. Dynamic capabilities can be defined as a set of specific and easily visible process, and there should be harmony between the tasks of business processes and IT. CSF approach hides a few drawbacks such as its acceptance at the higher management levels, and it's lowering of the level of analytical sensitivity from top to bottom, but also the fact that in identifying the key factors it does not offer any further instructions on how to create excellence. Thus, CSFs have a good theoretical basis, but they can hardly be separated from their research context, nor can they be immediately applied directly in practice, and this leads to the need of application of good practices.

The main success factors are lists of problems or aspects of organizational performance, which indicate the vitality of the organization, state of the organization and success of the organization. Five to eight key success factors are usually considered. The program can be any activity, project, function or law that has a purpose or represents a set of goals. Performance measures are tools that help to understand, manage and improve the activities of the organization. According to (Buble *et al.,* 2010, p. 265) consideration of the effects of performance represents the beginning of the transformation of business processes. One of the goals of improving business processes is to determine the economic sense that the changes will produce, but this is not possible without performance measurements. It is indicative that most organizations have still not developed a system for measuring performance, although many organizations measure financial performance. Such partial measurements and comparisons with competitors are not sufficient to develop the image of a business process, and in particular to gain access to its improvement, therefore it is necessary to measure three key performances: efficiency, effectiveness and results (Buble, 2005, p. 60).

Table 1 illustrates different definitions of business processes by authors who deal with these issues as well as their contribution when business processes are in question.

5. MODEL OF IMPACT OF CHANGES IN BUSINESS PROCESSES ON ORGANIZATIONAL PERFORMANCE

The starting point for formulating the model of the impact of changing business processes on organizational performance is found in the results of previous theoretical and empirical research, and organizational needs of the observed companies. During the formulation of the model of impact of changes in business processes on organizational performance, the author's research was based on the idea of linking indicators of critical success factors of changes of business processes with the performance of business processes that is expressed by internal and external standards, which has been proven in a number of researches. Previous empirical studies have

found differences in the selection of critical success factors that are associated with process performance. Figure 1 shows operationalized model.

Table 1. Basic definitions of organizational performance

Author	Definition	Contribution:
Enos (2007)	Organizational performance is an indicator and accomplishment of visible, specific, measurable, valuable and personally measurable success.	Definition and selection of quantitative indicators
Drucker (1977)	Development of an organization is focused on improving organizational performance; successful organizations should solve their own problems and achieve key objectives. This definition can be considered the beginning of the definition of performance, but it assumes that the goals of the organization are clearly defined.	Improving organizational performance in order to achieve key objectives
Parmenter (2010)	Organizational performance is marked and classified as key result indicators of success through success indicators, performance indicators or key performance indicators - KPI. The main success factors are lists of problems or aspects of organizational performance, which indicate the vitality of the organization, state of the organization and success of the organization.	Key indicators of organizational performance
Franceschini, Galetto, & Maisano (2002)	Measuring organizational performance is about the process of long-term and continuous monitoring and reporting on achievements, especially of the pre-defined objectives. Measures of organizational performance can be related to the type and level of the process, direct outputs and the results of these outputs.	Observe all that measures of organizational performance can relate to
Buble (2005)	According to Buble, consideration of the effects of performance represents the beginning of the transformation of business processes. One of the goals of improving business processes is to determine the economic sense that the changes will produce, but this is not possible without performance measurements.	Quantifying the economic sense of changes
Jeston & Nelis (2008)	If business performance is not measured, then you do not manage your business. To measure performance is to know and be able to make a decisions in certain circumstances.	The importance of measuring performance in the context of making a good business decision
Davenport (2004)	Operations/actions are important, but they are not going to happen if all is not aimed at improving the process. Many take this for granted and don´t care because they know that there are primitives who will with a snap of a whip respond to the performance problems.	Problematizes performance issues

Source: own study.

In the operationalization of the first construct of the model, indicators are chosen that can be considered stable and unique in each business organization. The other construct of the proposed model represents the mediating variable that through internal and external measures describes the performance of business processes (Baron & Kenny, 1986, p. 1173-1186).

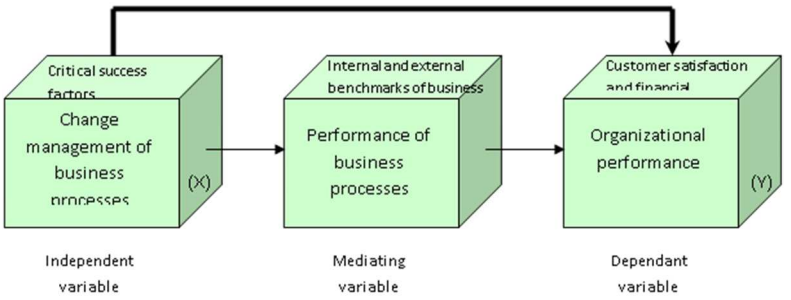

Figure 1. Theoretical model of the impact of business processes on organizational performance
Source: own study.

Mediation helps to find a response how the independent variable affects the dependent one, whereby there are two mechanisms of influence: direct path X-Y (changes of business processes, operationalized through critical factors of BPM, in relation to the performance of the company) and indirect path X – mediating variable (process performance) – Y. Analysis of the path models implies a valuation method for the coefficients in the structural model, which was originally proposed by Wright (MacKinnon, 2008, p. 130). In the concerned theoretical model only one mediating variable will be used, which is why it is not necessary to use the method of structural modeling, but the estimate of coefficients can be done through simple assessment of partial effects, with the help of linear regression equations.

The third construct describes the indicators of organizational performance representing the dependent variable of the proposed model. The third construct includes indicators for measuring customer satisfaction and financial performance, whereby these indicators are under indirect impact of indicators that describe the performance of business processes, and direct impact is reflected by indicators that have been selected as key indicators of success of a business organization.

Mediating variable of analyzed model represents a methodological innovation. In conclusion, the theoretical model of the impact of business processes on organizational performance consists of three constructs that are individually defined as dependent, independent and mediating variables, which are connected to two indirect connections and one direct connection. Each construct is described and defined by means of selected indicators that are part of the empirical analysis statistically analyzed by individually and mutually different statistical methods.

6. OPERATIONALIZATION OF RESEARCH VARIABLES

The indicators for both variables are derived on the basis of theoretical considerations and offered models that are presented by (Buble *et al.*, 2010, p. 235). This paper sets the independent variable that is defined by indicators of change of business processes,

which is operationalized on the basis of previously empirically verified critical success factors of business process changes, as defined by (Jeston & Nelis, 2006, p. 34-38). The dependent variable is defined by indicators of organizational performance. Third, the mediating variable consists of indicators that describe the performance of business processes by using internally and externally oriented indicators.

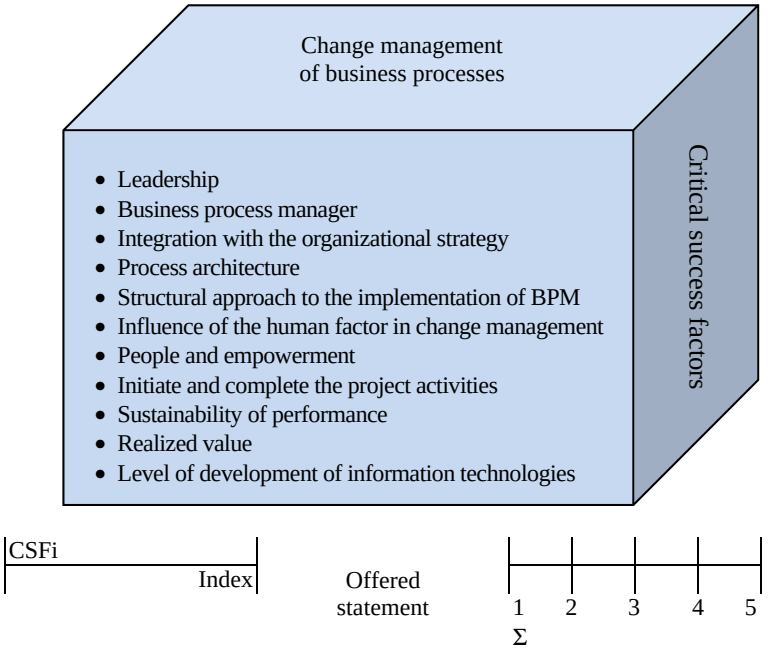

Figure 2. Shows the critical success factors that are stable and exist in every business organization. Persistence of statements is measured at point Likert scale from 1 to 5
Source: own study.

Leadership may be regarded as an activity that is often not in line with the strategic guidelines of the CEO and where leaders tend to experiment with the importance of the process in the organization. Leadership in this context means to have attention, support, funding and time of the leaders involved in the BPM project. Of course, the representation of each of these will vary with regard to BPM maturity of the organization and leaders.

Business process manager is considered to be the leader of the team, employees, stakeholders and all activities. He must possess certain skills for human resources management and stakeholders, therefore must have a higher level of knowledge than its predecessors.

Connection with organizational strategy aims to add value to the implementation of organizational strategies and goals. If the project does not achieve the stated goal then it is meaningless unless it is tactically planned as a short-term solution, but such solutions can hide great dangers. The organizational strategy is a common work area where all present are focused on the same goals. To achieve long-term

success BPM must be linked to organizational strategy, otherwise this can represent the main reason for the failure (Trkman, 2010, p. 125-134).

In terms of process architecture it discusses the importance of the adoption of the BPM concept and the existence within an organization in which the BPM can simultaneously work on multiple projects. Then it considers the existence or non-existence and intensity of synergistic approach to consistency within the organization to ensure the maximum benefit. Within the organization there must be a set of agreed guidelines and instructions for processes, otherwise each part of the organization could act as an independent, which would lead to organizational inconsistency. Process architecture is much more than a series of procedural guidelines, it describes the basic process principles within the organization and a reference to any changes in the organization that happen due to BPM.

The structural approach to the implementation of business process management without an agreed structured and systematic approach to the implementation of BPM, which takes into account the organizational strategy and how to carry out the important aspects of behavior could jeopardize the project, increase the chaos and increase the probability of impacts of associated risks. Often in practice we encounter a traditional execution of BPM projects arising from traditional management i.e. the logic of "common sense". By the development and progress of the process, there is an increase in pressure whereat "logical" steps lose their systemic and structural approach which is needed at all stages of the process. The influence of the human factor in the management of change is characterized by people who execute / implement processes or implement technologies that are managed by people. People who are in the process concept should be viewed as owners or accomplices in the process activities and they are the ones who realize the implementation of BPM projects. Considering the human resources management and people change management, the question is whether employees will be specialized in one thing or generally informed about all activities. The first ones quickly react in a particular field of their specialization, while the second ones provide greater flexibility to the organization as one of the main objectives of process-oriented organization. Current studies have shown that it is best to have optimized relationship between these two components. Human resources management in the process concept of organization takes 25 to 30% of project time, but in reality, in practice, real time invested into managing human resources is only 1% despite the fact that it is often said that people are the greatest asset of the organization.

People and the organizational empowerment determines process activities that significantly affect employees. Their roles can vary significantly with changes of tasks and activities. Looking at this dimension of CSF it is possible to assign roles to the part of the available human resources in order for the first time to be truly able to manage processes entrusted to them. To make managing the entrusted processes effective, this personnel should receive support through traditional training, but also directed and thought one on one. People are truly the greatest treasure of the organization and implementation of their activities should not be assessed until the system

and file structure are not adapted in such a way to support the BPM projects. Only then can we perform a quality assessment of employees. Once the processes, roles of employees, structure and performance measures reshape, employees can be trusted to do their creative work. Initiation and completion of project activities – all BPM initiatives within an organization must be linked to each other and once the process activity comes to an end it is necessary to make a review to ensure that the newly gained knowledge and experience from one project can be transferred to another project. We can learn a lot about the lifespan of a project, especially where and how to start, how to justify a particular business situation and to engage stakeholders. Business situation should not be regarded as a cover for getting finance, but the main guideline for the implementation of all the inputs in the project. It is necessary to ensure such business climate and the sequence of activities to ensure that the knowledge and experience is not "lost" within the organization.

Sustainability of performance is determined by the project, which has a certain life span, while the processes, if they are appropriately managed, will continue to exist within the business environment even after the termination of process activities. The task of the project is to "deliver" and "forward" the processes of the business environment in a way that is understandable and easy to treat. The organization should establish a process structure that will with its internal capacity support the productivity of the process.

Earned value is described by processes that are established in order to create value that contributes to organizational strategy. The project is completed only when the targeted value is achieved, and when the value is forwarded to the business environment so that business can support business results. The task of a project manager and project sponsor is reflected in ensuring the existence of management structures for monitoring the value arising from the project. Also, it is important to provide as many of the so-called "quick wins" in the process as possible. They should be rational and sensitive, and should be evaluated and implemented, and all stakeholders need to be familiar with the benefits obtained from the "short-lived victory."

The degree of development of information technologies describes the degree of development of information technologies that affect the capacity of the process and determine the level of development and maturity of the very process of the organization. IT can have positive and negative effects on the processes and process organization. IT is considered an essential factor in the process of streamlining management costs, including time, especially in changing times.

Figure 3. shows the mediating variable that helps determine the existence of indirect links between the structural elements of the theoretical model. The construct contains particles which measures the performance of business processes by using internal and external benchmarks.

Persistence of statements is measured at point Likert scale from 1 to 5.

By analyzing the performance indicators of business processes and grouping them into two groups, internal standards and external standards, we can learn about the entity's ability and the ability of management. Construct performance of business processes represent the mediating variables of the proposed model.

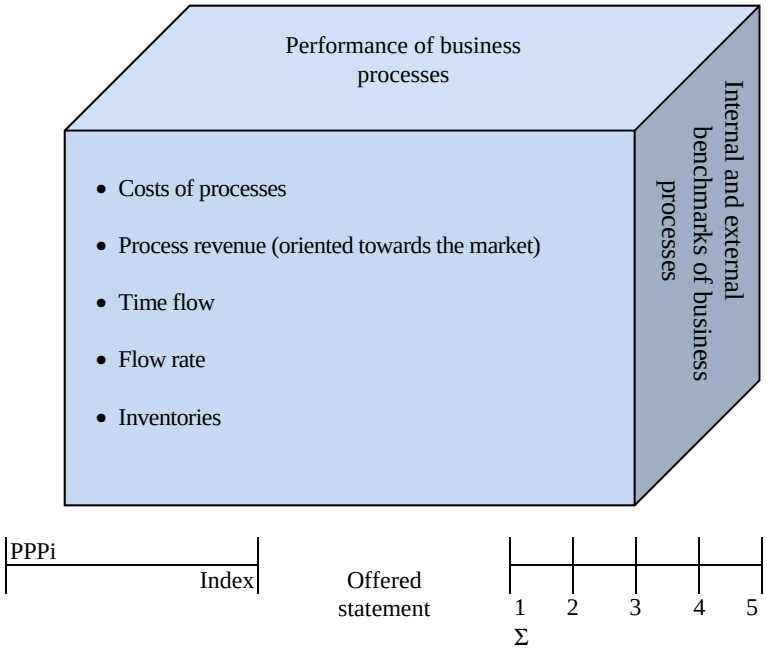

Figure 3. Mediating variable construct
Source: own study.

When considering indicators of the dependent variable, we focused on measuring customer satisfaction using the model mentioned by (Szwarc, 2005, p. 28) and it is based on three key elements taking into account the perception of product quality, service, the way of managing customer complaints and customer satisfaction in recent points of contact with the company.

Figure 4 shows the model construct containing particles organizational performance. The construct contains particles that measure organizational performance of customer satisfaction and financial performance. Persistence of statements is measured at point Likert scale from 1 to 5.

Although commonly used are instruments by Servqual from 22 standardized points to measure user satisfaction, service quality and loyalty indicators in this construct the emphasis is on managerial perception that will get answers to the perception of product quality, service, way of managing customer complaints and customer satisfaction in recent points of contact with the company. Indicators of financial performance will include the results of the overall operations of the organization, which are available from publicly available data on the operations of large enterprises. Financial performance of the organization will be analyzed using standardized indicators in the financial statements, such as liquidity ratios, rates of return, asset management indicators, indicators of debt management, profitability and market indicators.

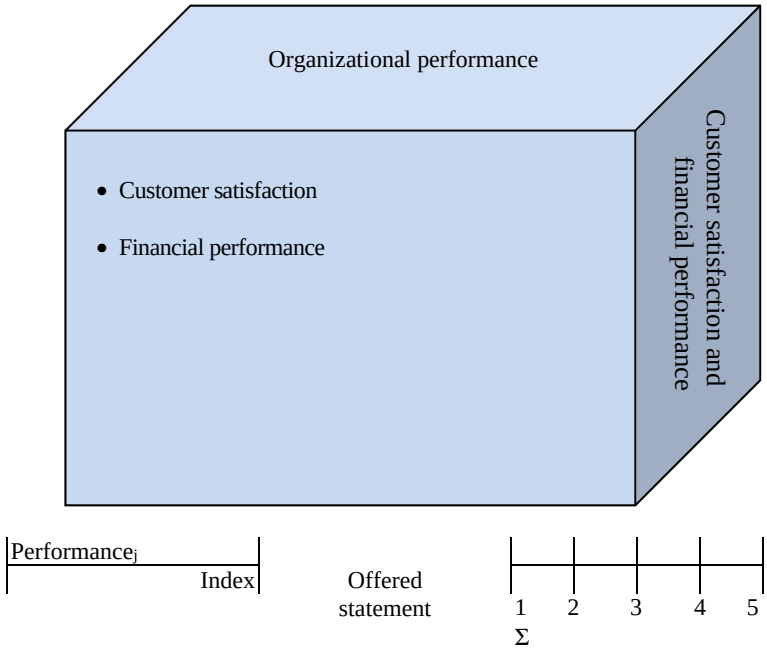

Figure 4. Dependent variable construct
Source: own study.

7. CONCLUSIONS

During the effective BPM, the performance indicators which are consistent with the process goals are selected so that business processes help in thinking how to articulate in a simple way by using measurable results the strategic goals that organization should achieve. The key to improving organizational performances lies in the selection of financial and non-financial measures that should be treated as mutually complementary values. Instead of choosing only one type of measures (Kihn, 2010, p. 92-468), considers that financial and non-financial measures should be observed as complementary values. Although some authors (Amaratunga *et al.*, 2001; Škrinjar *et al.*, 2007; 2008; Kumar *et al.*, 2008) proved positive relationship between process orientation and non-financial performances, different levels and models of BPM show that process measures and models of BPM have greater impact on higher levels of process maturity.

So far, nearly all empirical studies prove the thesis that process-oriented organizations achieve better non-financial performances, and then indirectly, better financial performances too. The practical implications of previous research generally confirm that the process-oriented organization achieves an advantage over the competitive organizations, which confirms better organizational performances.

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Spatial concentration of economic activity and competitiveness of Central European regions[1]

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Abstract:

The paper tackles with a still somewhat underdeveloped aspect of regional competiveness which regards to spillover effects stemming from spatial proximity of highly competitive neighbors. Although spillover effects are well recognized in the literature, we focus more on inter-regional concentration of business activity when enterprises are located in a particular district which is not far from the agglomeration center but not the center itself. We check for statistical significance of spatial autocorrelation measures (local Moran's I_i statistic) in order to identify spillovers between districts in Central European countries (Germany, Poland, Czech Republic and Slovakia). We use variables indicating Knowledge Intensive Services (KIS), in particular hi-tech KIS and information and communication services (including computer science). We compare 2009 with 2015 to notice agglomeration dynamics. We observe statistically significant spillover effects in Central European countries in urbanization-type clusters as well as strengthening of the effect over time. Taking into consideration more detailed data for Poland we conclude that while hi-tech KIS mostly spill over to neighboring districts, the reverse pattern may be observed for computer science (programming and consultancy). One explanation is that this subsector relies on highly demanded workforce and a prestigious localization (in the agglomeration centers) works as a bargaining chip to attract programmers. In order to measure the spillover effects more precisely it is recommended to define and measure the neighborhood of agglomeration centers using localization of firms based on GPS coordinates instead of centroids (geometric means) of districts – as shown in example of Poland.

Keywords: spatial agglomeration; spillover; regional competitiveness; KIS; Central European countries
JEL codes: R12, O31, O57

1. INTRODUCTION

The competitiveness of regions stems not only from their own resources and potential, but also from the positive effects generated by the strong (in terms of economic development) regions adjacent to them. It is related to the occurrence of spatial and

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functional interdependence of regions, as well as the external effects of spatial concentration of economic activity (agglomeration), including spillover effects (unintentional spatial interaction when the developmental processes, knowledge, productivity, innovations and so on spread between neighboring regions). In fact – according to Marshall (1920), Hoover (1936) and Jacobs (1969) – the basic premise of the spatial proximity and concentration of economic activity is that it can be beneficial due to agglomeration externalities to the overall economy as well as to sectors and firms clustered in a particular location (Prager & Thisse, 2012). This includes agglomeration externalities associated with the flow of knowledge, human resources (Ács 2002, 2005), or internationalization of services. It should be noted that spatial agglomeration (identified at low levels of data disaggregation eg. districts) as well as its externalities spread outside the boundaries of territorial units. This is why inter-regional effects of agglomeration (spillover effects) should be taken into consideration by analyzing the comprehensive regional competitiveness.

However, the strength and direction of the spatial correlation of the adjacent areas is different – in some regions strong spillover effects can be observed while in the others reverse processes – ie. diminishing spillovers – occur (centripetal effects of agglomeration centers). The challenge is therefore to measure the effects of spilling over of such development impulses including knowledge, entrepreneurship, foreign tourist flows and other effects of agglomeration of economic activity. In particular, the questions arise: how to measure inter-regional spillover effects with regard to knowledge and intellectual capital, what is the strength of those effects, and in which direction the phenomenon takes place in regions of Central Europe.

We employ the explorative spatial data analysis (ESDA) applying spatial statistics of autocorrelation (local Moran's I_i statistic) under the so-called Local Indicators of Spatial Association (Anselin 1995, 2010) in order to measure *geographic* spillovers along with PQStat software for spatial analysis.

We use the data collected by National Central Statistical Offices of Central European countries at district level (the number of enterprises registered in a given section and division of the NACE classification – the Statistical Classification of Economic Activities in the European Community), reflecting Hi-tech KIS (Knowledge Intensive Services), in particular ICT (Information and Communication Technologies) for the period of 2009-2015. Additionally we use the full database on individual firms registered in section I of Polish Classification of Activities (PCA, which is equivalent to NACE) within "food services activities" (division 56) in order to determine the "real" centers of agglomeration in each district – instead of using their centroids – in measuring the neighborhood and spatial autocorrelation. We use geostatistical information (GPS coordinates) of the enterprises (derived by geocoding their location on the basis of firms' addresses) in order to obtain the accuracy of the results in measuring the neighborhood.

The rest of the paper is organized as follows. Section 2 provides an overview of the literature on regional competitiveness as a result of agglomeration economies. In particular we discuss how spatial concentration of economic activity, spatial proximity, and spatial interdependency affect regional competitiveness of territorial

units. We give a special importance to agglomeration externalities and effects as drivers of inter-regional competiveness. It is followed by Section 3 that shows the impact of Knowledge Intensive Services on regional competitiveness. Section 4 describes the research methods and data sources. Section 5 presents the research and results. It shows spillover effects of agglomeration phenomenon reflecting inter-regional competitiveness of Polish districts. The final section concludes and draws implications as well as shows limitations and further research directions.

2. REGIONAL COMPETITIVENESS AS A RESULT OF AGGLOMERATION ECONOMIES

The ability to compete, that is, to act and survive in a competitive environment, can be considered within many aspects. Territorial (spatial) aspect of competitiveness is of growing interest in the literature. The competitiveness of municipalities, cities and counties as spatially separate parts of the national economy (Gorynia & Łaźniewska, ed. 2009, p. 52; Enright & Newton, 2004; Crouch & Ritchie 2000; Hall 2007) is frequently discussed. The competitiveness of territorial units refers to many theoretical and methodological aspects. It has to do with the diversity of ways of defining and operationalizing the notion of competitiveness (the attribute and process understanding of competitiveness, recognition of its side effects from the perspective of its factors, the distinction of interdependent concepts of competitiveness in the strict sense, ability to compete and competitive position).

In today's regional competitive processes, simultaneous competing of businesses and environment in which they operate is noticeable (Markowski, 1999, p. 102). The competitiveness position of businesses depends not only on their own actions but also on the efficiency of the territorial socio-economic systems. Competitiveness of areas is therefore of an indirect nature (providing conditions to compete of various entities functioning in a given area) and direct (competing of territorial units in attracting investors or tourists along with income and other benefits for the region (Nawrot & Zmyślony, 2009, p. 65)).

The comprehensive analysis of the competitiveness of areas diversifies and verifies both comparative and competitive advantage of spatial units (Dwyer & Kim, 2003; Crouch & Ritchie, 2005; Vanhove, 2011), where the first refers to the available resources of the area (tourist attractiveness, location, intensity and diversity or specialization of spatially concentrated economic activity, etc.), and the latter to how they are used (land management). However, in contemporary regional studies, there is a growing need to take into account the neighborhood of territorial units (spatial interdependence) and its importance in creating conditions to compete. An example could be the last survey conducted by the Central Statistical Office for the tourist attractiveness of the Polish districts where measures of regional attractiveness were constructed taking into account the spatial proximity of districts. This had a significant impact on the results (GUS, 2015). Furthermore inter-regional agglomeration effects in tourism as spatial interactions between Polish districts were investigated within this context by Majewska (2015).

The externalities specific to the agglomeration (spatial concentration of economic activity) and drivers of the phenomenon were introduced to the economic literature by Marshall (1920), Ohlin (1933) and Hoover (1936). Since the 1920 study by Marshall, the variables traditionally considered as sources of the agglomeration economies are as follows (Prager & Thisse, 2012, p. 27): 1) the availability of business services (sharing), 2) the presence of specialized labor (matching), 3) the emergence and spread of new ideas (learning), and 4) the supply of modern infrastructure (sharing). According to the traditional localization theory, firms concentrate around low-cost and/or high-demand locations (Baum & Haveman, 1997). Lower transaction costs lead to competitive advantage and equally to other effects of agglomeration such as: diffusion of knowledge, formation of firms offering complementary services or formation of social and business networks Krugman, 1991; Ottaviano, 2011. Apart from the cost factors, an important role in the localization decision is played by the demand (large and growing markets), and a circular causality can be noticed in the form of feedback relations between the firms' concentration and the growing markets. The increase in profitability due to localization decisions becomes a source of competitive advantage. The ability to communicate through informal channels which promotes physical proximity between companies and consumers also contributes to the competitive advantage. The result of the links between entities, interactions and knowledge transfer is a positive correlation between the agglomeration of economic activity and productivity (Duration & Puga 2004). It is also argued that for example innovation improving the competitiveness in the hotel sector is derived not directly from mere spatial proximity of firms in the same industry, but from the formation of a special production environment (Rodríguez-Victoria, Puig, & Gonzlez-Loureiro, 2016).

The positive agglomeration effects resulting from the concentration of economic activities are transmitted both within and between industries. Therefore, although the agglomeration economies may be grouped in various manners, in the contemporary literature two main different types of agglomeration economies are distinguished: specialisation (localisation) and diversity (urbanisation) externalities (Ács, 2005; Beaudry & Schiffauerova, 2009; Knoben, 2009). The localisation economies usually take the form of Marshall-Arrow-Romer (MAR) externalities, which operate mainly within a specific industry. The localisation economies are the advantages that firms in a single industry (or a set of closely related industries) gain from being placed in the same location. These promote positive externalities and thus economic growth within industries. The second type, the so-called Jacobs's externalities, work across sectors and stem from a local variety of producers (Jacobs, 1969); they refer to the so-called co-agglomeration, i.e., the tendency of different industries to locate near each other (Ellison, Glaeser & Kerr, 2007; Kolko 2010). In Jacobs's view, it is the industrial diversity (heterogeneity) rather than specialisation that is seen as the most important regional growth factor (Ács, 2002). Thus, the urbanisation economies are the advantages gained by firms, regardless of the sector, from being located together.

As the consequence of localised sources and the advantages of agglomeration, regional clusters, defined as the concentration of economic activity, emerge. They differ in regard to the scope and the scale of the spatial concentration of the economic activity as well as spatial interdependencies in neighborhood. The spatial concentration of economic agents itself does not necessarily involve strong linkages and interactions among them. Nonetheless, the probability of such ties increases with the growing number of agents and the decrease in the distance between them (Brodzicki & Kuczewska, 2012, p. 62).

Previously and recently researchers have explored and commented the importance of spatial concentration of firms and spatial proximity in enhancing innovation (including regional innovation systems), productivity, diffusion of knowledge, formation of social and business networks and other positive agglomeration effects (Ács, 2002; Duranton & Puga, 2004; Asheim, & Gertler, 2004; Sørensen, 2007; Weidenfeld, Williams & Butler, 2010; Prager & Thisse, 2012). However there is still room to analyse geographical/spatial and methodological context of agglomeration phenomenon which is accompanied by spillover effects and their impact on inter-regional competitiveness. The need to analyze the competitiveness in a wide inter-regional context stems from the presence of spatial externalities resulting in spillover effects between neighboring regions. It is conveyed through such channels as the flow of knowledge and human capital, technology transfer, or investments.

It is often argued that innovation is created and sustained through a highly localised process as exhibits strong geographical clustering in areas where specialized inputs, services and resources (including competition, interactive learning or institutional conditions) necessary for the innovation process are concentrated (Asheim & Gertler, 2005; Wolfe, 2009). Moreover in the rapidly changing knowledge-based economy innovation process is based on creative use of various forms of knowledge (Vinding, 2002; Alves, 2007). Innovation "remains fundamentally an application of knowledge" (Schaper & Volery, 2007, p. 64), which is best achieved through networks that serve as both repositories and generators of innovative ideas and information.

At the same time it should be mentioned that over the years the concept of innovation has changed towards more interactive, cumulative and cooperative phenomenon (Rothwell, 1992; Aralica, Račić, & Radić, 2005). Inter-organisational interaction and related external knowledge is believed to support innovativeness (Cohen, & Levinthal, 1990; Muller & Zenker, 2001). This is consistent with the concept of "open innovation" (Chesbrough & Garman, 2009) which – in contrast to the process of internal innovation – focuses on participation and collaboration of external firms (customers and suppliers) in generating innovative ideas. Suppliers' knowledge can also be used to streamline decision-making processes through aligning customer requirements with supplier capabilities (Shu Mei Tseng, 2009). The innovation process is by its nature knowledge-intensive, therefore innovations rely to a large extent on the presence of knowledge-intensive services (KIS) (OECD 2003, p. 26). Thus with the rapid development of information and communication

technologies (ICT) and other knowledge-intensive services (KIS) a significant research direction emerged – as knowledge transfer in spatial concentrated areas is vital to innovation, and for competitiveness.

3. THE IMPACT OF KNOWLEDGE-INTENSIVE SERVICES ON REGIONAL COMPETITIVENESS

KIS is defined as services that involve economic activities which are intended to result in the creation, accumulation or dissemination of knowledge. Following Miles et al. (1995) and den Hertog (2000), ICTs are considered one of three major knowledge-intensive services (KIS) sectors.

The service sector is divided into: knowledge-intensive services and less knowledge-intensive services according to the approach defined as a method which classifies production and service activities in accordance with the intensity of R&D (expenditure on R&D / value added). This approach is based on The Statistical Classification of Economic Activities in the European Community - NACE.

The following sectors of NACE are included into KIS: Post and Telecommunications, Computer Science, Research and Development, Water Transport, Aviation, Real estate, Rental of machinery and equipment, Other business activities, Financial intermediation, Education, Health care and Social Assistance, Cultural activities, Recreation and Sport.

An important subgroup of knowledge-intensive services is called high-tech KIS. The group includes: Post and Telecommunications, Computer Science, Research and Development. Computer Science (division 62 of section J within NACE, ie. computer programming and consultancy) can be identified as ICT services. Other services are classified as less knowledge-intensive.

KIS-providers play a special role in innovation systems, and therefore in enhancing regional competitiveness. They serve as sources of innovations (initiating and developing innovation activities in client organizations), facilitators of innovations (supporting the innovation process of an organization) and as carriers of innovations (aiding in transferring existing knowledge so that it can be applied in a new context) (Miles et al., 1995). Thus, using KIS enables firms to conduct their own innovative activities. In particular, ICT-use constitutes not only an innovation in itself but also enhances the innovation process by shortening distances and saving on costs and time, as well as facilitating information transfer and the promotion of a higher quality of decision-making (Vilaseca-Requena et al., 2007; Czarnitzki & Spielkamp, 2003; Amit & Zott, 2001). There is a general, strong preference for locally provided KIS (OECD, 2006). The evidence of local sourcing (location of KIS-related providers) may support the importance of geographical proximity and the generation of clusters and networks in strengthening the innovative system in which the firms operate (Ács, 2002).

Innovation policy focuses on stimulating innovativeness or enhancing the ability to adopt innovations developed abroad. Both paths rely heavily on possibilities to broaden the intellectual capital in a country or region. Developed countries

or regions are in clear comparative advantage as the higher level of intellectual capital enables faster rate of both technology creation and adoption (as endogenous source of growth according to P. Romer, P. Aghion and P. Howitt). Less developed countries (LDCs) need first to develop intellectual capital to be able to take the benefit of existence of innovative production factors. Despite the comparative disadvantage in innovation many LDCs implement policies aimed at development of highly technologically advanced products (eg. biotech or nanotech projects) what results in insular type of development in regions where hi-tech "isles" neighbor traditional production of low-tech goods (Kubielas, 2009, p. 277).

In Poland, for example, which in the context of innovation should be classified as a LDC, innovation policy is also conducted towards supporting the development of high-tech products. However, it is worth noting that the requirements of EU programs, which constitute a significant source of funds for innovation policy, require that the support is not provided directly to innovators, but is channeled to support the development of innovative business environment – such as technology parks, incubators, clusters, etc. Despite low evaluation of effectiveness of the funds, the development of the business environment secures that the aid goes to the companies which existence is due to market forces – the demand for advanced products and services and supply of innovative ideas (intellectual capital) – and not due to government support. In the Polish case, this means primarily the development of services based on ICT.

4. MEASURING SPATIAL CONCENTRATION AND SPILLOVER EFFECTS AS INTER-REGIONAL AGGLOMERATION

The occurrence of inter-regional spatial concentration, ie. agglomeration phenomenon including spillover effects as well as patterns of local spatial relationship between the territorial units (regions) can be identified using spatial statistics (Anselin, 1995, 2010; Kopczewska, 2011; Páez & Scott, 2004; Schabenberger & Gotway, 2005), in particular Local Indicators of Spatial Association (LISA) within exploratory spatial data analysis (ESDA).

In a general approach to modeling spatial association there are two exploratory techniques for the local analysis of spatial association, namely Getis and Ord's distance-based statistics (Getis & Ord, 1992; Ord & Getis, 1995) and Anselin's (1995) local decomposition of a global statistic of spatial association (Páez & Scott, 2004, p. 55). The local Moran's I_i statistic belongs to the most common (within LISA) measures of spatial interdependence (autocorrelation) of spatial variables in neighboring regions, and thus allows the identification of spatial autocorrelation processes (Anselin, 1995; Schabenberger & Gotway, 2005).

It has been successfully used in the research on spatial distribution of tourist flows, formation of clusters in tourism and spatial spillover effects in regional tourism growth as well as the issues of spatial interactions between tourism destinations (Yang, & Wong, 2013; Yang & Fik, 2014; Yang, Fik, & Zhang, 2016). In particular, Majewska (2015) identifies and empirically measures interregional

effects of spatial agglomeration in tourism considering the occurrence and strength of geographic spillover effects in Poland.

Local Moran's I_i statistic is weighted correlation coefficient used for detection in the random distribution of the variable **X** of deviations with spatial characteristics. It allows to determine whether neighbouring areas are more similar to each other (in terms of variable **X**), than would result from the stochastic nature of the phenomenon studied (Mora and Moreno 2010). Moran's I_i statistic is expressed by the following formula (Anselin, 1995; Schabenberger & Gotway, 2005, p. 24):

$$I_i = \frac{(x_\mathrm{i} - \bar{x}) \sum_{i=1}^{n} w_\mathrm{ij}(x_\mathrm{j} - \bar{x})}{\sum_{i=1}^{n}(x_\mathrm{i} - \bar{x})^2/n} \tag{1}$$

where:

$x_\mathrm{i}(x_\mathrm{j})$ - value of the variable **X** in the region $i(j)$,

n - number of regions,

$\bar{x}$ - the arithmetic mean of the variable **X**,

w_ij - elements of the spatial weights matrix **W** (line standardization) between units *i* and *j*.

Local Moran's I_i statistic is based on a neighborhood matrix (the spatial lag operators W). A spatial weights matrix W is simply a matrix ($n \times n$) containing weights w_{ij} that describe the degree of spatial relatedness (i.e. contiguity, proximity and/or connectivity) between units of analysis *i* and *j* (Páez & Scott, 2004). There are different ways of defining the neighborhood and building spatial weights matrices (Griffith, 1996; Páez & Scott, 2004) which, on one hand, is its limitation/weakness due to the sensitivity of the statistic on the type of spatial weights matrix (neighborhood matrix). On the other hand, it allows to modify and improve the measurement results due to the possibility to correct the neighborhood matrix using GIS (GPS coordinates) as proposed previously (Majewska, 2016).

The rules of neighbourhood used in the local Moran statistics (and other indicators of spatial association) often operate on the distance between the centroids of adjacent territorial units (Anselin, 1995; Schabenberger & Gotway, 2005; Lloyd, 2010). Then the neighbours are regions where the distance between the centroids of districts, that is, their geometric centres, regional capitals, centres designated on the basis of location data of entities (GPS coordinates), etc. does not exceed a specified number *d* of km.

In this study we use both: 1) centroids (for the whole group of districts of Central European countries) and 2) central tendencies of the localization of enterprises (for Polish districts) as centres of agglomerations – the data in the latter case were only available for Poland. It should be noted that GPS coordinates of individual enterprises allow to determine the centres of districts more precisely comparing to centroids – as they are closer to the actual agglomeration processes in the regions.

5. INTER-REGIONAL COMPETITIVENESS – AGGLOMERATION AND SPILLOVER EFFECTS ON THE EXAMPLE OF CENTRAL EUROPEAN DISTRICTS

The research was performed with respect to the districts of four Central European countries, ie. Germany, Poland, Czech Republic and Slovakia (N = 960 of territorial entities) and based on the data collected by Central Statistical Office of each country for the period 2009-2015, describing the competitiveness of regions form the perspective of spatial agglomeration effects. In the study, we used three variables as: 1) the share of information and communication (NACE section J) in total number of firms registered in a given district of Central European countries as well as 2) the share of Hi-tech KIS and 3) the share of ICT in total number of firms registered in Polish districts – as a special case within the Central European countries. It should be mentioned that two of the six subsectors (at the division level) dominated the information and communication services sector in the EU-28, namely computer programming and consultancy (Division 62) and telecommunications (Division 61). These two subsectors generated close to three quarters (71.1%) of sectorial value added (Eurostat Statistics Explained, 2016).

In measuring the neighborhood and spatial autocorrelation we use two approaches. First, for the whole group of districts in Central European countries we used geometric centers of districts (centroids). Then, considering Poland as a special case study we use GPS coordinates of enterprises (generated with a dedicated tool to geocode their addresses). The central tendencies of the localization of firms were designated by calculating mean latitude and longitude coordinates to represent centers of agglomeration in each of 380 Polish district. In this article GPS coordinates of entities registered in Section I of PKD as "food services activities" (division 56, N = 96 775 firms) were used as an approximation of spatial concentration of economic activity. On this basis, new spatial weights matrices were built allowing to determine local Moran I_i statistics and investigate the occurrence of spatial dependencies of neighboring districts in relation to KIS (high-tech KIS and ICT). Those variables reflects the existence of positive agglomeration externalities which can spilling over the neighborhood and enhancing inter-regional competitiveness of territorial units.

The neighborhood matrices were defined by the radius of the distance *d* between the centers of districts (d = 25 km). They were set, on the one hand, as geometric means (for the whole group of districts within Central European countries) and, on the other hand, as central tendencies, ie. the average value of GPS coordinates of enterprises of section I and division 56 located in each district in Poland.

Maps below (figures 1-2) present the results of spatial autocorrelation statistics – Moran's local I_i – obtained using PQStat software with regards to districts of Central European countries. Statistically significant values of the statistic are presented for 2009 and for 2015 in respect to the share of information and communication (NACE section J) companies in total number of firms registered in a given district.

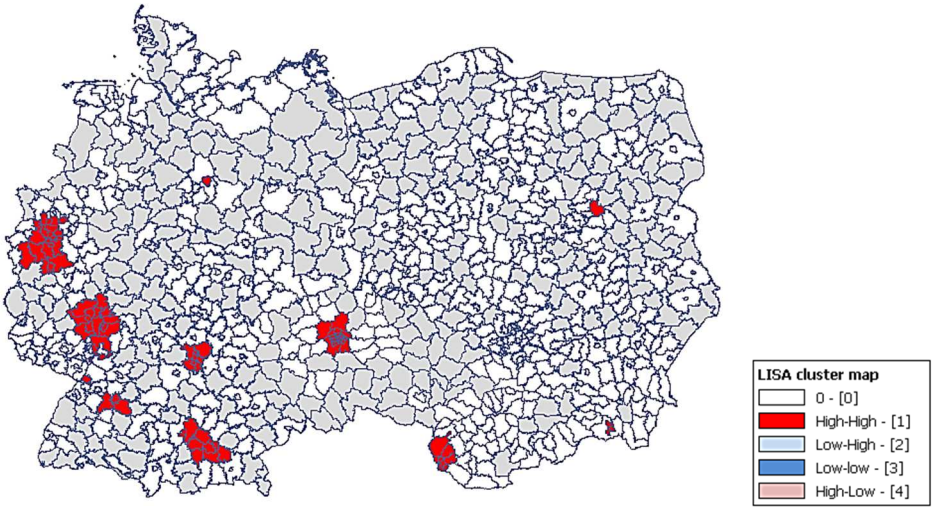

Figure 1. Significant local Moran's I_i statistics in relation to the share of section J (information and communication) in total number of economic activities registered in districts of Central European countries in 2009 ($p < 0.01$).
Source: own work based on data collected by Central Statistical Offices of Central European countries with the use of PQStat software.

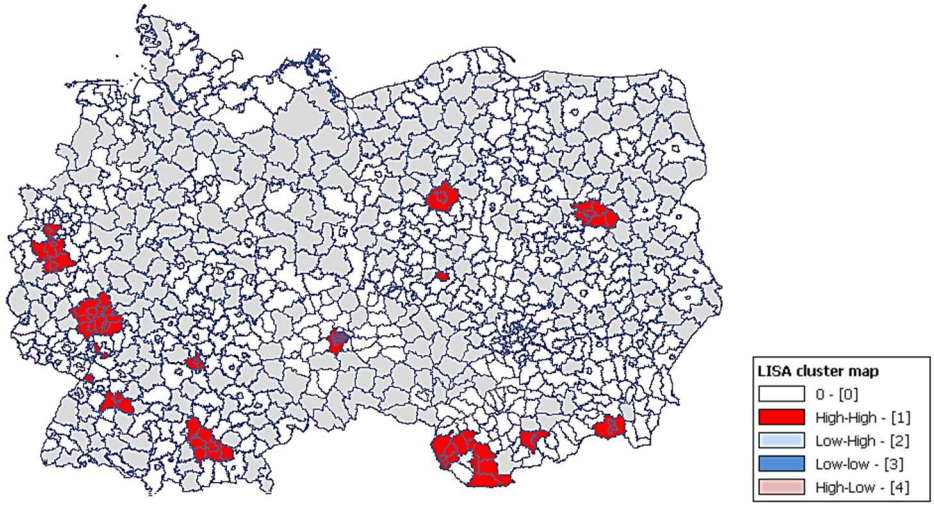

Figure 2. Significant local Moran's I_i statistics in relation to the share of section J (information and communication) in total number of economic activities registered in districts of Central European countries in 2015 ($p < 0.01$).
Source: own work based on data collected by Central Statistical Offices of Central European countries with the use of PQStat software.

A comparable number of statistically significant districts in 2009 and 2015 years may be noticed (93 and 92, respectively), but in the initial period of the study they occurred mainly in the south-western part of the analyzed group of countries (Germany) – Ruhr agglomeration with Essen and Cologne, or agglomerations of: Stuttgart, Frankfurt, Nuremberg and Munich. Especially worth attention is that almost no clusters of districts with similar high values of shares of Section J enterprises in the economic structure occurred in Poland (spillover effects in this period related only the capital city of Warsaw). In 2015 eastern and southern regions, ie. in Poland (Warsaw, Poznań and Wrocław) and Slovakia (Bratislava agglomeration, region of Nitra, Trnava, Banska Bystrica and Kosice) gained in importance at the expense of Germany.

A small number of clusters of districts characterized by a high share of information and communication services sector in the economic structure of districts in Poland and the Czech Republic is due to the low average value of these shares compared with Germany and Slovakia (see. table 1), ie. lower importance of Knowledge Intensive Services in the economy.

Table 1. The average value of shares of Section J enterprises in the economic structure of districts based on the number of entities registered in these districts by section in 2009 and 2015

Country	Average share of section J (information and communication) in total number of firms in districts	
	2009	2015
Germany	2.89%	2.80%
Poland	1.42%	1.87%
Czech Republic	2.07%	1.35%
Slovakia	2.97%	3.98%

Source: own work based on data collected by Central Statistical Offices of Central European countries.

In the next step, values of Moran's I_i statistics were calculated using only data on Polish districts to check for the occurrence of spillover effects of knowledge-intensive activities in these regions exclusively. The results are shown below on a map (figure 3).

In addition to previously designated clusters in agglomerations of Warsaw, Poznań and Wrocław, clusters of high values of the shares of Section J enterprises in the economic structure of the districts also revealed in agglomerations of Kraków, Gdańsk, Rzeszów and Silesian conurbation. These are areas that create positive neighborhood externalities increasing the competitiveness of the whole regions they are located in (innovative activities associated with knowledge-intensive services spill over to the neighborhood). These centrifugal effects strengthened over the six analyzed years in agglomerations of Kraków and Wrocław, decreased in case of Bydgoszcz and the surrounding districts.

Moreover we take into consideration others variables for Polish districts, namely: 1) the share of Hi-tech KIS and 2) the share of ICT in total number of firms registered in Polish districts. Maps below (figures 4-5) present the results of spatial autocorrelation statistics (Moran's local I_i).

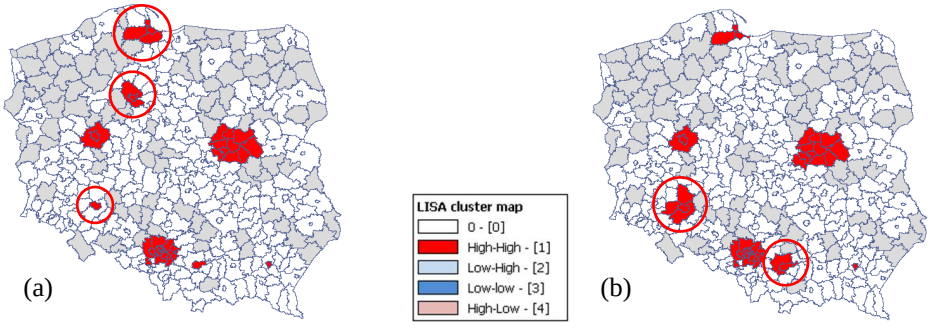

Figure 3. Significant local Moran's Ii statistics for two different points in time (2009 (a) and 2015 (b)) – in relation to the share of section J (information and communication) in total number of firms in Polish districts ($p < 0.01$)
Source: own work based on Central Statistical Office data with the use of PQStat software.

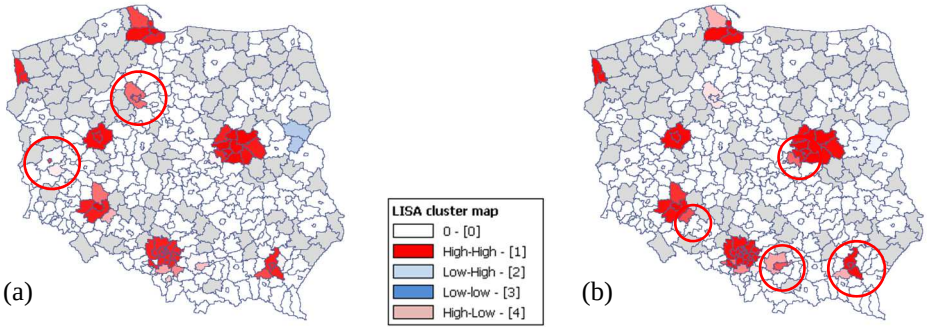

Figure 4. Significant local Moran's Ii statistics for two different points in time (2009 (a) and 2015 (b)) – in relation to the share of Hi-tech KIS in total number of economic activities registered in Polish districts ($p < 0.01$)
Source: own work based on Central Statistical Office data with the use of PQStat software.

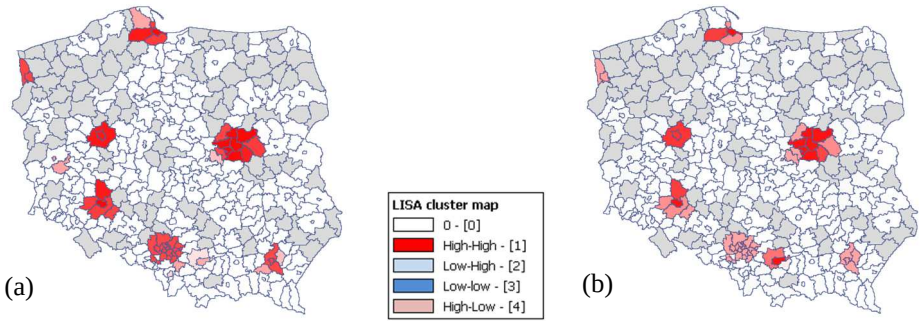

Figure 5. Significant local Moran's Ii statistics for two different points in time (2009 (a) and 2015 (b)) – in relation to the share of ICT in total number of economic activities registered in Polish districts ($p < 0.01$)
Source: own work based on Central Statistical Office data with the use of PQStat software.

We observed a statistical significant tendency to cluster by neighboring districts similar to each other by the high values of these two variables (share of Hi-tech KIS providers and share of ICTs providers in the total number of enterprises registered and localized in a given district). It means that there are spatial interrelations between some districts and in some cases we can observe inter-regional effects of agglomeration phenomenon that reflect spillovers with regard to KIS-based measures.

Taking into consideration Hi-tech KIS variable it should be noted that there are 8 main centers of inter-regional competitiveness where agglomeration and spillover effects can be observed, such as agglomerations: Warsaw, Poznań, Wrocław, Tricity, Szczecin, Kraków, Silesian conurbation and Rzeszów – on the south-east part of Poland. Comparing the results of local Moran's I_i statistics between 2009 and 2015 it can also be seen that spillover effects grew broader and stronger for the district of Kraków (Kraków itself in 2009), Żyrardów (south-western part of Warsaw agglomeration) and Oława (Wrocław agglomeration). Conversely, the disappearance or weakening of the spillover effect was observed in the case of Bydgoszcz and the district of Bydgoszcz, and Zielona Góra, and Nowa Sól. The effect of a "sucking in" in the case of Rzeszów and Rzeszów district in relation to the surrounding districts (strzyżowski) is also worth noting.

The disappearance or weakening of the spillover effects is even clearer in relation to the share of ICT providers in the economic structure of districts (Silesian conurbation, agglomerations of Rzeszów and Szczecin). Increasing spatial interdependence is apparent (but in the narrower number of territorial units) in eg. of stronger Wrocław and trzebnicki districts with weaker remaining districts of Wrocław agglomeration, or in Warsaw agglomeration where the situation is similar). The opposite tendency was recorded in Kraków agglomeration – the strengthening interdependence in an inter-regional cluster composed of Kraków and the Kraków district. Inter-regional effects of Kraków agglomeration and spillover improve the competitiveness of the whole area, including districts located within further radius from the center of the agglomeration.

6. CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH

In the study we tested spatial autocorrelation of neighboring regions with regards to variables on KIS-oriented measures using the example of four Central European countries (Germany, Poland, Czech Republic and Slovakia). The methodology based on local statistics of spatial association and GPS coordinates (used only in case of Poland) allowed us modelling agglomeration processes. As the main implication of the study within methodological context we identified spillover effects in neighboring regions as indicators of highly competitive districts in Central European countries. However it should be noted that we do not observe any cross-border agglomeration, ie. the phenomenon of spatial agglomeration in the international context.

Under the cognitive effects of our study we observed three types of spatial association effects taking into consideration changes in time (2009 vs. 2015): 1)

strengthening spillover effects with regards to information and communication sectors (eg. Warsaw and Wrocław agglomerations as well as Bratislava or Kosice), 2) diminishing spillovers (centripetal effects of agglomeration centers – eg. in Nuremberg, Prague or Rzeszów in the south-east part of Poland), and 3) dispersion effects e.g. in Wolfsburg in Germany or in Polish Bydgoszcz.

The results of the study indicate inter-regional competitiveness of territorial units in Central European countries, which are gaining momentum due to the phenomenon of positive spillover effects of spatial agglomeration. This applies mainly to clusters of urbanization – cities – that create the functional relationship of varying strength and range with the surrounding districts. This reflects a trend of hi-tech KIS companies to locate in the vicinity of large cities. However, it is different with regard to the ICT sector where spillover effects mostly disappear over the years 2009-2015. This demonstrates the high bargaining power of IT employees who are not necessarily interested in commuting outside the city of residence.

The results may optimize localization decisions and geomarketing of enterprises as well as planning and management of districts (administrative units). Regions where *geographic* spillovers are the main driver of the development should combine marketing activities with the regions that generate spillovers. Such collaborative marketing is necessary to enhance competitiveness of regions without important resources or development potential but localized in the vicinity of strong regions generating spillover *effects*.

The main limitations of the research are applied to LISA measures (local Moran I_i statistics) which are sensitive to the localization, size and shape of the analyzed territorial units (determining neighborhood). Thus, in order to measure the spillover effects more precisely it is recommended to define and measure the neighborhood of agglomeration centers using localization of firms based on GPS coordinates instead of centroids of districts – as shown in example of Poland. It seems to be of special importance in case of districts in East Germany which are much bigger in size compared to those located in west part of the country. Thus, potential spillover effects (of eg. Berlin) could not be captured as many centroids of neighboring regions were farther to each other than the range determined to delimit the neighborhood.

Additionally, the spatial interrelation of neighboring regions seems to be dependent on various regional features. Thus, in-depth assessment of the existence, strength and direction of spillover effects using case-study analyses of different agglomerations may be required to compliment the picture.

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Entrepreneurship development vs. reluctance in applying for the European Union funds: A case study on the example of the Mazovian Region in Poland

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Abstract:

The main objective of the article is to investigate why entrepreneurs from the Mazovian region are not eager to apply for the EU funds. The authors asked the following research questions: Why are the entrepreneurs reluctant to apply for the EU funds? How (if) has the situation changed comparing the 2007-2013 and the 2014-2020 perspectives? What should be changed from the side of the EU perspective? In the research a qualitative method – direct interview with entrepreneurs – was used. 171 entrepreneurs were interviewed. Purposive sampling was used. The authors chose the companies, which fulfilled the following conditions: they were interested in applying for the EU funds; they had experience in getting support from the European Union; they perceive themselves as "innovative". All enterprises were from the Mazovian region in Poland. It was stated that a large number of companies wants to apply for the EU funds, but they cannot do it due to many factors such as the necessity to include own funds; no interest to participate in any project; the willingness to purchase the apparatus or appliance or too high bureaucracy. The best way to make the EU funds available for the companies is to meet their problems and expectations first. It should be done in the form of consultations between the government and business world. Such consultations would bring ideas, which topics should be included into the proposed programmes. The originality of this work lies in studying factors, which make the entrepreneurs from the Mazovian region impossible to apply for the EU funds. It is very important to recognise them as the 2014-2020 perspective offers a huge amount of money, which could be well spent by the entrepreneurs, if they managed with hampering factors.

Keywords: the Mazovian region; entrepreneurship; EU funds; reluctance; project proposal
JEL codes: L26, L38, O22

1. INTRODUCTION

Entrepreneurship plays a significant role in the society (Clark, Guy, 1998; Griffith *et al*., 2004; Acs *et al*., 2004; Audretsch, Keilbach, 2004; Lee *et al.*, 2010; Staniewski *et al*., 2016). First of all, it contributes to the implementation of innovations

(Grabher *et al.*, 2008; Shneider, Veuglers, 2010; Stoner, 2011; Huarng, Yu, 2011; Bettiol et al., 2013; Badzińska, 2016). In order to facilitate the development of innovations by enterprises, in the 2014-2020 perspective the European Union proposes to undertake a lot of various initiatives, which seem to be very attractive for beneficiaries. In Poland there are, among others, national programmes (Infrastructure and Environment, Smart Growth, Knowledge Education Development, Digital Poland, Eastern Poland, Technical Assistance), regional programmes (16 programmes – one for each region) and European Territorial Cooperation Programmes.

The Mazovian Region is perceived as one the most developed (Annoni, Dijkstra, 2013). This is a region with the highest amount of foreign capital. This mainly so because the capital city of Poland – Warsaw – belongs to this region. Moreover, in the region there are 17.3% of innovative enterprises. The position of the Mazovian region is similar to regions from old EU members (Dziemianowicz *et al.*, 2012). On the other hand, more than 73% of investments are financed from own funds of entrepreneurs. It seems that the support of the EU funds could improve the level of the entrepreneurship in the region.

Therefore, in order to promote the innovativeness in the region, there is the possibility to use funds, among others, from the Regional Operational Programme for the Mazovian District 2014-2020. The basic aim of the Programme is to strengthen innovativeness, competitiveness and entrepreneurship of the Mazovian region. It is planned that 23% (c.a. 491.5 million EUR) of the programme budget should be directed towards entrepreneurial development. The emphasis is put on the R&D – business links, higher engagement of enterprises in R&D activities and the application of innovative products in companies.

The programme offers the project calls, which are strongly linked with regional "smart specialisation strategies" (European Commission, 2014; Rusu, 2013; Jucevičius, 2014; Capello, Kroll, 2016; McCann, Ortega-Argiles, 2016), i.e. the areas particularly popular and important in the region. The programme promotes the projects supporting these smart specialisations. In the Mazovian region there are four smart specialisations distinguished: high quality of life, safe food, intelligent management systems and innovative services for business. Selected smart specialisations for the Mazovian region result from the Regional Innovation Strategy for the Mazovian District till the year 2030. This is the basic document for the units, which want to apply for funds. It includes directions that should be included in the projects.

In total, in 2016 there are nearly 50 project calls for entrepreneurs. The scope of the support is huge. The funds are offered to entrepreneurs for the development of innovations and investment in the area of R&D. Thanks to the EU funds the Mazovian region wants not only to integrate scientific environment with enterprises, but to strengthen economic potential in the region as well.

Apart from regional programmes, entrepreneurs from the Mazovian region have the opportunity to apply for national funds, mainly from the National Centre for Research and Development or the Ministry for Development. Such an interesting and rich offer should attract entrepreneurs to use funds for the improvement of

their activity (Tloczynski, 2016; Massimo *et al.*, 2016; Scholleova, 2014). Unfortunately, many enterprises are not interested in obtaining support from the EU funds (Tödtling–Schönhofer *et al.*, 2012). The article presents the reasons why Mazovian entrepreneurs do not often apply for the EU funds.

2. BACKGROUND

Since Poland joined the European Union in 2004, it has been successfully catching up with the old EU member countries. The main aim of the structural funds is to decrease differences in the development of countries and regions and at the same time to increase in the competitiveness of member countries and the European Union on the global market.

The aim of structural funds is also to create companies more innovative. In literature we can meet different definitions of the innovativeness of an enterprise. To be the most general, it is the motivation to search and to use commercially the results of scientific research, new concepts, which lead to the increase in novelty and competitiveness position of a company. The companies can be seen as innovative if they are able to create, absorb and achieve new products (services) and these ones, which are able to adopt changes from the market (Janasz, Leśkiewicz, 1995).

The Polish economy has been trying to converge to EU-15 economies, however in terms of innovation and R&D, Poland is even behind the Czech Republic and Hungary – its two closest regional peers. Polish enterprises do not readily spend funds for R&D. The data show that the 2007-2013 perspective supported approximately 28.000 enterprises (c.a. 15.000 micro, 7.500 small, 3.750 medium, c.a. 1.500 big enterprises), but it gives only 1%-2% of the total enterprises in Poland (European Commission, 2015a).

Many evaluation reports of the 2007-2013 perspective show that in Europe this indicator is not high. Similarly to Poland, c.a. 2% of total number of the European enterprises used the European funds (European Commission, 2015).

What are the reasons that the companies do not apply for EU funds? It seems that there are many. First of all, we have to be aware that we can distinguish on the market companies so called "innovative" and traditional companies. Surely these first ones are mainly engaged in receiving the EU funds. The traditional companies are less competitive and they make investment with the use of own funds (European Commission, 2015a).

To see more deeply if there is the majority of innovative or traditional companies, the authors present the chart of companies in Europe (Figure 1).

It can be seen from the Figure that the traditional companies constitute the majority. Regarding the second group, in Poland there are c.a. 23% of innovative companies. It is not a high number comparing e.g. to Germany or Luxemburg. Even Turkey and Serbia have more companies of this type.

The companies can treat themselves as "innovative", but a very important aspect is how much they spend on R&D (Figure 2). As it can be seen, although Polish companies think they are innovative, they spend very low amount of money for R&D.

The situation has not changed during the period of ten years: from 0.54% to 0.87%. The countries, which spend the highest money for R&D, are Germany and Sweden.

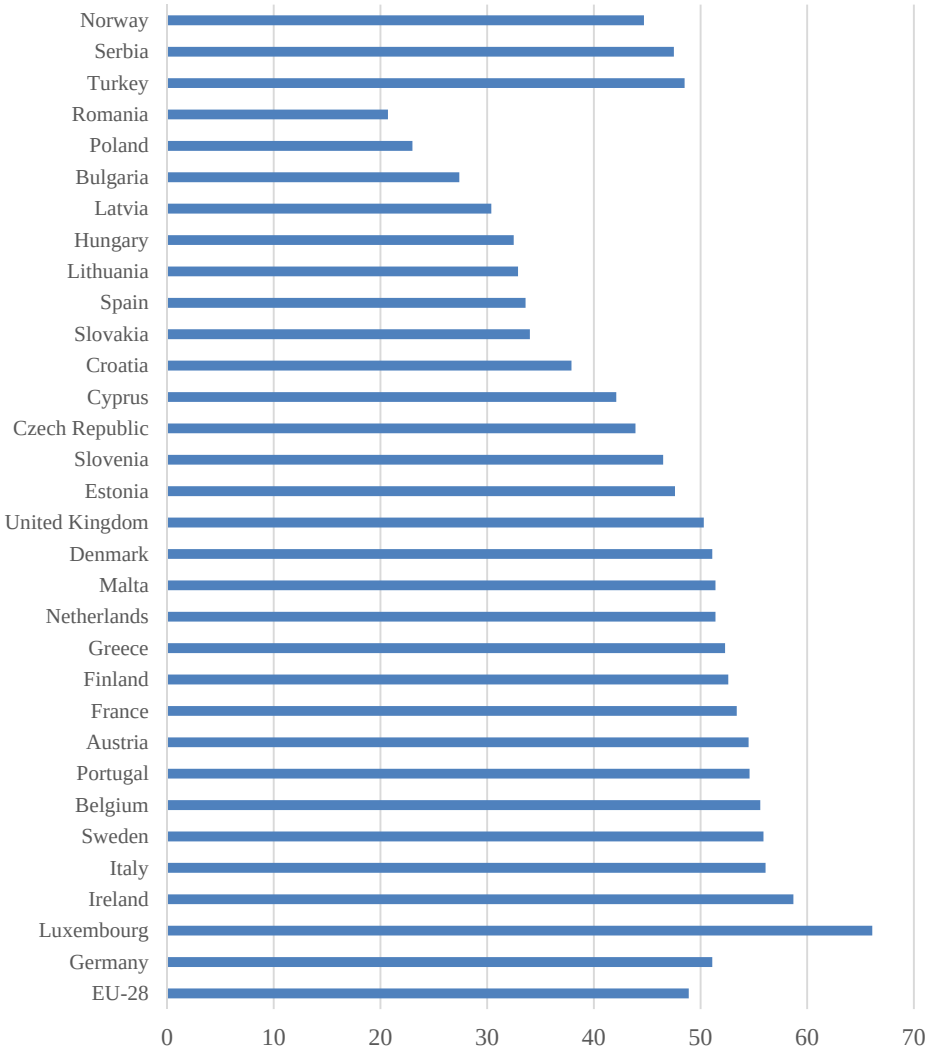

Figure 1. Share of innovative enterprises in Europe in 2010-2012 (% of all enterprises)
Source: EUROSTAT – Community Innovation Survey 2012.

Moreover, as it was stated before, only a small rate of companies were supported from the EU funds (Figure 3). It can be seen here that companies so called "innovative" do not get high funding from the European Commission. Regarding Poland it is c.a. 15.6% of innovative companies, what gives c.a. 3% of all enterprises in the country. The situation in other countries is similar as aforementioned the Czech Republic – c.a. 16.4% and Hungary – 20.6% of innovative companies.

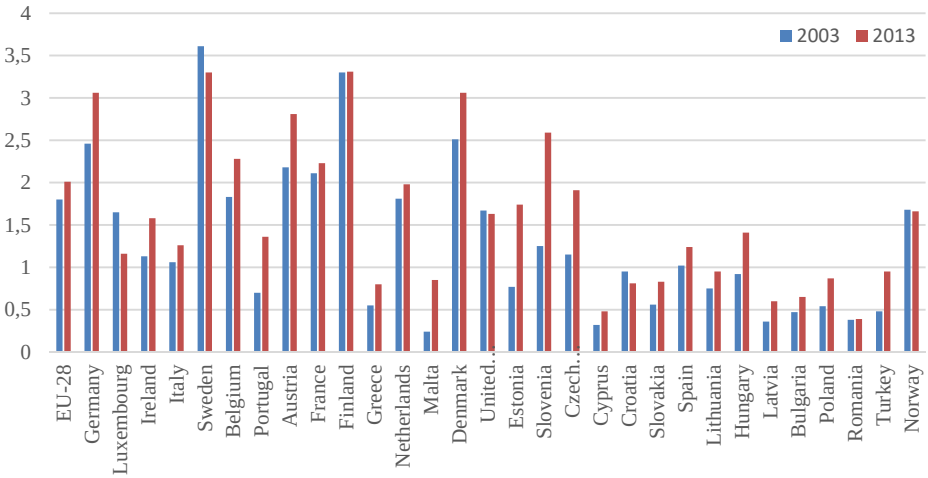

Figure 2. Gross domestic expenditure on R&D, 2003-2013 (% of GDP)
Source: EUROSTAT Science, technology and innovation in Europe.

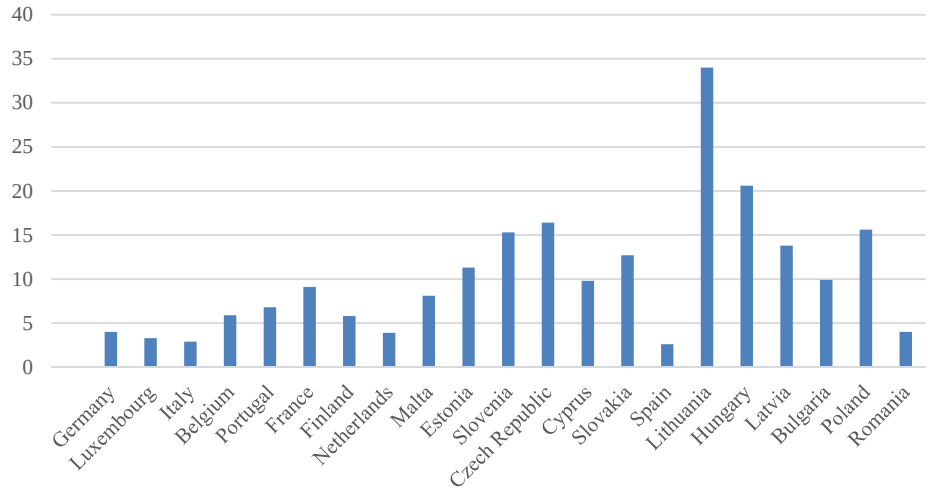

Figure 3. Product and / or process innovative enterprises that received public financial support for innovation activities in 2008–2010 (% of the total of product and/or process innovative enterprises)
Source: EUROSTAT Science, technology and innovation in Europe.

What causes then that the companies use the EU funds in a very little scope? A response can be partly found in the report of the European Union on "*Support to SMEs – Increasing Research and Innovation in SMEs and SME Development*" (2015), in which it is stated that the main reasons, which did not allow for applying EU funds were: innovation backwardness, limited access to capital, lack of R&D and

ICT infrastructure, insufficient cooperation among firms and between firms and research centres, low internationalization of Polish SMEs (European Commission, 2015). According to another report *"How to make business in Poland? The truth about the most important sector in Polish economy"* (Tomczyk, 2014) the reasons, which contributed not to apply for funds were: the lack of need, the lack of belief that the funds could have been received, very weak information and access to knowledge on European programmes, the lack of funds in specialised branch, the lack of time, too high requirements concerning own equity. The report also made research on the issue if the entrepreneurs intended to apply for funds in the 2014-2020 perspective. From the participants 68.5% did not take any decision, 17.8% said they would not apply for funds and 13.7% said they would apply. The reasons for not applying were, among others, the following: very weak access to information on European funds, the lack of receiving funds in specialised branch, the lack of time, too high requirements concerning own equity, the lack of appropriate support (counselling).

The reasons, which make the entrepreneurs reluctant, are similar in other countries. Again, in the Czech Republic entrepreneurs are open to apply for the EU funds, but they meet obstacles such as a complicated system of subsidy drawing and a lack of methodology and rules. It makes almost impossible to use available money (Entrepreneurs would appreciate easier drawing from EU funds, 2014).

The Czech entrepreneurs however agree that the money had a positive impact on their business and the EU funds are very important for companies. Among the operational programmes, which were available for Czech applicants, the Operational Programme "Enterprises and Innovation" is perceived as the most successful. 72% of the respondents assessed the programme as very good. On the contrary, Regional Operational Programmes were assessed quite weak, which is a surprising result due to the fact that the regional competitiveness improvement and its attractiveness for investors are the main goals (Entrepreneurs would appreciate easier drawing from EU funds, 2014).

Poland, as one of the main beneficiaries of the EU funds, should take care about proper expenditure of funds. However, it can be again observed that the entrepreneurs are not in favour to apply for funds. What are the reasons? Can any obstacles be eliminated?

3. RESEARCH METHODOLOGY

The main objective of the article is to investigate why entrepreneurs from the Mazovian region are not eager to apply for the EU funds.

Research questions

The following research questions were put:

- Why are the entrepreneurs reluctant to apply for the EU funds?
- How (if) has the situation changed comparing the 2007-2013 and the 2014-2020 perspectives?
- What should be changed from the side of the EU perspective?

Method

In the research a qualitative method – direct interview with entrepreneurs – was used. The qualitative research gives a greater understanding of the reasons why entrepreneurs are not eager to apply for the European funds. Qualitative methods enable research aiming at the analysis of processes or structures in order to indicate dependencies and relations in a descriptive way. They are used in situations, when phenomena are difficult to be described with the use of indicators or when data are not available. With the use of qualitative methods a lot of aspects can be tested more efficiently, e.g. through conducting interviews with beneficiaries. There are different types of interviews, e.g. CAPI – Computer Assisted Personal Interview, CAWI – Computer Assisted Web Interview and CATI – Computer Assisted Telephone Interview. They can be of the following structure:

- structured interviews – when the participants give their opinions according to the questions of the interviewer;
- semi-structured interviews – the form of an interview is described, but it can also include additional questions in order to consider selected aspects;
- non-structured interviews – the participants give their opinions freely, without any specific questions.

Before making a non-structured interview, the authors contacted with 250 companies in order to ask if they will to answer the questions regarding the reluctance to apply for EU funds. 171 enterprises (65% of all chosen enterprises) agreed to participate in the research. A non-structured interview was used and the participants were asked questions "Why are the entrepreneurs reluctant to apply for the EU funds?" and "How has the situation changed comparing the 2007-2013 and the 2014-2020 perspectives?" These responses enabled the authors to investigate what should be changed in the 2014-2020 perspective.

Participants

171 entrepreneurs were interviewed and asked why they did not use the European funds, available both at national or regional levels, in order to develop their business activity. Purposive sampling was used. The authors chose the companies, which fulfilled the following conditions:

- they were interested in applying for the EU funds;
- they had experience in getting support from the European Union;
- they perceive themselves as "innovative".

All enterprises were from the Mazovian region in Poland. The Mazovian region was selected due to the fact, as mentioned before, that it is the region with the capital city of Poland and this is the region well developed. On the other hand, from the statistics we can get to know that the EU funds are not spent very actively. The region is not at the top of regions, which are the most involved in the use of the EU funds. That is why the aim of the article is to get to know about the reasons of not being eager to apply for funds. Micro, small, medium and big enterprises were considered (Table 1).

Table 1. Types of enterprises taking part in the research

Type of enterprise	Number of enterprises participating in the research
Micro	18
Small	75
Medium	39
Big	39

Source: own study.

Procedure

The interviews were conducted between 2015 and 2016 in the Mazovian region. All participants were invited to answer the question concerning the reasons for their lack of possibility in applying for the European funds. The authors asked about the reasons of not applying for funds within the programmes offered by the National Centre for Research and Development (NCBiR), Polish Agency for Enterprise Development (PARP) and Regional Operational Programmes, as such programmes are most often offered in this perspective. The programmes indicated by the authors have similar or the same formal requirements and the same management style. Regarding the content-related aspect, the programmes aim at developing product or process innovations. Each interview lasted about 20 minutes. The same questions were directed to micro, small, medium or big enterprises. The person, who answered the question, was mainly the owner of the company, or in some cases, any other body responsible for management or financial issues.

4. FINDINGS

The responses received from the companies were coded by the authors in terms of grouping them into four groups: financial, technical, organisational and social. The study showed the following reasons for not applying for the European funds, which were included into one of the aforementioned groups:

- financial: the disproportionally high costs of the initiative in comparison with the expected outcomes; the necessity to include own funds; problem with the *de minimis* rule;
- technical: previous purchase of a machine, device etc.; the necessity of undertaking preliminary research before the launch of the project; the willingness to purchase the apparatus or appliance;
- organisational: the lack of an appropriate project call; too high bureaucracy;
- social: no interest in participating in any project.

The results are presented in Figure 4.

Disproportionally high costs of the initiative in comparison with the expected outcomes

13% of the interviewed entrepreneurs were interested in applying for the European funds, but it turned out that the costs, which should be covered by the applicant, are too high in comparison with the expected outcomes. As the example, we can give

the particular situation in which a small company wanted to find a solution how to heat cost-effectively a production hall. After the discussions with other enterprises and scientific institutions it turned out that the execution of the project would require undertake additional preliminary research and costs and therefore the entrepreneur gave up with the submission of the project.

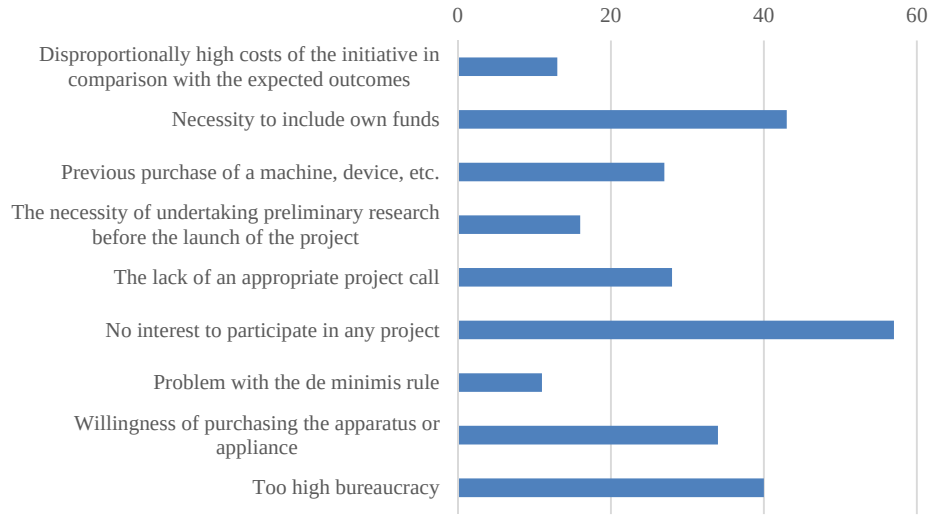

Figure 4. The reasons for not applying for European funds in the Mazovian region [%]
Source: own study.

Necessity to include own funds

A big number of participants (43%) mentioned this problem. They would be interested in applying for the European support, only if no own funds were needed. It mainly concerned micro, small and sometimes medium enterprises.

In fact, there are a lot of project calls for enterprises, but in all of them, own funding is required. The amount of own funds depends on the size of the enterprise. The example of own funding in the Mazovian Regional Operational Programme is presented in Table 2.

As we can see from Table 2, even 20% of own funds for micro or small companies is too much. They would be interested in gaining 100% of the European funds. The reasons, why they do not want to give their input are the following:

– they do not have such amount of money;
– they do not want to take any risk in the project – mainly economic risks, but technological or legal as well;
– they are not aware of the aim of the European funds.

Own input in regional projects is not very high compared to national project calls. As the example we can give the call offered by the NCBiR (the National Centre for Research and Development) – Intelligent Development Operational Programme "R&D activity of companies" in which minimal costs are at

the level of c.a. 1.220.000 EUR. The companies have problems to put such amount of money into one project.

Table 2. Requirements on own funding in the Mazovian Regional Operational Programme

Type of enterprise	Industrial research		Experimental research	
	Max. co-funding	Max. co-funding with bonus[1]	Max. co-funding	Max. co-funding with bonus
Micro	70%	80%	45%	60%
Small	70%	80%	45%	60%
Medium	60%	75%	35%	50%
Big	50%	65%	25%	40%

Source: own study.

Problem with the de minimis rule

11% of companies would like to use the European funds, but they had problems with the *de minimis* rule. *De minimis* is a kind of public support, which is not notified by the European Commission. According to the norm of the Roman law *de minimis non curat lex* – the law does not care for small things, so not significant aid does not disturb the competition on the market. Detailed descriptions are included in Commission Regulation No 1407/2013 from of 18 December 2013, which came into life on 1 January 2014. According to this Regulation, the public support at the level not higher than 200.000 EUR in the last three years shall not be reported (European Commission, 2013). Some enterprises used such public support, so they cannot apply for the funds due to the fact that some calls considered the *de minimis* aid.

Previous purchase of a machine, device, etc.

Almost a quarter of interviewed people (27%) do not need the funding, because the equipment, which they needed in their business activity, has already been bought. In this case the project is not needed anymore.

Necessity of undertaking preliminary research before the launch of the project

In order to launch the project, 16% of the companies needed to do preliminary research. In some cases it was not possible to be done, because the company did not have an appropriate staff to execute such research or they did not want to pay additional money for the research.

Willingness to purchase the apparatus or appliance

In some cases (34%) the companies would have been interested in applying for the project if they had had the opportunity to buy apparatus or appliance. Unfortunately, the project calls assume that the purchase of apparatus and appliance is not a qualified cost. In the 2014-2020 perspective the project calls are, among others,

[1] If the company wants to use this option, it has to guarantee that the achieved results will be published in at least 2 journals of international scope or promoted at conferences or seminars.

directed at the development of the R&D centres in the companies. On the contrary, the companies are not interested in applying such an approach.

Lack of an appropriate project call

Some companies (28%) were interested in applying for the funding, but they were not able to find an appropriate project call. In many cases the topics were so specific that no call was appropriate. Therefore, the companies are still waiting for other project calls.

Too high bureaucracy

A lot of the interviewed (40%) stated that they would like to apply for the project, but the procedure is too complicated. They are not able to fill in the application form correctly and attach all necessary appendixes. Regarding the regional programme, the biggest problem concerns the business plan, which has to be designed and which requires a lot of information.

No interest to participate in any project

Almost half of companies (57%) are simply not interested in applying for the European funds. One of the reason is linked with the fear of losing own funds. Another reason concerned the lack of willingness to take any risk.

5. DISCUSSION

In interviews there are many different responses observed. It can be stated that the main reasons for not being eager to apply for the European funds are: the necessity to include own funds; no interest to participate in any project; the willingness to purchase the apparatus or appliance and too high bureaucracy. It is in accordance with the report "*Support to SMEs – Increasing Research and Innovation in SMEs and SME Development*" (2015).

Taking into account the first mentioned factor, the entrepreneurs are not able to give own input because of insufficient capital (e.g. Titman, Wessels, 1988; Hall *et al.*, 2000; Aivazian *et al.*, 2005). In this research 16 micro, 33 small, 20 medium and 5 big enterprises did not decide to submit the project proposals due to the necessity of including own funds into the project (Figure 5).

The lack of sufficient capital is the factor hampering the development of enterprises (Tödtling – Schönhofer *et al.*, 2012; Wilson, Silva, 2013). It can also be confirmed by the research conducted in Poland in 2013. A high percentage of companies (26%) proved that they did not have long-term financing; 30% of them indicated the lack of working capital and 38% said that the financing costs were too high (Grant Thornton, 2013). This fact can be proved by the Global Competitiveness Report 2015-2016 in which Poland ranked 41 according to which the most problematic factor for doing business is, among others, access to financing (Global Competitiveness Report, 2016).

In the Mazovian region the financial reason is crucial. Although the R&D expenditures are the highest in comparison to the rest of regions in Poland, the entrepreneurs still hesitate if they should use the EU funds, because they fear about the necessity to include own funding. New technologies and techniques of their production require a large investment. The problem mainly concerns SMEs in production or service sectors. The lack of own funds is a big barrier to the development of a company (Freel, 2007, p. 31; Hutton, 2011; Mina *et al.*, 2013, p. 883). These problems come from a high interest taken by commercial banks. Despite a wide bank's offer of credit services such as loans, guarantees, invest funds, SMEs still must have their own funds, because the access to credits is difficult. The main reason any banks do not want to give loans is the lack of assets necessary to secure loans and the documents confirming a long presence of the company on the market. That is why the companies do not want to input their own funds into the projects, as such investments can be sometimes very risky.

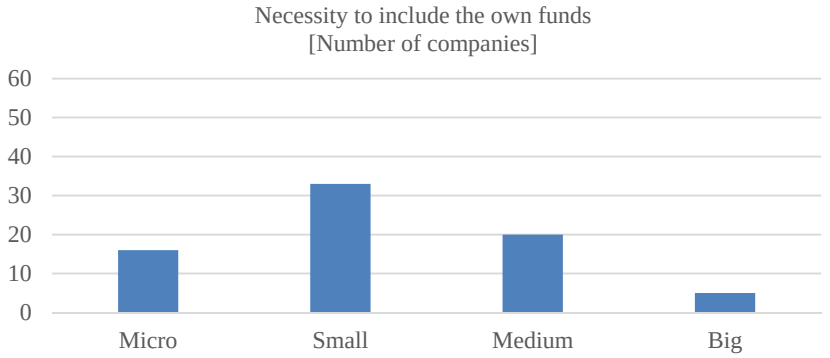

Figure 5. Reasons for not applying for EU funds – necessity to include own funds
Source: own study.

The European Union wanted to help enterprises to have easier access to bank services and therefore the call "Technological credit" at the national level was proposed (Duda, 2012). Own funding is also required: 45% for micro and small enterprises and 55% for medium enterprises. In the city of Warsaw own funding is different: 70% for micro and small and 80% for medium enterprises. In 2015-2016 period only 10% of enterprises from the Mazovian region submitted the proposals.

Another reason, why companies do not apply for the EU funds, is no interest to participate in any project (Figure 6).

The companies are not interested in engaging in EU funds mainly due to psychological factors. First of all, they state that they simply do not need the support as they perceive themselves as self-sufficient (mainly big enterprises). Another serious problem is distrust of the European funds. The entrepreneurs do not believe that they can get the funds without the necessity of returning them when the project is well executed. What is more, they are not aware of the importance of innovation (Andersson *et al.*, 2016; Autio *et al*., 2014; Herrera, 2016). The lack of need is also

underlined in the report "How to make business in Poland? The truth about the most important sector in Polish economy". In fact the lack of need is met in the whole Poland, mainly regarding traditional companies.

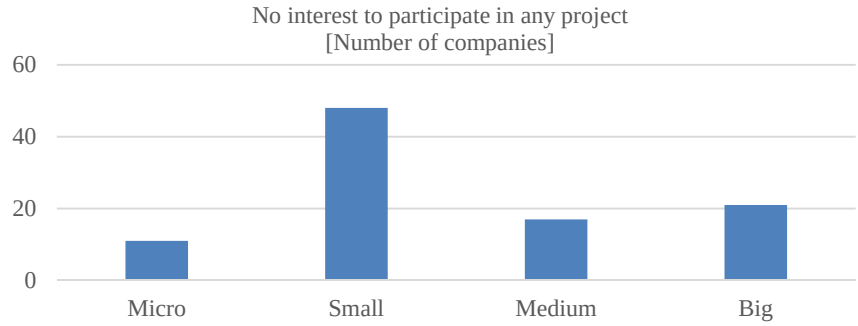

Figure 6. Reasons for not applying for EU funds – no interest to participate in any project
Source: own study.

If the companies finally decide to apply for the funds, they want to get something for them, e.g. the apparatus and appliance (Figure 7).

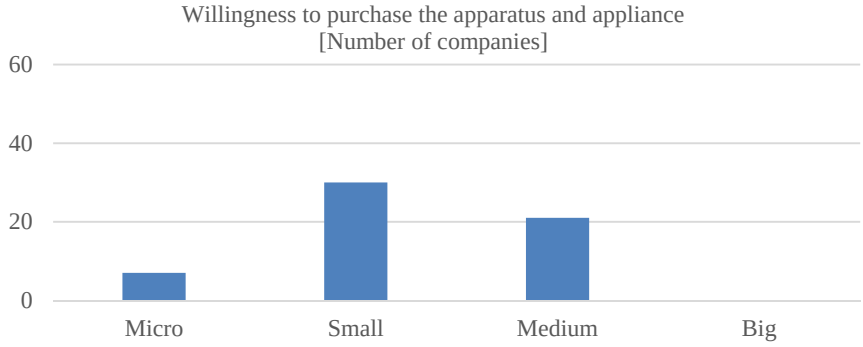

Figure 7. Reasons for not applying for EU funds – willingness to purchase the apparatus or appliance
Source: own study.

As we can see in Figure 7, companies can be interested in applying for the European funds, but only if, after the termination of the project, they get to purchase new equipment. Unfortunately, the idea of the current projects has changed in the last years. Now it is almost impossible to purchase the apparatus or appliance. As an example, in the Regional Operational Programme in the Mazovian District, the qualified costs concerning the apparatus and appliance are the following:

- costs of depreciation of apparatus and appliance during the time in which they are used for the needs of the projects;
- costs of commercial use of R&D apparatus;
- costs of elements, which must be included in the prototype permanently.

Costs of purchase of apparatus or appliance are not qualified.

In programmes at the national level the problem is the same. For example, in the programme financed by the NCBiR – the Intelligent Development Operational Programme "R&D activity of companies (1.1.1)" the depreciation costs are qualified, whereas the costs of purchase are not qualified. Another example, in the programme financed by the Ministry of Development "Support of investments in R&D infrastructure of enterprises, Intelligent Development (2.1)", the entrepreneurs can buy apparatus, appliance, technologies and other necessary infrastructure, but only on the condition that they will build or develop an R&D centre in the company and this equipment will be the support for the conduction of R&D work in order to design innovative services and products. Such a solution is not convenient for companies as they are not interested in maintaining R&D centre, and paying for additional staff. If they have to do some additional work, they prefer to sub-contract it. A proposed approach discourages them to apply for the European funds in this programme.

Another aspect, which was taken into account in this research, was too high bureaucracy (Figure 8).

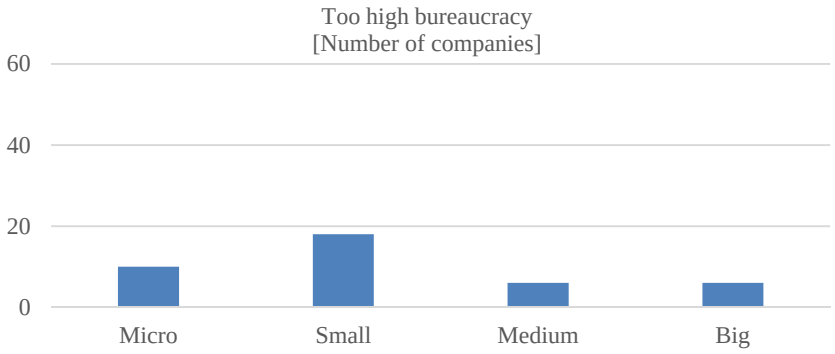

Figure 8. Reasons for not applying for EU funds – too high bureaucracy
Source: own study.

The research shows that entrepreneurs are reluctant to participate in applying for the funds because of the necessity to complete very detailed application form, which is often very long and much information needs to be included (Wostner, 2008). An example indicated by the entrepreneurs the most often is "business plan", very difficult to design. There are a lot of tables to be filled in and companies either do not know how to do it or they do not have time. Such a detailed document "scares off" the companies. Besides the business plan, there are a lot of other documents to be filled, which means that companies would sooner not apply for the project than waste time on filling in the forms.

During the interviews the representatives of the companies added that they had propositions from other institutions to apply together (mainly in the partnership) for the EU funds. It could come from the fact that in the 2014-2016 period the project calls are mainly directed to apply for the projects by enterprises. Other

institutions like universities or research institutes are not to be applicants and can only be sub-contractors in the projects. They offer the cooperation to the companies as partners or sub-contractors (Figure 9).

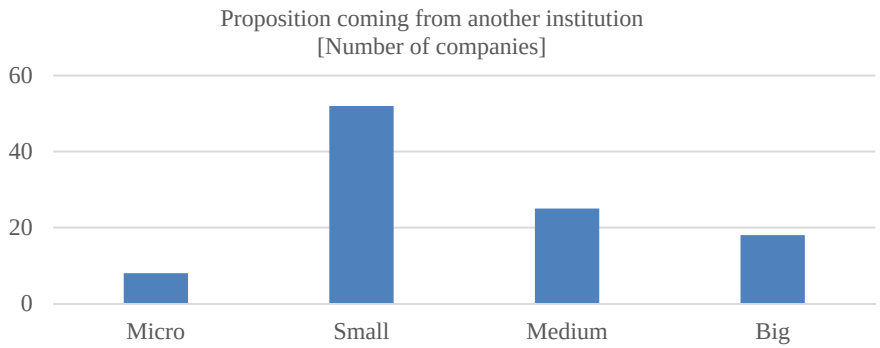

Figure 9. Propositions for applying for the EU funds coming from other institutions
Source: own study.

As it can be seen from Figure 9, many of them rejected such an offer – 8 microenterprises, 52 small enterprises, 25 middle enterprises and 18 big enterprises. It seems that scientists are more interested in such cooperation and there are many reasons for this fact, e.g. conducting additional research, the possibility to verify achieved results in real conditions, the possibility to use machines. In order to develop their own career, they wish to do research in industry. However, entrepreneurs are not so fond of cooperating with the scientific world (Fereira *et al.*, 2013). People from the science sector must have the bibliometric results, while the industry is interested in applying the research results in production as quickly as possible. They cannot afford for long tests and research due to a great number of competitive companies on the market.

Cooperation between scientific world and the companies is very important as it contributes to many benefits for the society (Muscio, 2010; Ponds *et al.*, 2010). Integration of scientists and entrepreneurs is supported by many governmental initiatives, such as regional, national or even international programmes for cooperation. Unfortunately, these are mainly scientists, who are interested in cooperating with the industry (Ibrahim *et al.*, 2009; Siegel *et al.*, 2003).

The interviewed people stated that current situation concerning applying for funds (the 2014-2020 perspective) is not significantly different from that one in the 2007-2013 perspective. They indicated that the main reasons of not having applied for funds in the old perspective were: the lack of own funds, too high bureaucracy, need of the cooperation with the scientific world and the lack of calls, which would have been appropriate for the companies. The entrepreneurs did not see a big difference between these two perspectives and that is why many of them gave up with trying to apply for funds. In different report and other publications we can find information about the differences, especially financial management (electronic

documentation of the project, reduction of institutions participating in the project execution process etc.) (European Commission, 2015a; Jaworska, 2016), but the main problems of the entrepreneurs are still the same.

5. CONCLUSIONS

The Polish government offers a lot of initiatives to enterprises from the Mazovian region. However a big number of companies cannot use these funds. After having interviewed the representatives of the companies it seems that the best way to make the EU funds available for the companies is to meet their problems and expectations first. It should be done in the form of consultations between the government and business world. Such consultations would bring ideas, which topics should be included into the proposed programmes. If the government decides on the topics without asking the business representatives, the results can be the following:

- the companies will not use the funds,
- the level of the innovativeness and the competitiveness will not increase,
- large amount of funds will have to be given back to the European Union as not consumed.

The programmes should be more convenient for the companies. Therefore, the competitiveness and the innovativeness will increase and easier access to the programmes will cause that enterprises will use the EU funds more often. Surely, in several publications it is stated that there are significant differences between these two perspectives: 2007-2013 and 2014-2020, mainly in terms of financing and management (Jaworska, 2016; European Commission, 2015). However, the entrepreneurs still see problems, which make them impossible to apply for funds successfully.

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The importance of small knowledge intensive firms in European countries

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Abstract:

Smart, sustainable and inclusive growth is the basis for European 2020 strategy, in which small and medium-sized enterprises (SMEs) are considered the backbone of European countries economies. The present study aims to investigate the relationship between the main variables that characterises small knowledge intensive firms (SKIFs) and the importance of their business expenditure on research and development (BERD). To achieve this, European member states were analysed during the period between 2008 and 2012 using a clusters analysis. Through this study it is possible to conclude that countries that have high growth values on SKIFs also achieve growth in GDP and BERD.

Keywords: SKIFs, Innovation, European Countries, SMEs, BERD
JEL codes: L25, D83

1. INTRODUCTION

Research and development (R&D) is a key factor in European policy, being an important issue to the strategy for European 2020 related to innovation and growth (European Union, 2013). According to this strategy, innovation will create job opportunities for all, especially for young people; get the economy back on track; make companies more competitive in the global market; solve the challenges of an ageing population; secure resources like food and fuel; fight global warming; and improve smart and green transport. The low expenditure in R&D explains half of European Union (EU) gap with the United States (US), in 2010 when the executive summary of Europe 2020 policy was published, according to the EU Commission (2010, p.14) *"EU expenditure on R&D was below 2% while in US was 2.6% and in Japan 3.4%"*. In order to improve R&D expenditure, one of the flagships of European 2020 strategy was creating the Innovation Union

which main goals are to improve innovation conditions such has EU patent and enhance joint programing with member states regions.

The backbone of European economy are Small and Medium-Sized Enterprises (SMEs), these are a key driver for economic growth, innovation, employment and social integration according to the EU Annual Report on European SMEs (Gagliardi et al., 2013). From the same report, it can be observed that 99.8% of the European enterprises are considered SMEs, which are responsible for approximately two in every three employed persons in the private sector in Europe and also contribute in over half (57.3%) of the value added at factor costs by European enterprises. The programme Horizon 2020 actively supports SMEs with the goal of optimizing research, development and innovation environment for SMEs.

The relevance assumed by the European Commission (EC) about SMEs and the strategy of a competitive European economy based on smart, sustainable and inclusive growth leads to the importance of Small and Medium Knowledge Intensive Firms (SKIFs) in the European context. Most of the studies about SKIFs are generally about either internationalization properties of SKIFs, or about how SKIFs influence SMEs, however are scarce the studies that investigates the influence of knowledge intensive business services on European regions, and relate SKIFs directly with macroeconomic variables, such has Gross Domestic Product (GDP) or Business Expenditure on R&D (BERD). Therefore, the main objective of this study is to research the SKIFs proxy indicators and EU Countries GDP per capita and BERD. For this purpose it was analysed 24 member states, from 2008 to 2012, through a comparative and econometric analysis to study the relation between SKIF and macroeconomic variables. The database was retrieved from Eurostat, and is similar to the one used in Gagliardi et al. (2013). To complement this data it is used a database from 27 European member states, on the period 2009 to 2011, provided by Ecorys.

In this study were developed two different analyses. On the first analysis, it is used the Ecorys database where values for employment and value added growth of Knowledge Intensive Services (KIS) and High and Medium High Tech Manufacturing (HMHTM) were compared to SME numbers and then to GDP values. On the second analysis, the sample consists on EU-24 countries retrieved mainly from Eurostat, the base data is the same as in Gagliardi et al. (2013), after describing the evolution of SKIFs proxy variables such as number, employment, value added and productivity with this values it was made a cluster analysis to investigate where each country locates individually and if there are relevant differences between the cluster's groups.

The structure of this article is as follows. After this introduction, in section 2 will be presented the definition of SKIF and its environment, section 3 gives an overview of SKIFs employment related to SMEs and GDP; and section 3.2 is about the factors underlying the growth of SKIFs and their influence on GDP and BERD growth. In each one of the sections is presented the data, methodology and results for each analysis made. Section 4 concludes.

2. LITERATURE REVIEW

2.1. THE CONCEPT OF SMALL AND MEDIUM KNOWLEDGE INTENSIVE FIRMS (SKIF)

To study the economic role of the SKIFs, first is needed to begin by its concept. To define a SKIF, two main aspects have to be combined, the size, and the knowledge intensive. Due to these, SKIFs can have several definitions. About the size, in Europe the SMEs are defined according to the European Recommendation 2003/361. This recommendation considers a SME as an enterprise that have to abide three criteria, the first one is relating to employed workers, the enterprise has to have less than 250 employees; the second criterion is related to optional restrictions, enterprises either have to have a total turnover of less than 50 million or a total balance sheet of less than 43 million, this option on the second criterion is given in order for firms in different types of activity to be treated fairly, for example trading enterprises have, by nature a high number of sales that may not reflect their wealth. And, the third criterion is related to the independence of companies. To be an independent enterprise, the enterprise in question has to have a holding of less than 25% of the capital or voting rights (whichever is the higher) in one or more other enterprises outside its own and/or outsiders do not have a stake of 25% or more of the enterprise in question.

On Table 2.1 it can be seen that there are different definitions for SME, which will translate in a lot of different definitions for SKIF depending on the country. For our study the considered countries are from EU, meaning, that it will be based on European statistics about SMEs therefore the chosen definition will be the one used in Europe.

After defining the size component of SKIFs in this study, it is needed to present the concept of a KIF. In this case, there are also different definitions. It has superseded the terms 'high-technology firm' and 'technology-based firm' in studies about software firms but this is not enough to define what a knowledge intensive firm is, Alvesson (1995) defined a KIF as '*a company where most work can be said to be of an intellectual nature and where well-qualified employees form the major part of the workforce*'. Elkjaer (2000, p. 344) sees a KIF as 'a company of knowledge workers' where 'human competencies are the main assets'. According to Robertson & Hammerlsey (2000, p. 241) '*KIFs have always been in the business of managing knowledge – knowledge being their primary asset and source of competitive advantage'*.

According to Wymega et al. (2012), KIS sectors function as a facilitator, carrier or source of innovation, and through their symbiotic relationship with client firms, some KIS function as co-producers of innovation. The growing role of services and its complementarities with the more traditional manufacturing sectors suggest that productivity growth in KIS. Several studies have divided KIF into High and Medium High Tech Manufacturing (HMHTM) and KIS. On the present study are considered SKIFs the companies that joint both of these two concepts.

In the same way, a SKIF will be considered a firm with less than 250 employees and which knowledge is their main asset or source of competitiveness, while it's easy to get data about SMEs, in the case of SKIFs it is more difficult to know when to consider if a firm is knowledge intensive. So for data analysis purposes, the European Commission indicated which sectors would be considered knowledge intensive and which wouldn't[1].

Table 2.1. Different SME's definitions around the world

Country	SME CRITERIA
Australia	Has to employ less than200 employees
Canada	Has to employ less than 500 employees
China	Has to employ less than 2000 people, or with annual revenue less than RMB 300 million (45,681,292.63€), or with total assets less than RMB 400 million (around 60,908,390.17€)
Egypt	Has to employ less than 50 employees
India	Investment in plant and machinery does not exceed Rs.10 crore (around 1,518,000.00 €) For services industry : Investment in equipment does not exceed Rs. 5 crore (around 759000.00€)
Japan	Manufacturing: ¥300 million or less and 300 or fewer employees Wholesale ¥100 million or less and 100 or fewer employees Service industry ¥50 million or less and 100 or fewer employees Retail ¥50 million or less and 50 or fewer employees
Kenya	Has to employ less than 100 employees
New Zealand	Has to employ less than 20 employees.
Nigeria	Asset base between N5 million (around 23,821.41€) and N500 million (around 2,382,140.54€), Has to employ less than 300 employees
Russian Federation	The subjects of small business sector are: 1. Commercial organizations. Legal entities, in which: - The share of participation of the Russian Federation and federal subjects ownership, municipal ownership, ownership of public and religious organizations, charity and other funds does not exceed 25 percent of the authorized capital (the share according to the above partners of ownership are not totalled). The share of one or several legal entities, that are not small entrepreneurship, should not exceed 25 percent of authorized capital (if several founders are founders, their share are totalled); - The average number of employees (including part-time workers and persons working under sub-contracts) does not exceed the following maximum levels: ▪ in industry, building and transport – 100 employees; ▪ in agriculture, science and technological field: 60 employees; ▪ in retail trade and consumer services: 30 employees; ▪ in other field of activities: 50 employees. 2. Farm enterprises; 3. Persons, who perform entrepreneurial activities, but are not legal entities (individual entrepreneurs)

Source: Based on several sources presented on the footnotes at the end of the page, own elaboration.

[1] See the sectors that Eurostat considered knowledge intensive and the ones less knowledge intensive in http://ec.europa.eu/eurostat/cache/metadata/Annexes/htec_esms_an3.pdf

The SKIFs use knowledge as their main source of advantage, they operate in environments with rapid changing technology, they invest a lot in research and ever shortening product life cycles meaning they have to be constantly innovating otherwise they would easily disappear from the market, their environment is highly competitive which may be a driver to seek strategic alliances and network relationships this environment is also marked by strong rivalry which is also a driver for innovation.

2.2. THE CONCEPT OF SMALL AND MEDIUM KNOWLEDGE INTENSIVE FIRMS (SKIF)

The SMEs play an important role in innovation (Almeida, 1999) and have been described as agents of change (Audretsch, 1999), creators of radical innovation (Acs et al., 1999) and carriers of new ideas (Carlsson, 1999).

Despite their lower individual visibility, SMEs collectively play an important role in the economy. SMEs represent an important source of dynamism in the economy, accounting for a large share of both gross job gains and gross job losses each year. SMEs are often said to be a conduit that introduces new and innovative products and processes into the economy (Acs et al., 1999) due to serving specialized market segments that large firms may find unprofitable, by adopting flexible production processes that are capable of offering personalized products. SMEs also play an important role in the early stages of the product life cycle; taking advantage of their close relationships with their customers, SMEs are often better positioned to take the basic technical innovations made by large firms and turn them into new products.

The following Figures 2.1 to 2.4 analyses the importance of SMEs compared to large enterprises (LEs).

In terms of demography of companies, Figure 2.1 shows that European SMEs follow a different path from LEs. In 2008-2009, the number of LE dropped by almost 1,800 units to near 42400. Their number began to grow again only in 2010 and by the end of 2012 had not yet recovered to its 2008 level. The number of SMEs grew between 2009 and 2010 by almost 1 million firms, after a relatively small drop in 2008-2009. From 2010 onwards, the total number of SMEs started to fall, in 2012, the number of SMEs returned to the levels of 2008.

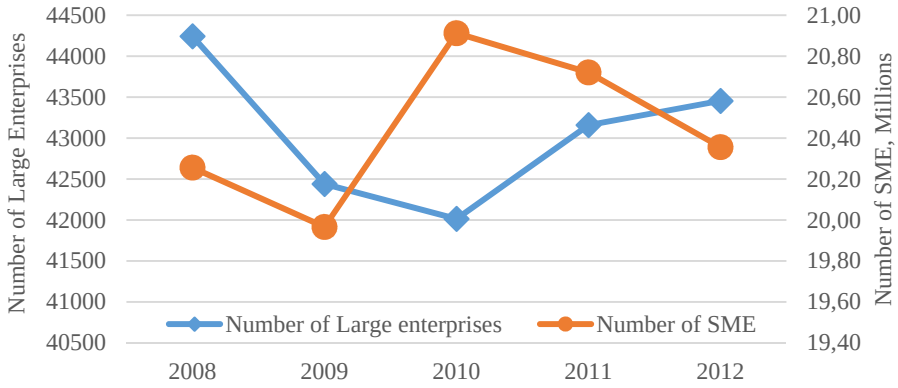

Figure 2.1. Number of LEs and SMEs
Source: Eurostat, own elaboration.

The Figure 2.2 shows that the dynamics of gross value added (GVA) was similar for SMEs and LEs in 2009, LE lost around 10% (260 billion euros) of added value relating to the previous year; SMEs lost marginally less in percentage terms (9%), but consistently more in absolute terms: €330 billion. After the dip in 2009, the value added recovered but only sluggishly throughout 2010. All companies were hit in 2012: the output loss of SMEs was 1.3%, while LEs lost 0.3% of the value added with respect to the previous year.

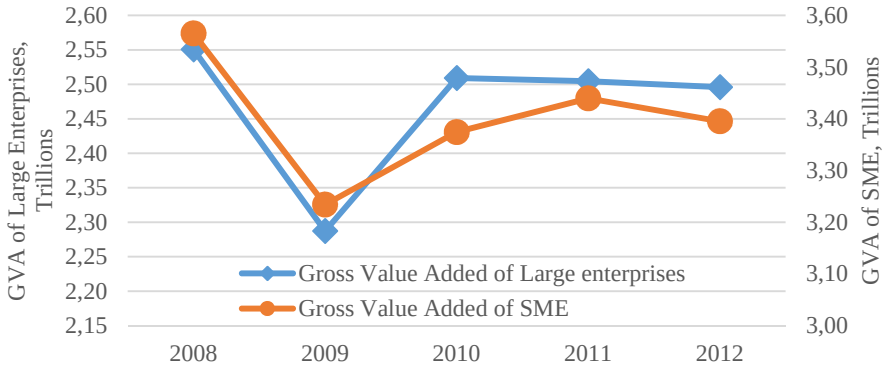

Figure 2.2. Gross value added of LEs and SMEs
Source: Eurostat, own elaboration.

The Figure 2.3 shows the employment by SMEs proved to be more resilient to crisis than employment by large firms. In only one year, 2008-2009, large firms lost approximately 1.7 million jobs, whilst SMEs lost around 680,000 jobs, the period of 2010-2012 however proved rather challenging for SMEs. At the EU-27 level, employment in SMEs did not exhibit a particularly pronounced swing, but

during the whole period of 2008-2012, it showed a declining trend, while employment in large firms showed signs of recovery.

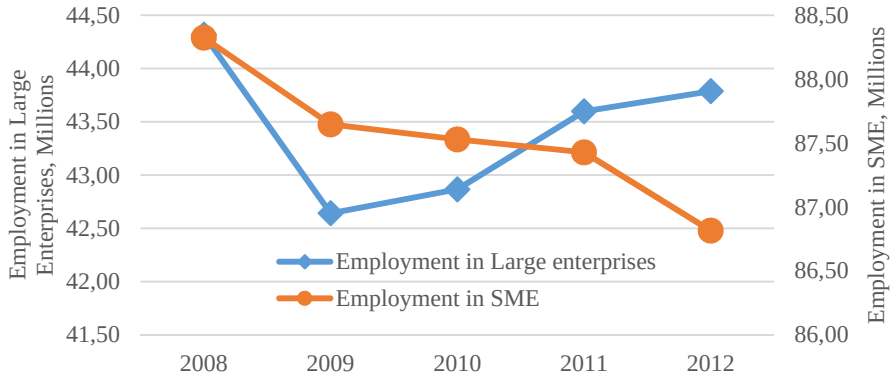

Figure 2.3. Number of person employed in LEs and SMEs
Source: Eurostat, own elaboration.

The Figure 2.4 shows that productivity per worker by both SMEs and LEs droped significantly in 2008-2009, and then grew in 2009-2010 resulting in, for LEs, the levels of 2010 beeing higher than the levels of 2008. After 2010 the productivity of LEs started to drop while on SMEs the producitvity levels continued to rise in 2010-2011 and then droping on 2011-2012.

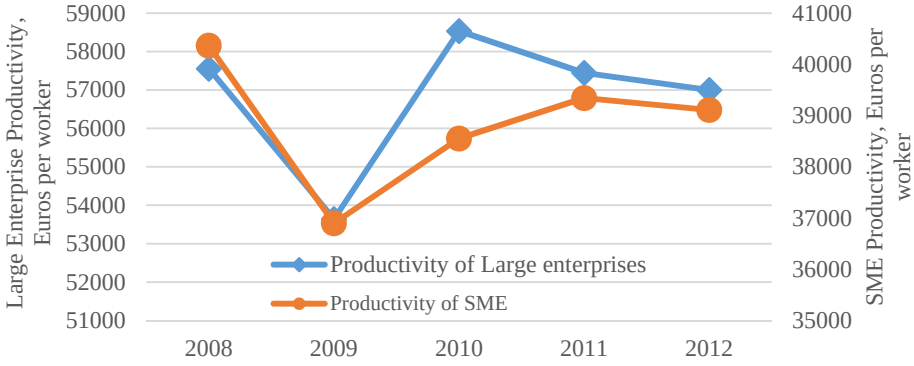

Figure 2.4. Productivity of LEs and SMEs
Source: Eurostat, own elaboration.

The same kind of comparisson as in the previous figures is made in Figure 2.5 between SKIFs and Large Knowledge Intensive Firms (LKIFs). The results in terms of trend where quite similar, the main diference was on employment.

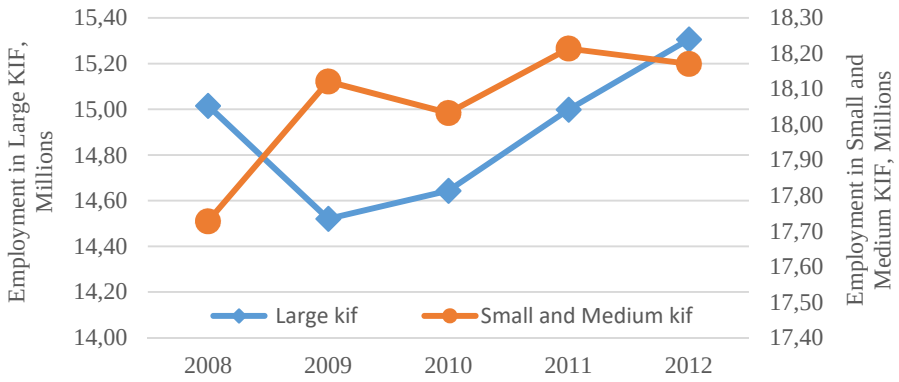

Figure 2.5. Number of persons employed in Large KIFs enterprises and SKIFs
Source: Eurostat, own elaboration.

In the Figure 2.5 can be seen that on LKIFs there was a dip in employment in 2008-2009 after that employment on LKIFs showed a growing trend. On SKIFs it can be seen that the employment grew by 0.4 million people on the crisis period, 2008-2009, showing a shacky yet growing trend during the whole period.

2.2.1. KNOWLEDGE INTENSITY, INNOVATION AND COMPETITIVENESS

Innovation is very important for the sustainability and survival of SKIFs, this is supported from their own definition; since on the concept of knowledge intensive firm, knowledge is their main source of competiveness that they have to be constantly innovative.

According to the Oslo Manual (OECD, 2005, p. 46) innovation is defined as the "implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations".

A more common description to innovation is the creation of something new or that makes a significant improvement to something existent, which can be a product, a process, marketing or organization that adds value to society, governments or markets.

However, there are different ways of classifying innovations. Booz et al (1980) distinguish innovations between the ones that are new to the company and those that are new to the market. The innovation's classification of Booz et al. (1980) is focused on the impact of the innovation and labels it as incremental, semi-radical or radical. Other authors classify innovations as belonging to product, process, or market paradigms (Francis & Bessant, 2005).

The SKIFs tend to born global or internationalize at a fast rate. ICT-intensive firms internationalize faster and more extensively than less ICT-intensive firms. It seems that ICT is important, making it possible for small, technology advanced firms with strong international visions to follow niche strategies in international markets.

It is then, reason to conclude that ICT plays an important role in small firm internationalization-both as a channel for opportunity identification and as a powerful tool in the execution of an international strategy (Aspeund & Moen, 2004).

The importance of KIFs to economy is in great part justified not only because of their own added value but also due to high spillover effects. Spillover effects on innovation occurs when an innovation by one specific firm causes unintended benefits to other firm or opens new market segments knowledge. The occurrence of spillovers is one of the main reasons why governments should oriented their policies to incentive firms to innovate.

When comparing SMEs to SKIFs, SKIFs where more resilient to 2008 crisis as shown by Figure 2.6, SKIFs number grew from 2008 to 2010 while SMEs number decreased from 2008-2009.

2.2.2. THE ENVIRONMENT AND INTERNATIONALISATION CONTEXT OF SKIFS

The most studied internationalisation models applied to SKIFs are the Uppsala Model (Johanson & Wiedersheim-Paul, 1975), the Network Theory (Johanson & Mattsson, 1988) and the International Entrepreneurship Theory (McDougall & Oviatt, 2000). In their study, Masum & Fernandez (2008) concluded that almost all firms tend to base their foreign endeavour on networking, for gathering market knowledge and information in particular; SMEs heavily on network relationships. SKIFs are no exception, they are highly involved in international markets and for these good network relations are needed (Prashantham & Berry, 2004). Network relations refer to all the relationships that the firm has with customers, suppliers, competitors, alliance partners, universities, government bodies, industry associations and others. The personal relations of the entrepreneur also count for these network relations (Katz et al., 2004) since most authors consider the Network Theory as essential for the study of the concept of SKIFs in the economy.

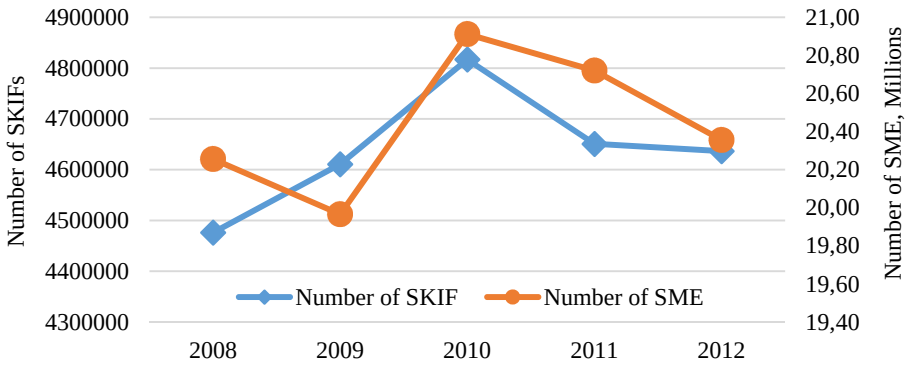

Figure 2.6. Number of SKIFs and SMEs
Source: Eurostat, own elaboration.

The concept of Network Relationships was first presented in the 1980s as an internationalization model by Johanson & Mattsson (1988) as stated in Ojala (2009:51) when it became evident that most of the firms used various networks to facilitate and improve their internationalization activities (Narayanan, 2015). For main difference between incremental internationalization models, for example the Uppsala Model and the Network Model, is that the Network Model is not gradually progressing in nature. Also in the Network Model there is nothing about psychic distance or about the countries in which a firm is entering into. Instead, it conceptualizes internationalization as being related to relationships establishment and building (Johanson & Vahlne, 2003). According to Johanson & Mattsson (1988), a company is dependent on resources controlled by other companies and can get access to these resources by developing its position in a network. In these networks, firms have common interests in developing and maintaining relationships with each other in a way that provides them mutual benefits (Johanson & Mattsson, 1988, 1992; Johanson & Vahlne, 2003).

According to Network Model, internationalization occurs when a firm starts to develop relationships with another firm in a foreign country. There are two different approaches to the network internationalization, active and passive networking (Ojala, 2009): in active networking, the initiative is taken by the seller, whereas in passive networking the initiation comes from the buyer's direction.

The efficacy of Network relationships is based in the different established relationships. These can be divided into formal relationships, informal relationships, and intermediary relationships (Ojala, 2009). The literature concerning this conceptualization division could differ according different authors. Formal relationships are the relations hierarchically established within the firm as well as the relations with stakeholders defined in the tasks of each work position, and informal relationships are the relations established outside the hierarchical defined tasks for inside and outside the company, as relations between friends, orders follow outside the defined tasks from the company, etc. For Birley (1985) formal relationships are related to financial sources available whereas informal relationships refer to contacts between other business actors, friends, and family members. By other way, the study of Dubini & Aldrich (1991) suggests that extended (formal) relationships consist of relationships between all the employees of each firm whose role is boundary-spanning, whereas personal (informal) networks are related to all persons that an entrepreneur can meet directly. The simple discretion is: the formal relationship refers to the relationship with other business actors, whereas informal relationships are related to social contacts with friends and family members. In the intermediary relationship, there is a third party that connects the buyer and the seller.

Ojala (2009) found that SKIFs are actively seeking for opportunities in the foreign markets and, thereafter, develop new networks or utilize existing networks to reach these opportunities and Jenssen & Nybakk (2013) stated that smaller knowledge-intensive firms have fewer resources and less information-gathering

and information-processing capacity than larger firms that are less knowledge intensive; thus, SKIFs that seek to be innovative must develop a larger and more diverse set of external relationships.

2.3. THE IMPORTANCE OF SKIFS IN MODERN ECONOMIES

SKIFs are important for modern economy due to their contribution to innovation, employment and technological development. According to the Wymega et al. (2012) knowledge-intensive service sectors function as a facilitator, carrier or source of innovation, and through their symbiotic relationship with client firms, some KIS function as co-producers of innovation.

The KIS sector also can be considered as an important driver of employment growth (Schricke et al., 2011). For other side, the productivity of SMEs involved in both high-and medium high-tech manufacturing and knowledge intensive sectors was above that of SMEs (Wymenga et al., 2012), and the average growth rate of VA by SMEs in EU countries with above average KIS shares is higher in this period than the EU average and that of the group of countries with below average KIS SME shares (Wymenga et al., 2012).

So, SKIFs create a large proportion of new jobs and contribute both to innovation and technological change (Jensen & Nybakk, 2009), as well as they are key players in the renewal of economy (Jensen & Nybakk, 2013). For Gagliardi et al. (2013, p. 22*) "the SME sector has acted as a buffer for the economic crisis in Europe, where the SMEs of the manufacturing sector are struggling to improve their performance in the context of declining share of manufacturing value-added in GDP, and SMEs active in the services sector are set on an upward productivity trend, especially in the segment of knowledge-intensive services"*.

5. DATA, METHODOLOGY AND RESULTS

The main objective of this study is to investigate the influence of SKIFs on macroeconomic indicators. With this propose, two analyses were made.

On the first analysis the aim is to study the SKIFs composing sectors, the KIS and the HMHTM (SKIFs are usually divided in KIS and in HMHTM and as shown on annex A2), and their influence on SMEs variables, like gross value added and employment growth. Most of the previous studies on SKIFs field study them divided by these two categories, and their relation with SMEs. In this part it is also compared the countries with high employment shares of SKIF per SME and the country GDPpc. To this analysis were considered the 27 EU member states, from 2009 to 2011, using the data from Wymenga et al. (2012) provided by Ecorys. This preliminary analysis goal is to demonstrate the positive influence of SKIF on SME and also on Gross Domestic Product (GDP). The section 3.1 develops this first analysis and presents an overview of the data the description, the methodology, and a discussion and analysis of the results obtained.

On the second analysis the aim is to study the relation between SKIF variables growth and GDP or BERD growth, by other way, how SKIF variables contribute to macroeconomic growth. To this analysis were considered 24 EU member states from 2008 to 2012, using an EU firms Database provided by EU and also used on Gagliardi et al. (2013) and Eurostat (the database doesn't contain values for Denmark, Greece and Germany) and it was made a cluster analysis to investigate where each country locates individually and if there are relevant differences between the cluster's groups. In section 3.2, the second database is presented followed by methodology and results.

3.1. OVERVIEW OF SKIFS EMPLOYMENT RELATED TO SMES AND GDP

3.1.1. DATA DESCRIPTION

The data on the present section consider the SKIFs divided in KIS and in HMHTM and related to SMEs. With the database containing EU 27 member states, from 2009 to 2011, was calculated an average of the growth over the three 3 years (2009-2011) of the percentage share of KIS SME employment in total SME employment and the same for HMHTM employment and then the averages were compared with the average growth of total SME employment and SME value added, the goal of this analysis is to get an idea of the weight KIS and HMHTM firms have on SMEs, the base data was provided by ECORYS and is the same as the one used in Wymenga et al. (2012).

From the Table A1, in Annex A1, it can be seen that every country that had above average growth in employment in both small and medium KIS and HTHTM also had an above average growth in SME value added and employment during 2009-2011, except Slovenia that had a negative growth in employment but an above average growth in value added by SMEs.

To have a broader point of view the countries were split into two groups and considering their share of KIS/HMHTM employment on total SME employment it is calculated the average growth in value added by SMEs and the average growth in employment by SMEs for member states with above average KIS/HMHTM employment values and for member states with below KIS/HMHTM employment average values firms.

For this section gVA – means percentage growth in value added by SMEs; gEMP – percentage growth in total SME employment; GDP average – average of real gross domestic product per capita in euro per habitant; KISemp – percentage share of KIS SME employment in total SME employment HMHTMemp – percentage share of HMHTM SME employment in total SME employment SKIFemp above/below: group of member states that have both KISemp and HMHTMemp above/below average.

3.1.2. DISCUSSION OF RESULTS

According to Table 3.2.3, most of the analysed studies only compare knowledge intensive firms variables with SME variables, so following the most conventional studies it was reached similar results as Wymenga et al. (2012), where member states

with higher shares had higher growth on SMEs values, in this analysis the conclusions for growth of employment and KIS shares per SME were different. Additionally for this analysis, since the aim of the study is to compare SKIFs with macroeconomic variables, Tables 3.1.4 and 3.1.5 serve to see the SKIFs influence on GDP.

The Tables 3.1.1 to 3.1.5 are based on the database provided by ECORYS with the aim is to analysis the effects of SKIFs on SMEs. The results in the tables are showed in percentages. If the KIS, HMHTM and SKIF influence positively SMEs then it can be inferred that on average a country with higher SKIFs values will also have higher SME values, and by connecting SKIFS to SMEs it can be expected that SKIF effects on national economies will have the same signal as SME effects on national economies which will be tested on section 3.2.

Table 3.1.1. KIS share and gVA and gEMP of SMEs

	gVA %	gEMP %
KISemp above	2.3	0.05
KISemp below	1.39	0.33
EU 27 Average	1.83	0.20

Source: own elaboration, based on Table A1.1 in Annex A1.

On Table 3.1.1 EU member states with an above average share of KIS employment tend to have higher gVA by SMEs, surprisingly tough they tend to have less employment growth of SMEs.

Table 3.1.2. HMHTM share and gVA and gEMP of SMEs

	gVA %	gEMP %
HMHTMemp above	3.07	0.96
HMHTMemp below	0.96	-0.22
EU 27 Average	1.83	0.20

Source: own elaboration, based on Table A1.1 in Annex A1.

Based on Table 3.1.2 EU member states with an above average share of HMHTM employment tend to have higher value added growth by SMEs, and also they tend to have more employment growth of SMEs.

Table 3.1.3. SKIF share and gVA and gEMP of SMEs

	gVA %	gEMP %
SKIFemp above	2.98	0.42
SKIFemp below	1.50	0.13
EU 27 Average	1.83	0.20

Source: own elaboration, based on Table A1.1 in Annex A1.

In the Table 3.1.3 the EU member states with an above average share of SKIF employment tend to have above average value added growth by SMEs, and also they tend to have above average SMEs employment growth.

Table 3.1.4. SKIF share and GDP

	GDP average
SKIF above	25840
SKIF below	14777
EU 27 average	21470.37

Source: own elaboration, based on Table A1.1 in Annex A1.

Through Table 3.1.4 EU member states with an above average number of SKIFs tend to have above average real GDP per capita.

Table 3.1.5. HMTM share GDP

	GDP average
HMHTM above	24750
HMHTM below	24750
EU 27 average	21470.37

Source: own elaboration, based on Annex A1 table A1.2.

Since the percentage of each member state KIS SME was much higher than the percentage of HMHTM SME, it was also checked if the GDP was higher for members with an above average HMHTM checking Table 3.1.5 it can be seen that the conclusion is similar.

3.2. GROWTH OF SKIFS FACTORS AND THEIR INFLUENCE ON GDP AND BERD GROWTH

3.2.1. DATA DESCRIPTION

The data retrieved for section 3.2 is data about SMEs in Europe from the database available on the European commission website and the one used in the European Commission annual report on SMEs in 2013. The initial aim of the present study was to develop an analysis based on the EU27 countries, but since there was missing data on Denmark, Greece and Germany the study will focus on the analysis of EU 24 countries from 2008 to 2012; the earliest year is 2008 due to NACE rev 2 being implemented since 2008, to transform the database into SKIFs data the points in NACE rev 2 (see annex A2) were used, but due to data unavailability, the points K- financial and insurance activities; O- public administration and defence, compulsory social security; P- education; Q- human health and social work activities; and R- arts, entertainment and recreation, are not included.

To understand the variables there are basic definitions that need to be mentioned:

– g stands for growth rate it is calculated with the formula: $\frac{t-t_{-1}}{t_{-1}} x100$ where t is the year;
– SKIF Small (or Medium) Knowledge Intensive Firm Repeating the definitions given on chapter 2 a SKIF is a firm with less than 250 employees and which knowledge is their main asset or source of competitiveness;

- ENT- number of enterprises. The number of enterprises in a given year;
- EMP- employment. In the Eurostat database total employment is the number of persons of 15 years and above who performed any work at all, in the reference period, for pay or profit (or pay in kind), or were temporarily absent from a job for such reasons as illness, maternity or parental leave, holiday, training or industrial dispute. Unpaid family workers who work for at least one hour, as well as work related to auto-consumption connected with the production process should be included in the count of employment, although many countries use a higher hour limit in their definition. Professional members of the armed forces should be included among persons employed;
- VA -Gross Value added. Gross value added (VA) is equal to final output minus intermediate consumption, plus subsidies minus taxes linked to production measured in millions of euros;
- PROD -Productivity. Productivity is commonly defined as a ratio between the output volume and the volume of inputs. In other words, it measures how efficiently production inputs, such as labour and capital, are being used in an economy to produce a given level of output. For this study it was considered important to see the productivity of SKIFs in Euros per worker so the formula to make this variable was: $\frac{VA*1000000}{EMP}$;
- BERD – Business Expenditure on Research and Development. This variable is derived from Gross domestic expenditure on R&D (GERD) includes expenditure on research and development by business enterprises, higher education institutions, as well as government and private non-profit organizations. To reach a conclusion about SKIFs influence to national economies.
- GDP – Real gross domestic product per capita. Levels of GDP per capita are obtained by dividing GDP at current market prices by the population; growth in the production of goods and services is a basic determinant of how the economy fares. By allocating total production to each head of population, shows the extent to which the total production of a county can be shared by its population. The growth in real GDP per capita indicates the pace of income growth per head of the population. As a single composite indicator it is a powerful summary indicator of economic development. Note that it does not directly measure sustainable development but it is a very important measure for the economic and developmental aspects of sustainable development.

The variables used in the study are aggregations of the previous concepts; for example gSKIFENT is the growth in the number of SKIF enterprises.

The Table 3.2.1 shows a list of relevant papers to support our applied study. However, none of them covers the entire scope of this study, for example Schricke (2012) study only the influence of knowledge intensive services by regions and Gagliardi et al. (2013) studies the influence of SMEs in general for national economies briefly referring to SKIFs positive effects.

Table 3.2.2 presents the descriptive statistics of the variables, and one can observe that only gSKIFPROD and gGDP have a negative mean value on the period analysed, this is probably due to the 2008-2009 financial crises, has it can be seen by the median that is positive on these two variables.

On table 3.2.3 one can see that the correlation between variables is low with the exception of gSKIFPROD and gSKIFVA, gSKIFVA was not used in the models due to low statistical significance and high correlation with gSKIFENT.

Table 3.2.1. Reference Studies

Author	Object	Methods	variables
Gagliardi et al. (2013)	Provide an overview of the current status of European SMEs, their structure and contribution to employment and to wealth of the EU. Analyses how and to what extent SMEs are recovering from the economic crisis and what the outlook is for the SME sector in the future.	Regression, Cluster analysis	Number Value added Employment
Innovation Union (2011)	Overviews of economic structure and KIF in Europe becoming more knowledge intensive	Graphic analysis	Employment R&D, BERD
Kuusisto And Meyer (2003)	Explore the role of services in relation to technology development and innovation	Cluster analysis	BERD Employment Labour productivity Services imports and exports
Marzocchi and Gagliardi (2013)	Present country-level indicators, showing the variation between 2008 and 2012 in the number of SMEs, employment by SMEs and SME value-added.	grouping service sectors activities	Number Value added employment
Saarenketo et al. (2003)	Identify how the development of knowledge and capabilities may contribute to the fast and extensiveness of internationalisation.	Development of a model	Model variables
Schricke et al. (2012)	Overview and analysis of service activities in Europe	Cluster analysis	KIS employment share GDP per capita BERD Share of pop with edu3 (age 25-64) Growth of GDP
Wymenga et al. (2012)	Overview of the current status of European SMEs. Insights into the key drivers of growth and competitiveness, such as the role of high-tech manufacturing and knowledge-intensive service	Regression, Cluster analysis	Number Value added Employment

Source: own elaboration.

In Figure 3.2.1, the EU 24 countries growth increased from 2008-2009 to 2009-2010 on all variables; Gent was the variable to achieve the highest growth of 25% this high value was in part due to Slovakia huge growth in SKIF numbers on this period which was over 400 % as mentioned above; in 2010-2011 only GDP had an increase in the growth rate, still BERD was the variable that grew more,

over 10%, also on this period SKIFs had a decrease in productivity and number; in 2011-2012 the SKIFs number and productivity went back to positive growth their GVA saw a higher growth then on the previous period and while BERD had a lower growth rate this rate was still the highest, GDP and employment on SKIFs had a slightly negative growth.

Table 3.2.2. Descriptive statistics of variables

	gSKIFENT	gSKIFVA	gSKIFEMP	gSKIFPROD	gBR&D	gGDP
Mean	6.0	0.4	0.8	-0.4	6.8	-0.6
Median	0.8	-0.1	-0.2	0.1	3.9	0.4
Standard deviation	42.9	13.5	7.9	11.1	19.2	4.4
Min	-21.27	-26.1	-14.1081	-21.0	-18.711	-15.7
Max	412.7	80.2	54.7	69.6	108.2	9.6

Source: own elaboration.

Table 3.2.3. Correlation between variables

Correlation	gSKIFVA	gSKIFENT	gSKIFPROD	gSKIFEMP	gGDP	gBERD
gSKIFVA	1					
gSKIFENT	0.3724	1				
gSKIFPROD	0.8306	-0.0310	1			
gSKIFEMP	0.5350	0.7310	-0.0238	1		
gGDP	0.5420	0.0836	0.4585	0.2998	1	
gBERD	0.1732	0.3587	0.2205	0.3437	0.3591	1

Source: own elaboration.

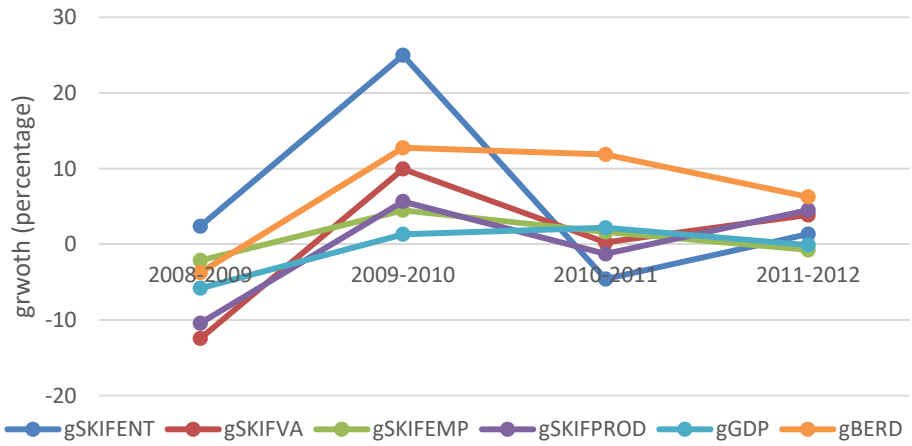

Figure 3.2.1. European Union 24 average growth
Source: own elaboration.

3.2.2. SPATIAL PATTERNS OF SKIFS – CLUSTER ANALYSIS

The cluster analysis is an analytical technique that aims to classify a sample of entities, individuals or objects, in a smaller number of mutually exclusive groups

based on similarities between entities (Hair et al., 1995). Grouped objects in the same cluster are quite similar to each other, so that the resulting groups are characterized by a large internal homogeneity and high external heterogeneity. Allowing them to classify and simplify the sample data and identify relationships between different entities (Hair et al., 1995).

There isn't a procedure that is unanimous to all researchers to determine the exact number of clusters. Therefore, the choice made should be based on the nature and the objectives pursued by the study, focusing on theoretical concepts and practical considerations (Hair et al, 1995). Thus, as there is no hierarchical aggregation procedure that is considered the best, it is recommended to use several methods simultaneously, and if they yield similar results, then it is possible to conclude the existence of "natural" clusters (Maroco, 2003). Meaning, factors obtained were exposed to different procedures to obtain clusters and the obtained results were similar.

The interpretation of clusters may be made using the discriminatory analysis, and analysis of the variance multivariable and univariable or Kruskal-Wallis. The differences between clusters of the different variables under study were analysed using the Kruskal-Wallis method and the Chi-square tests.

The variables were subjected to a hierarchical cluster analysis, which was used as a measure of similarity between intervals/cases the square of the Euclidian distance, and as agglomeration the Ward's method, with the aim of maximizing homogeneity in each cluster by minimizing the variance within each group and to avoid the problem of "chaining" of observations that might occur in other clustering methods (for example the shortest distance (Single linkage) method selected by default in software SPSS) (Hair et al, 1995). In the method of Ward the distance between two clusters is the sum of the squares between two clusters added all variables. At each step in the agglomeration process, the internal sum of squares of each cluster is minimized in all partitions, obtained by combining two clusters from a previous stage. This procedure tends to combine clusters with a small number of observations (Hair et al., 1995). The Ward method retains the clusters, from the all possible, to minimize the sum of squared errors (Maroco, 2003).

The software SPSS was used to obtain clusters analysis applied to the present study. The SPSS provides the values of closeness among the items that form the clusters, given by the coefficient of agglomeration. A sharp increase in the value of this coefficient generally indicates the number of clusters that should be retained (Hair et al., 1995). For confirmation, the number of clusters suggested by this indicator was then faced with a visual choice made to the Dendogram, which allows to perform a visual inspection of the outliers (Hair et al., 1995), also provided by SPSS.

By observing the Dendogram in Figure A2, in Annex A2, and the relative variation of the coefficients of agglomeration, it was chosen five clusters. This clustering procedure aims to detect possible patterns and types of European Countries according to their knowledge-intensive sectors. The analysis includes characteristic of European countries, such has the GDP and BERD per capita – as well as industrial characteristics – such as SKIF variables and their shares per SME. Variables refer to the year 2012, for more detail see Table 3.2.1.

Table 3.2.1. Cluster variables

Variable	Unit
Number of SKIF enterprises	Number of enterprises
SKIF Gross Value added	Millions of Euros
Number of persons employed in SKIFs	Number of enterprises
Productivity of SKIFs	Euros per worker
GDP	Euros per inhabitant
BERD	Euros per inhabitant
Share of SKIF enterprises per SME	Percentage
share of GVA of SKIFs per SME	Percentage
Share of Number of persons employed on SKIFs per SME	Percentage

Source: own elaboration.

3.2.3. CLUSTER ANALYSIS RESULTS

From the five clusters obtained (Table 3.2.2), the cluster 1 is composed by six west and north European countries: Austria, Belgium. Finland, Luxembourg and Netherlands. Cluster 2 is the biggest cluster of the sample with ten Eastern European countries: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. Cluster 3 and 5 are the smallest clusters of the sample, they are composed only by two countries: Cyprus and Ireland (cluster 3) and Malta and Portugal (cluster 5). Cluster 4 is composed by four countries: France, Italy, Spain and United Kingdom of Great Britain and Northern Ireland. This cluster is the cluster with the highest share of SKIF VA per SME.

Table 3.2.2. Cluster Analysis

Clusters	Country	SKIFENT	SKIF VA	SKIF EMP	SKIF PROD	GDPpc	BERDpc	Share ent	Share VA	Share emp
1	Austria									
1	Belgium									
1	Finland									
1	Luxembourg									
1	Netherlands									
1	Sweden	119179	24045	417969	64488	36267	695	29	26	24
2	Bulgaria									
2	Czech Republic									
2	Estonia									
2	Hungary									
2	Latvia									
2	Lithuania									
2	Poland									
2	Romania									
2	Slovakia									
2	Slovenia	90083	5133	286316	18792	11770	128	18	23	18
3	Cyprus									
3	Ireland	20324	7049	20792	61204	20050	225	19	25	18
4	France									
4	Italy									
4	Spain									
4	United Kingdom	567554	114939	2080299	53835	25200	281	23	27	22
5	Malta									
5	Portugal	69760	4849	181603	27357	13900	96	19	22	17

Source: own elaboration.

It can be verified that cluster 1 has the highest share of SKIF enterprises per SME and SKIF employment per SME and it is also the cluster that presents highest GDPpc and BERDpc followed by cluster 4 which presents also high shares (above 20%) and second highest GDPpc and BERDpc, the clusters 5 and 2 are the clusters with lowest shares followed by the lowest BERD and GDP respectively, even though cluster 3 is the cluster where there are less SKIF enterprises it is the cluster where SKIFs have high productivity making it the second cluster with most productivity on the sample.

4. CONCLUSIONS

The European Strategy 2020 reinforces the relevance of SMEs as a key driver for economic growth, innovation, employment and social integration. The relevance assumed by the EC about SMEs and the strategy of a competitive European economy based on smart, sustainable and inclusive growth leads to the importance of small and medium knowledge intensive firms (SKIFs) in the European context. Most of the studies about SKIFs are generally about either internationalization properties of SKIFs, or about how SKIFs influence SMEs, however are scarce the studies that researches the influence of knowledge intensive business services on European regions, or relate SKIFs directly with macroeconomic variables. Based on this, the present study intents to contribute to increase the scientific knowledge about this field considered so relevant to the progress of EU member state economies.

Some main conclusions can be draw from the findings of the study. Through the analysis conducted on section 3.1. it can be concluded that countries with above average share of employment and/or value added off SKIF have SMEs with higher employment and/or value added growth and also higher GDP; with the exception of countries that only have knowledge intensive services employment share higher than average, these had a growth in SME employment lower. Although to confirm this, a deeper study should be made; it might mean that if we focus too much on increasing employment for KIS firms in the future we can aggravate the employment situation of Europe. SKIF are highly beneficial to national European economies, the average GDP per capita of the countries that have above average share in SKIFs per SME is 25840€ which is approximately 15% higher than the EU 27 average and 43% higher than the average of the countries with bellow average share of SKIF employment.

The cluster analysis can confirm, in part, that SKIF Productivity and Employment growth has positive effects on both GDP and expenditure on BERD growth. The clusters with highest average of shares are also the clusters with higher GDPpc and BERDpc, in fact if we order them by average of the shares of SKIF values and by BERD we get the same order, and in terms of GDPpc only one cluster changes.

Every analysis points that SKIF employment growth and productivity growth are very important for the member states GDP and BERD growth, since SKIFs are highly dependent on human capital SKIFs benefit with indirect investments for example on education, EU strategy 2020 already attends to this with the goals regarding for example some of the seven flagships: youth on move and innovation union. The public policies under the EU strategy

2020 confirm the relation with our findings, however the investment and support for Services, even Knowledge Intensive Services should be thought more carefully or at least thought of supporting these KIS in a ratio with HMHTM support and development.

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Annex A1

Table A1. Share of KIS and HMHTM compared to GDP

	% share of KIS SME in total SME	% share of HMHTM SME in total SME	% share of SKIF in total SME	GDP per capita
Austria	25.26	1.22	26.48	32 100
Belgium	23.03	0.95	23.98	29 800
Bulgaria	13.99	0.98	14.97	3 700
Cyprus	11.49	0.50	11.99	18 100
Czech Republic	20.33	3.44	23.77	11 600
Denmark	23.26	1.50	24.76	37 500
Estonia	22.10	1.32	23.41	9 100
Finland	19.71	1.93	21.64	31 300
France	16.03	0.88	16.91	27 800
Germany	21.33	2.01	23.34	30 000
Greece	19.62	0.80	20.42	16 200
Hungary	29.27	1.25	30.52	8 900
Ireland	23.43	0.51	23.94	36 500
Italy	20.55	1.30	21.85	23 500
Latvia	20.50	0.98	21.48	6 400
Lithuania	15.05	0.70	15.75	7 700
Luxembourg	31.02	0.30	31.32	64 200
Malta	18.05	5.94	23.99	13 500
Netherlands	30.93	1.60	32.53	33 200
Poland	17.31	1.09	18.40	8 300
Portugal	20.08	0.67	20.75	14 700
Romania	16.59	1.16	17.75	4 600
Slovakia	17.68	2.77	20.46	9 200
Slovenia	25.71	1.90	27.61	15 400
Spain	17.97	0.85	18.82	20 600
Sweden	25.74	1.92	27.66	35 200
United Kingdom	29.10	1.92	31.02	30 600
EU27 average	21.30	1.50	22.80	21 470

Source: own elaboration.

Annex A2

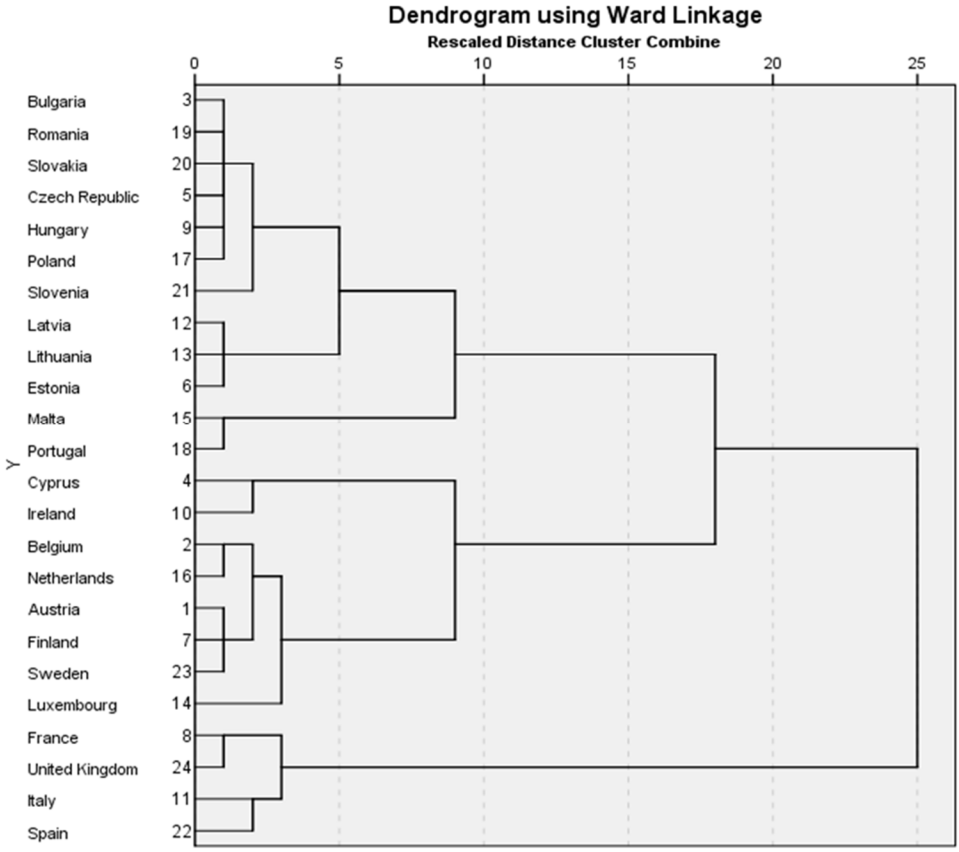

Figure A2. Clusters Analysis – Dendogram
Source: own elaboration.

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Measuring the development of human resources with the usage of Human Development Index in selected CEE countries

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Abstract:

In the theoretical part of the research, the authors will define the category of human resources and identify its similarities and differences in relation to similar categories. Furthermore, they will provide a brief overview of theoretical and methodological achievements in the measuring of the value of human capital at the macro level, i.e. development of human resources. In the empirical part of the research, development of human resources will be evaluated through the HDI in selected countries, with particular emphasis on CEE countries. Human resource development rank of CEE countries in 2014 will be established, and the change in the index in the period 1990-2014 presented and analysed. In conclusion, it will be identified which countries achieved the greatest change in human development in the period 1990-2014.

Keywords: human resources; economic growth; development; HDI; CEE
JEL codes: O10, O15

1. THEORETICAL AND METHODOLOGICAL FRAMEWORK

In a knowledge-based economy, that has become a generally accepted development model, there is a visible shift of national development policies from a predominantly sectorial to factorial approach to development. Therefore, the focus of economic interest has become knowledge, i.e. human resources that are its creator and promoter. Therefore, in all the countries that plan their long-term economic gain, it is necessary to devise a national strategy of human resource development.

The term "human resources" is often used in domestic and foreign literature parallel with the terms "human capital" and "intellectual capital". Also used are the terms "population" and "labour force". Although seemingly similar, these terms are not synonyms.

In the studies of economic flows, the basic category is population, because it is a historical and substantial source of labour force and a precondition for the formation of human capital, intellectual capital and human resources.

The term ”population“ usually implies total number of inhabitants who reside or are currently located in a certain area (Dragičević, 1991).

The size and characteristics of the population, i.e. demographic factors, along with economic, technological, social, political, and environmental factors, make a set of conditions, causes and effects of the unique process of social development. The total number and structure of the population have an impact on the share of working-age and economically active population or labour force. The working-age population is the population of working age, and it is regulated by a country's constitution or legislation. Labour force implies the entire employed population and the unemployed seeking employment. The population is a source of labour force and, with its developmental characteristics, it primarily determines the pace of a country's economic development (Wertheimer-Baletić, 1973).

In the scientific and professional literature that covers the research of the significance and contribution of the human factor to production and development of enterprises, local and regional communities or the national economy, commonly used categories are ”human capital“ and ”human resources“. They are often identified in terms of content and used as synonyms. Following the historical course of research and measuring the value of investment in people and the values that people bring into the business process through labour, it can be concluded that it is necessary to make a distinction between the two categories. In the process of studying human capital, the focus is on the value of investment in people through education and health care as well as all other activities that contribute to human development. These investments represent individual and social cost and increase human capabilities, knowledge and skills. By contrast, in the studies of human resources, we analyse the contribution of the people to the creation of a new value by bringing their capabilities, knowledge and skills into the business process. When a person, i.e. an employee, enters the human capital into a business process, the capital becomes the key component of human resources.

Alfred Marshall argued that the most valuable of all capitals is the one invested in people, and he pointed out the importance of industrial training, labour organisation and business management for production (Marshall, 1956). He pointed out that there are different types of labour costs: because of labour as labour, labour as an idea and as an organisation. Other civil economists also pointed to the importance of the human factor in production, especially emphasising a different reflection of unequal individual and total educational, professional and qualifying characteristics of the population on the gain of a national economy.

One of the first significant contributions to quantification of the human capital was made by Alfred Sauvy (Sauvy, 1952). He formulated a method for the calculation of the value of human capital that consists of the accumulation of costs for maintenance and education of people until their working age.

In recent years, significant progress has been achieved in the efforts to measure human capital. The main representative of the Chicago School, Nobel laureate Theodore Schultz, based his budget on the accumulation of investment in the quality of components, i.e. their improvement (through education and professional training as well as health care), but his calculation also included various losses as, e.g., those that occur due to mortality (Schultz, 1985).

The content of these calculations indicates what **human capital** really is. It is a value invested in people (employees), primarily through education and health care, in order to create knowledge, skills and work capabilities. Economic literature primarily studies investment in education, because it is simpler to determine their effectiveness from an individual's perspective. Such a calculation for an investment in health is much more complex, because the effects of the investment are difficult to quantify. However, calculation of the effectiveness of investment in education at the macro level is also very complex, and the contribution of Gary Becker should be pointed out in particular. He analysed the relationship between costs and benefits of investing in secondary and tertiary education in the USA (Becker, 1964).

According to Par (2016) human capital is a concept that highlights the crucial importance of education, knowledge, skills and capabilities of people (labour force) for economic development, treating them as capital. Investment in the development of human capital is mainly achieved through education that increases labour productivity and entrepreneurship. Such an investment is specific, because it always results in individual ownership that contributes to the wealth of enterprises and society. It is considered to be the most important dimension of **intellectual capital**.

Intellectual capital is a relatively new, complex economic category that represents all the business factors that are not explicitly expressed in the traditional financial statements; however, they provide added value to the organisation and significantly affect long-term profitability and competitiveness of the company. The term intellectual capital implies creative application of knowledge in production and any other creative activity, the ability to convert invisible assets like knowledge into products and services that deliver value (Sundać, 2009). Human capital is a component and the driving force behind intellectual capital that also comprises structural (or organisational) capital and relational (or customer) capital.

Human resources imply total psychological and physical capacities at the disposal of enterprises, which they can use to achieve their business goals (Bahtijarević Šiber, 1999).

The above text is the basis for the conclusion that psychological and physical capabilities depend on investing in people, which means human capital. Greater human capital potentially means more human resources.

During working life, human capital and human resources can be increased by investing in psychological and physical health as well as investing in knowledge, skills and competences through life-long learning. However, not only are human re-

sources increased by acquiring new knowledge and skills, but also through the promotion of employees, implementation of quality motivational systems i.e. a good combination of material and immaterial compensations, more successful combination and management of the production factors. This means that the size of the contribution of the human factor to the creation of new value in enterprises does not only depend on the value of human capital and human resources, but also on the organisation of the business process, management of the production and development factors, and activities of the function of human resources in an enterprise. All of this is, ultimately, a result of accumulated human capital and human resources.

At the national level, human resources can be defined as total psychological and physical energy owned by the residents of a country, i.e. that is at the disposal of the society and can be used for the achievement of its development goals. At preworking age, society has a crucial influence on the formation and development of human resources, primarily through education and health care, but also through other activities, e.g. child care, sports and cultural activities.

Human resources cannot be directly expressed in terms of value, so their value and development level are measured indirectly. The literature offers different criteria for the estimation of value and development of human resources at the macro level.

W. Petty was the first to attempt to quantitatively evaluate human resources for England in the 17th century (Vinski, 1977). Petty carried it out in the form of a budget of total earnings of the population and the appropriate size of capital these earnings would bring if they were invested at a certain interest rate.

Friedrich and Johann von Thunen used two methods to estimate the value of human capital. They are capitalising on the net value of future earnings per market interest rate and the total cost of human development at a certain age (Jarvis, 2000). They found that the value of human capital in Great Britain in 1891 was five times higher than the value of the stock of physical capital.

Bowman argues that human resources should be estimated as the total value of services the employees will provide in the foreseeable working life discounted by the corresponding number of years (Bowman, 1974).

In their work Education, Labour Force and Economic Growth (Harbison, Myers, 1964), Harbison and Myers developed quantitative indicators for measuring development of human resources after they had found that economists neglected the studies of the human factor and its significance and contribution to economic growth. They estimated that the reason is primarily the inability to identify the input-output relationship that is indisputable in physical capital, because this capital is directly measurable in terms of value. Harbison and Myers calculated the composite Human Development Index with the following seven partial indicators: 1. The number of teachers in primary and secondary schools per 10,000 inhabitants; 2. The number of engineers and scientists per 10,000 inhabitants; 3. The number of doctors and dentists per 10,000 inhabitants; 4. Children aged 5 to 14 in primary school education; 5. Average enrollment quotas in primary and secondary education; 6. Percentage of the population aged 5 to 14 enrolled in secondary education; 7. Percentage of the population aged 20 to 24 enrolled in tertiary education.

The interest in studying human capital grew in the second half of the 20th century, which is primarily the credit of Nobel laureates Theodore Schultz and Gary Becker. However, it should be noted that this was already a time when development of national economies was impossible without increasing the education level of the population. Therefore, both Schultz and Becker primarily studied investment in education, which they treated as an investment in human capital, although Schulz identified several groups of activities and flows that affect increase in human capital. These are: improvement of health services, formal education, workplace learning, adult education outside the company as well as individual and family migrations due to better employment opportunities (Mervar, 2003).

The OECD publications cite three methods for measuring human capital: through education and training costs; through competency assessment tests; through ”achievement“ indicators: wages, job security, job status.

In the past 10 to 15 years, there has been a significant shift in the understanding of the connection between economic growth and development, human resources, research, innovation and technology. Unambiguous explanations of technological development or human resource development as the basic moving force of economic growth have been abandoned. Some authors believe that HDI alone is not a sufficient measure for determining economic growth and that analyses should include a whole range of other indicators (Bagolin, 2008).

2. MEASURING THE DEVELOPMENT OF HUMAN RESOURCES THROUGH HDI

The UN has recently calculated the index of human development (HDI), i.e. Human Development Index. Taking into account the content of the HDI, it can be used as a good indicator of development of human resources, although HDI is also an indicator of a country's level of development. The index was contructed in the early 1990s by Amartya Sen (Nobel laureate), Mahub ul Hak, Gustav Ranis (Yale University), Meghan Desai (London School of Economics), and the UN has used it ever since; it is released in the annual Human Development Report.

The UN defines the very concept of human development in a broader sense as development of the people, development for the people and development by the people (Human Development Report, 1993). HDI is calculated as a composite index combined of the following three indicators: 1. Life expectancy and health condition of the population measured by life expectancy at birth; 2. Knowledge and education of the population; 3. Purchasing power, i.e. standard of living of the population measured by GDP per capita. The first two indicators indirectly show development of human resources, while the third is preferred in showing the achieved level of development of a country.

However, it should be noted that in the second half of the 20th century, numerous economists stressed the importance of education and education level of the population for economic growth as well as progress and development of individuals.

Until 2009, all countries of the world were categorised in three groups according to HDI value: (0,000-0,499 low HDI countries; 0,500-0,799 medium HDI countries; 0,800-1,00 high HDI countries.

Since 2009, the UN has classified the countries into four groups:

- Very high HDI countries (0,9-1,00).
- High HDI countries (0,8-0,899).
- Medium HDI countries (0,5-0,799).
- Low HDI countries (0-0,499).

Since this is a relatively new indicator composed of multiple components, it is constantly complemented, and thus, its contents change. Since 2010, the World Bank has introduced a new methodology for calculating the Human Development Index. According to the methodology of the calculation, by 2010, knowledge and level of education were expressed through the composite Adult Literacy Index and the share of relevant population groups in primary, secondary and tertiary education. Since 2010, this indicator has been replaced with a new indicator of level of education that shows access to knowledge and is measured by mean and expected years of schooling of the population.

Table 1. Comparison of Old and New Methodology for Calculating the Human Development Index

Old methodology (until 2009)	New methodology (since 2010)
1. $LEI = \frac{LE - 25}{85 - 25}$	**1.** $LEI = \frac{LE - 20}{83{,}2 - 20}$
2. $EI = \frac{2}{3} xALI + \frac{1}{3} xGEI$	**2.** $EI = \frac{\sqrt{MYSIxEYSI}}{0{,}951}$
ALI = $\frac{ALR}{100}$	$MYSI = \frac{MYS}{13{,}2}$
$GEI = \frac{CGER}{100}$	$EYSI = \frac{EYS}{20{,}6}$
3. $GDP = \frac{\ln(GDPpc) - \log(100)}{\log(40000) - \log(100)}$	**3.** $II = \frac{\ln(GNIpc) - \ln(163)}{\ln(108{,}211) - \ln(163 =}$
HUMAN DEVELOPMENT INDEX	**HUMAN DEVELOPMENT INDEX**
$HDI = \frac{LEI + EI + GDP}{3}$	$HDI = \sqrt[3]{LEIxEIxII}$

Note: LEI – Life Expectancy Index, EI – Education Index, ALI – Adult Literacy Index, GEI – Gross Enrollment Index, ALR – Adult Literacy Rate, CGER – Combined Gross Enrollment Index, HDI – Human Development Index, MYSI – Mean Years of Schooling, EYSI –Expected Years of Schooling.
Source: Authors according to the Human Development Report 2009 and Human Development Report 2011.

Since 2010, new criteria for ranking of the countries have been applied taking into account the Human Development Index. All countries are classified into four groups, so that each of the groups includes ¼ of the observed countries:

- 25% of the highest-ranked countries are countries with very high level of human development;
- the other 25% of the ranked countries are countries with high human development;
- the third 25% are countries with medium human development;
- the final 25% are countries with low human development (Human Development Report, 2011).

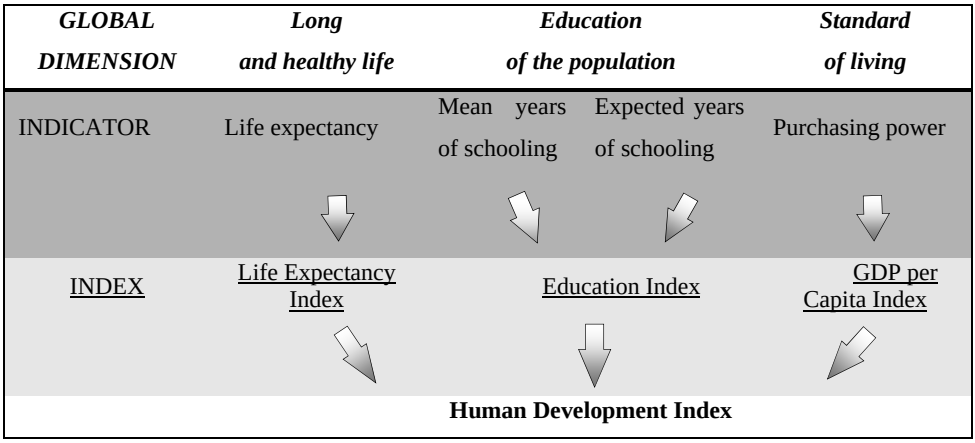

Figure 1. Human Development Index (HDI)
Source: own study.

In 2014 and 2015, countries were categorised into four groups according to the new methodology (http://hdr.undp.org/sites/default/files/hdr2015_technical_notes.pdf):

- Very High HDI countries (0,800-1,000).
- High HDI countries (0,700-0,799).
- Medium HDI countries (0,550-0,699).
- Low HDI countries (0-0,549).

Regarding its content, HDI can be used a Human Development Index, and is calculated as an index composed of three indicators: life expectancy, purchasing power of the population and education of the population.

The greatest change in the calculation of the Human Development Index has occured in the category of the population's education. While in 2010 the calculation of the Human Development Index included adult literacy and enrollment in education, since 2010, the Education Index has consisted of mean and expected years of schooling.

3. DEVELOPMENT OF HUMAN RESOURCES IN CEE COUNTRIES

The term CEE includes all the Eastern bloc countries west of the post-World War II border with the former Soviet Union, the independent states in former Yugoslavia (which were not considered part of the Eastern bloc), and the three Baltic states –

Estonia, Latvia, Lithuania – that chose not to join the CIS with the other 12 former republics of the USSR. The transition countries in Europe are thus classified today into two political-economic entities: CEE and CIS. The CEE countries are further subdivided by their accession status to the European Union (EU): the eight first-wave accession countries that joined the EU on 1 May 2004 (Estonia, Latvia, Lithuania, Czech Republic, Slovakia, Poland, Hungary, and Slovenia), the two second-wave accession countries that joined on 1 January 2007 (Romania and Bulgaria) and the third-wave accession country that joined on 1 July 2013 (Croatia). According to the World Bank (2016), "the transition is over" for the 10 countries that joined the EU in 2004 and 2007. It can be also understood as all countries of the Eastern Bloc.

The following table shows HDI in the selected countries in 2014. In addition to CEE countries, the table also includes the first six countries ranked according to the Human Development Index: Norway, Australia, Switzerland, Denmark, the Netherlands and Germany. The first CEE country on the list in 2014 was Slovenia (ranked 25th), followed by: the Czech Republic (28th), Estonia (30th), Slovakia (35th), Poland (36th), Latvia (37th), Hungary (44th), Lithuania (46th), Croatia (47th), and Montenegro (49th). All of these countries rank among those with a very high Human Development Index. Romania, Bulgaria, Serbia, Macedonia, Albania and Bosnia and Herzegovina are, according to the UN methodology, countries with a high HDI (Table 2).

The countries in the table are grouped according to HDI rank. Except for Human Development Index, the table also shows its components: life expectancy at birth, expected and mean years of schooling, and gross national product expressed according to purchasing power parity in prices in 2011.

Table 3 shows HDI deviation of the observed countries from the HDI average for countries with very high HDI, the average of countries with high HDI, the world average, and the countries of Europe and East Asia.

All CEE countries have a negative HDI deviation compared to the average value of HDI countries with a very high Human Development Index (ranging from -1,75% to -18,24%). Compared to the countries with a high Human Development Index, all CEE countries, with the exception of Albania and Bosnia and Herzegovina, have a positive deviation (of +23,13 to +3,56). When the average deviation of the Human Development Index is calculated in relation to the world, CEE countries record a positive deviation, and when the observed countries are compared with the average for Europe and Central and East Asia, to which these countries gravitate according to the World Bank methodology, Macedonia, Albania and Bosnia and Herzegovina record a negative deviation.

Table 4 shows the change in HDI in the selected countries in the period 1990-2014, change in rank of the country in the period 2009-2014 (since the new methodology has been in use), and the index of HDI change (based in the year 2000). The highest positive deviation of the rank is recorded in Estonia and Slovakia (increase of 3 places), while Latvia had the greatest developmental lag (decrease of five places) and Hungary (decrease of four places). Croatia also recorded a decrease; its rank fell from the 46th to 47th place. However, it should be

noted that, in the period between 1990 and 2014, the Republic of Croatia achieved the largest HDI increase of all the observed CEE countries (+0,83), which also represents the largest human development growth in the world in the observed period. This growth would have been even higher had there not been a slowdown of growth in the period 2000-2014.

Table 2. HDI in the Selected (CEE) Countries in 2014

HDI rank	Country	Human Development Index (HDI)	Life expectancy at birth	Expected years of schooling	Mean years of schooling	Gross national income (GNI) per capita
		Value	(years)	(years)	(years)	(2011 PPP $)
		2014	2014	2014	2014	2014
	VERY HIGH HUMAN DEVELOPMENT					
1	Norway	0,944	81,6	17,5	12,6	64.992
2	Australia	0,935	82,4	20,2	13,0	42.261
3	Switzerland	0,930	83,0	15,8	12,8	56.431
4	Denmark	0,923	80,2	18,7	12,7	44.025
5	Netherlands	0,922	81,6	17,9	11,9	45.435
6	Germany	0,916	80,9	16,5	13,1	43.919
25	Slovenia	0,880	80,4	16,8	11,9	27.852
28	Czech Republic	0,870	78,6	16,4	12,3	26.660
30	Estonia	0,861	76,8	16,5	12,5	25.214
35	Slovakia	0,844	76,3	15,1	12,2	25.845
36	Poland	0,843	77,4	15,5	11,8	23.177
37	Lithuania	0,839	73,3	16,4	12,4	24.500
44	Hungary	0,828	75,2	15,4	11,6	22.916
46	Latvia	0,819	74,2	15,2	11,5	22.281
47	Croatia	0,818	77,3	14,8	11,0	19.409
49	Montenegro	0,802	76,2	15,2	11,2	14.558
	HIGH HUMAN DEVELOPMENT					
52	Romania	0,793	74,7	14,2	10,8	18.108
59	Bulgaria	0,782	74,2	14,4	10,6	15.596
66	Serbia	0,771	74,9	14,4	10,5	12.190
81	The former Yugoslav Republic of Macedonia	0,747	75,4	13,4	9,3	11.780
85	Albania	0,733	77,8	11,8	9,3	9.943
85	Bosnia and Herzegovina	0,733	76,5	13,6	8,3	9.638

Source: Authors according to HDR 2015, United Nations.

Table 3. HDI Deviation in the Selected (CEE) Countries from the Average of Individual Groups of Countries

Country	VHHD = 100	HHD = 100	World = 100	E&CA = 100
VERY HIGH HUMAN DEVELOPMENT				
Norway	105,34	126,87	132,75	126,19
Australia	104,35	125,67	131,50	124,99
Switzerland	103,75	124,95	130,75	124,28
Denmark	103,05	124,10	129,86	123,44
Netherlands	102,88	123,90	129,65	123,23
Germany	102,24	123,13	128,84	122,47
Slovenia	98,25	118,32	123,81	117,68
Czech Republic	97,11	116,95	122,38	116,32
Estonia	96,08	115,70	121,07	115,08
Slovakia	94,15	113,38	118,65	112,78
Poland	94,05	113,26	118,52	112,66
Lithuania	93,69	112,83	118,06	112,22
Hungary	92,45	111,34	116,50	110,74
Latvia	91,38	110,05	115,16	109,46
Croatia	91,24	109,88	114,98	109,30
Montenegro	89,53	107,82	112,83	107,25
HIGH HUMAN DEVELOPMENT				
Romania	88,48	106,56	111,50	105,99
Bulgaria	87,24	105,06	109,94	104,50
Serbia	86,07	103,65	108,46	103,09
The former Yugoslav Republic of Macedonia	83,40	100,44	105,10	99,90
Albania	81,78	98,49	103,06	97,96
Bosnia and Herzegovina	81,76	98,46	103,03	97,93
Human development groups				
Very high human development	100,00	120,48	126,07	119,84
High human development	83,02	100,00	104,63	99,45
Medium human development	70,31	84,68	88,61	84,23
Low human development	56,37	67,89	71,04	67,53

Source: own study.

Table 3. HDI Change in the Selected Countries in the Period 1990-2014

HDI rank	Country	Rank Change	HDI change				HDI INDEX 2000=100						
		2009-2014	1990-2000	2000-2010	2010-2014	1990-2014	1990	2000 =100	2010	2011	2012	2013	2014
VERY HIGH HUMAN DEVELOPMENT													
1	Norway	0	0,77	0,25	0,11	0,44	92,64	100,00	102,51	102,60	102,77	102,78	102,95
2	Australia	0	0,36	0,33	0,20	0,32	96,43	100,00	103,33	103,58	103,86	104,00	104,17
3	Switzerland	0	0,67	0,40	0,14	0,47	93,57	100,00	104,10	104,13	104,40	104,55	104,69
4	Denmark	1	0,76	0,53	0,41	0,61	92,68	100,00	105,40	106,81	106,88	107,08	107,14
5	Netherlands	0	0,56	0,36	0,34	0,44	94,57	100,00	103,70	104,82	104,98	104,98	105,13
6	Germany	3	0,66	0,58	0,26	0,56	93,65	100,00	106,00	106,48	106,97	107,01	107,12
25	Slovenia	-1	0,73	0,61	0,13	0,58	92,94	100,00	106,32	106,49	106,54	106,58	106,86
28	Czech Republic	0	0,76	0,50	0,21	0,56	92,73	100,00	105,08	105,49	105,55	105,73	105,98
30	Estonia	3	0,73	0,71	0,69	0,71	93,00	100,00	107,32	108,84	109,51	110,02	110,30
35	Slovakia	3	0,34	0,82	0,48	0,56	96,69	100,00	108,46	109,01	109,57	110,04	110,57
36	Poland	1	0,99	0,53	0,41	0,70	90,64	100,00	105,46	106,02	106,53	106,84	107,19
37	Lithuania	-1	0,32	0,93	0,38	0,58	96,84	100,00	109,66	110,17	110,48	111,03	111,33
44	Hungary	-4	0,90	0,67	0,21	0,69	91,44	100,00	106,87	107,05	107,10	107,38	107,76
46	Latvia	-5	0,49	1,09	0,25	0,70	95,19	100,00	111,47	111,68	111,77	112,17	112,58
47	Croatia	-1	1,12	0,75	0,32	0,83	89,42	100,00	107,77	108,69	109,01	109,09	109,14
49	Montenegro	1	..	..	0,32	..	..	..	100,00	100,70	100,76	101,12	101,29
HIGH HUMAN DEVELOPMENT													
52	Romania	-1	0,04	1,06	0,26	0,50	99,59	100,00	111,08	111,27	111,55	111,97	112,25
59	Bulgaria	0	0,26	0,81	0,29	0,49	97,40	100,00	108,35	108,70	109,09	109,26	109,60
66	Serbia	-1	-0,05	0,65	0,45	0,32	100,55	100,00	106,73	107,27	107,32	108,63	108,66
81	The former Yugoslav Republic of Macedonia	-2	..	..	0,31	..	..	..	100,00	100,55	100,68	100,88	101,25
81	Ukraine	2	-0,54	0,92	0,51	0,24	105,57	100,00	109,56	110,50	111,21	111,60	111,80
85	Albania	2	0,50	0,96	0,35	0,67	95,10	100,00	110,07	110,91	111,13	111,55	111,63
85	Bosnia and Herzegovina	2	..	..	0,78	..	..	..	100,03	101,92	102,21	102,72	103,17

Source: Own study.

4. CONCLUSIONS

Human resources imply total psychological and physical capacities at the disposal of enterprises which they can use to achieve their business goals. The category of human resources is often identified with the category of human capital although they should be substantially differentiated. Human capital is a value invested in people (employees), primarily through education and health care, to create knowledge, skills, and work capabilities.

The role of human resources in the development of enterprises and national economies has recently increased, and so have the attempts of their presentation and measurement of their impact on growth and development. The Human Development Index has increasingly been used as an indicator of human development, and this paper explains why this index is a good indicator of development of human resources. The research has shown that CEE countries largely belong to countries of very high human development (with the exception of Romania, Bulgaria, Serbia, Macedonia, Ukraine, Albania, and Bosnia and Herzegovina). Slovenia is ranked highest of all the CEE countries according to the Human Development Index (ranked 25th), and the Republic of Croatia lags behind by 22 places (and is ranked 47th). However, it should be noted that Croatia, of all the observed countries, achieved the largest positive shift in the Human Development Index (1,12) from 1990 until 2014, which is primarily a result of education of the population.

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The education in South-East Europe and trade-off between efficiency and equity

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Abstract:

The article analyses efficiency and equity trade-off in education in observed countries in South East Europe countries. Efficiency relates to how well an economy allocates scarce resources to meet the needs and wants of consumers, while equity deals with the distribution of resources and is related to fairness and social justice. The aim is to identify those circumstances under which equity and efficiency may not trade-off against each other. At least in theory, education is a means by which democracies attempt to equalize opportunities among citizens for economic success. Education and training policies could have a significant positive impact on economic and social outcomes, including sustainable development and social cohesion. It is commonly thought that opportunity equalization, in that dimension, is implemented by the provision of equal access to public resources to all citizens. However, very often this is not the case and often existing public services – like education systems – reproduce or even increase existing inequities.

Keywords: education; training; trade-off; efficiency and equity; South East Europe
JEL codes: H4, I24

1. INTRODUCTION

Across the developed world and in most transition and post-transition countries, in the context of demographic change (particularly population ageing), public budget constraints and the challenges of globalisation, and technological innovation, greater attention has been placed on improving efficiency in providing public services, particularly education. This is, of course, highly desirable but it is frequently assumed that efficiency and equity objectives are mutually exclusive. However, there are situations where equity and efficiency may not trade

off against each other. The goal of the article is to find out the possible reconciliation of equity and efficiency in education.

After introductory notes, in Section 2 the theoretical basics are given. Section 3 is dedicated to the equity and efficiency trade off in education. Section 4 explains situation in different South East Europe countries regarding the mentioned issue. The paper finishes with conclusions and recommendations for the enhancement of educational and training policy.

2. THEORETICAL BASICS

Efficiency relates to how well an economy allocates scarce resources to meet the needs and wants of consumers. Efficiency means that all goods or services are allocated to someone and the criterion for economic efficiency is value. A change that increases value is an efficient change and any change that decreases value is an inefficient change.

Equity concerns the distribution of resources and is inevitably linked with concepts of fairness and social justice. When market equilibrium is efficient, there is no way to reallocate the good or service without hurting someone. Head (1993) distinguishes between horizontal equity in the sense of similar individuals being treated in a similar fashion, vertical equity in the sense of taxation in accordance with the ability to pay and the "benefit principle" of equity – taxpayers should pay for public services in the same proportion that they use them.

In some fundamental respects, equity is complementary to the pursuit of long-term prosperity. Institutions and policies that promote a level playing field – where all members of society have similar chances to become socially active, politically influential, and economically productive – contribute to sustainable growth and development. Roemer (1998) believes that there are two views of equality of opportunity. The first, which he calls the non-discrimination principle, states that in the competition for positions in society, individuals should be judged only on attributes relevant for the performance of the duties of the position in question. Attributes such as race or sex should generally not be taken into account. The second states that society should do what it can to level the playing field among persons who compete for positions, especially during their formative years, so that all those who have the relevant potential attributes can be considered. Common to both positions is that at some point the principle of equal opportunity holds individuals accountable for the achievement of particular objectives, whether they are education, employment, health, or income.

The complementarities between equity and prosperity arise for two broad sets of reasons (World Bank, 2005). First, there are many market failures, particularly in building human capital. As a result, resources may not flow where returns are highest. For example, some highly capable children may drop-out of regular schooling, while others, who are less able, may finish university and obtain their PhD. When markets are missing or imperfect, the distributions of resources and power affect the allocation of investment and developing opportunities. The ideal

response is to correct the market failures; but where this is not practical, or far too costly, some forms of redistribution and/or ensured access to services, assets, or political influence can increase economic efficiency.

The second set of reasons why equity and long-term prosperity can be complementary follows from the fact that high levels of economic and political inequality tend to lead to economic institutions and social arrangements that systematically favour the interests of social strata (groups) with more influence. Such inequitable institutions can generate economic costs. When budgetary allocations benefit mainly the politically influential and/or when the distribution of public services favours the wealthy, all other middle and poorer social layers end up with unused possibilities and talent. These adverse effects, of unequal opportunities and political power, on development are all the more damaging because economic, political and social inequalities tend to reproduce themselves over time and across generations.

Such phenomena are called *inequality traps* because they cause social immobility that is particularly pronounced for low-income citizens. Education is intrinsic value and affects the capacity of individuals to engage in economic, social, and political life. Yet children face considerably different opportunities to learn and to lead healthy lives in almost all populations, depending on asset ownership, geographic location, or parental education, among others. These inequities are usually associated with differences in an individual's "agency" – the socio-economically, culturally and politically determined ability to shape and influence the world around oneself. Such differences create biases in the institutions and rules in favour of more powerful and privileged groups because the poor usually have less voice, less income, weaker networks, and finally, less access to services than most other people.

The persistence of inequality traps – with mutual reinforcing inequalities in the political, social, economic and cultural areas – has many consequences. The most important is that, because of market failure and the way in which institutions evolve; inequality traps can influence not only the distribution but also the aggregate dynamics of economic growth and socio-political development. This in turn means that, in the long run, equity and efficiency may be complements, not substitutes.

At least three considerations are important at the outset. First, while more even playing fields are likely to lead to lower observed inequalities in educational attainment, the policy aim is not equality in outcomes. Indeed, even with true equality of opportunities, one would always expect to observe some differences in outcomes owing to differences in preferences, talents, effort and luck. Second, a concern with equality of opportunity implies that public action should focus on the distributions of assets, economic opportunities, and political voice, rather than directly on inequality. Policies can contribute to the greater and more equal access to public services – largely education – and information. Third, there may be various short-run, policy-level trade-offs between equity and efficiency. Greater equity implies more efficient economic functioning, reduced conflict, greater trust, and better institutions, with dynamic benefits for investment and growth.

It is often stated that equity and efficiency are competing goals: equity is purchased at the expense of efficiency. There are two senses in which this phrase is

uttered. The first is that redistributive taxation may be purchased only at the cost of Pareto inefficiency, due to workers' and firms' facing different effective wages. This is true. The second sense is that redistribution may lower total output. These two claims are in principle independent. There may be policies which re-allocate income and/or social services (like public education) in a more equitable manner, lower total output, but are not Pareto inefficient. Roemer and Trannoy (2013) used as an example, re-allocating educational funds from tertiary education to secondary education in a poor country. This might have a purely redistributive effect, without significant consequences for Pareto efficiency.

At least in theory, education is a means by which democracies attempt to equalize opportunities among citizens for economic success. Education and training policies could have a significant positive impact on economic and social outcomes, including sustainable development and social cohesion. It is commonly thought that opportunity equalization, in that dimension, is implemented by the provision of equal access to public resources to all citizens. However, very often this is not so and often existing public services – like education systems – reproduce or even compound existing inequities. Betts and Roemer (1999) examine the relative effectiveness of changing educational expenditures along both the intensive and the extensive margins. Their central point is that for the USA *mere equalization achieves little*. Disadvantaged children from families at the bottom of wealth distribution usually do not have the same opportunities as children from wealthier families to receive quality education and achieve higher levels of attainment. Because of their minimal education, these disadvantaged children can expect to find badly paid jobs and earn less as adults. As badly educated citizens they will have less voice and power in the political process and will not be able to influence spending decisions to improve public schools for their children.

Calvò-Armengol and Jackson (2005) developed a model where an individual sees higher returns to investments in human capital when their neighbours in a social network have higher levels of human capital. They show that the correlation of human capital across generations of a given family is directly related to the sensitivity of individual investment decisions to the state of the social network. Increasing the sensitivity leads to increased intergenerational correlation, as well as more costly investment decisions on average in society. As the badly educated mostly socialise with similar badly educated peers, there are only limited possibilities that they will profit in their behaviour from their better educated neighbours. The authors conclude that the dependence on a social channel leads to inefficient human capital investment decisions.

If the opportunities faced by children from poor families are so much more limited than those faced by children from rich strata, and if this hurts development progress in the aggregate, then public action has a legitimate role in seeking to broaden the opportunities of those who face the most adverse choices. But how to ensure that actions outlined will respect principles of efficiency and equity? The realisation of an efficiency and equity trade-off in education could be obtained through improving accessibility and enhancing quality. For medium

level developed countries, with a high participation in primary and secondary education, particular attention should be focused to increase participation in tertiary education and enhance its efficiency.

Excluding a number of professional and management reforms (such as curriculum reform or teacher training) that do not have an explicit documented impact on distribution, efficiency and equity, Tiongson (2005) stresses that there are several broad changes to education policy that are directly related to equity and efficiency of educational systems. They are:

– *Expenditure reform:* A government may choose to restructure its expenditures to reallocate spending from higher education to a lower level of education or vice versa.
– *Financing reform:* A government may choose to reform the financing of education by introducing user fees (cost recovery).
– *Management and institutional reforms*: A country in which there is centralized management of the education system may choose to implement management reforms by decentralizing the administration of education.

The bulk of evidence shows that there are usually significant private returns to those who participate in higher education (the average private rate of return from higher education is close to 9% across ten OECD countries – Commission of the European Communities, 2006), and that these are not entirely offset by progressive tax systems. This can have a reverse redistribution effect. This regressive effect is particularly acute where school systems exacerbate the effects of socio-economic background on educational attainment.

In order to bring about a more equitable balance between the costs funded by individuals and society and the benefits accrued by each, and to contribute to providing universities with the extra funding they need, many countries are turning to the main direct beneficiaries of higher education, the students, to invest in their own futures by paying tuition fees. Evidence also suggests that the market effects of tuition fees may improve the quality of teaching and management in universities, and reinforce student motivation. Most economists maintain that tuition fees – assuming some means tested grants and/or sufficient available students' loans – are actually more equitable than free higher education in that students are everywhere disproportionately from the middle and upper classes and the taxing systems in most countries tend to be proportional or even regressive (Teixeira, Johnstone, Rosa, Vossensteyn, 2008).

Clearly, the development of tuition fees without accompanying financial support for poorer students risks aggravating inequity in access to higher education. The most disadvantaged are frequently the most risk and debt-averse, and are more likely to baulk at spending time studying, rather than earning, when private returns after graduation are not assured. The costs of higher education could be made more bearable through the availability of various types of student financial support, be it in the form of grants, scholarship, loans or the deferred payment of tuitions fees. Other financial incentives could be premium grants to excellent students and/or those who choose science and engineering programmes.

Inequities in education and training also have huge hidden costs which are rarely shown in public accounting systems. Policies which reduce such costs can deliver both equity and efficiency benefits. Thus, to achieve equity, one should take into account all the costs as well as the benefits of successful data collection, analysis and prudent cost-management. According to McKeown-Moak (2000), this approach is a self-evident precondition both with regard to enhancing efficiency and cost effectiveness and in making a case for more equitable resources usage.

Access to schooling matters – especially for very poor families – but very often, it is only a small part of the problem. Greater access needs to be complemented by supply-side policies (to raise quality) and demand-side policies (to correct for the possibility that parents may underinvest in the education of their children for various reasons). Some of the possible reasons for such underinvestment are that resource constrained households lack money to keep their children healthy and in school and/or that some groups only see insignificant returns to schooling because of discrimination. Thus, providing financial possibilities and incentives for education is necessary, but not sufficient because it is important to eliminate the perception of discrimination, conscious or not, that can affect investment in human capital.

Free access to higher education does not necessarily guarantee equity. To strengthen both efficiency and equity it is necessary to create appropriate conditions and incentives to generate higher investment from public and private sources, including, where possible through tuition fees combined with accompanying financial measures for the disadvantaged.

3. SITUATION IN SELECTED SOUTH EAST EUROPE COUNTRIES

In all observed countries Furthermore, participation in education and formal education has a positive impact on individual personal as well as social development, social inclusion and social cohesion. For example, among people with upper secondary and tertiary education, the unemployment rate is on average lower than among less well educated people (persons who finished primary school at most). Better educated and qualified persons also wait less time (as unemployed) for a job and have a higher income when they find a job and better possibilities for professional promotion. Also, the risk-of-poverty rate is significantly lower among better educated persons.

3.1. ALBANIA

For creating a competitive economy, various national strategies and policies were accepted with aim to segregate responsibilities and functions in the education sector among levels of governance as well as to identify conditions for the increase of accountability for functions expected to be decentralized. Generally, access to pre-university education in Albania displays a low level of participation if compared to OECD countries (Albanian Ministry of Education and Science, 2003). There is also a variation when regions within Albania are compared. An adult in Tirana for instance attends education institutions for 3.5 years more compared the average of

Albanian republic. There are huge discrepancies between urban and rural areas, where the later suffer from less access to public services generally and to education in particular. Despite the reforms undertaken in the last years this system has a very low reputation from the quality perspective and the percentage of those engaged in such system is very low. Future reforms should be oriented towards the conceptualised of education (particularly higher) as a public good, improvements of standards in both teaching and research, strengthening the link of the education with labour market and maintaining diversity in improving the educational standards. Furthermore, there is a need to diversify the financial sources by aiming at long term financial sustainability and insure the autonomy of education institutions.

3.2. BOSNIA AND HERZEGOVINA

The educational system in Bosnia and Herzegovina (B&H) is highly fragmented with a low level of coordination and cooperation among 13 cantons. Furthermore, functions are overlapping and the division of responsibilities is unclear. There is a high percentage (around 40%) of population with a low level of education attainment and the absence of life-long learning policies. Persons with primary or less than primary school level of education are most exposed to long-term unemployment and poverty, and the danger to transfer their unfavourable situation and life conditions to their children. The Reform of general education in Bosnia and Herzegovina needs to 1) contribute to the strengthening of a democratic society, 2) support economic and social development, and 3) assist the country's reintegration in the international community. The purpose of the reform effort is to enhance the quality and ensure the efficient delivery of education as well as to sustain education financing and management. In particular, the reform should focus on institutional development and policy advice aimed at strengthening management, financial planning, and the capacity of institutions within the education system to effectuate reforms; and modernization and quality improvement of primary and general secondary education, aimed at supporting ministries of education in the development of modern core curriculum and improving the quality of teacher training at all levels of primary and general secondary education. This includes emphasis on the relevant knowledge and implementation of countrywide school development projects.

3.3. BULGARIA

The country joined the European Union in 2007. However, the country still has to overcome many obstacles, including a harsh social situation, a low technological level of the economy, a significant productivity gap and low labour remuneration in comparison with the rest of the EU. Paradoxically, in many cases Bulgaria in spite of (or because of) its socialist past, has paid low-skilled labour as much as high-skilled labour or even higher. The low technological level of the national economy for a long time has created more jobs for people with lower educational and qualification attainments. Thus, highly educated and/or people with specific

knowledge and skills happened to be less in demand on the Bulgarian labour market, and in many cases they accepted job positions, which did not match their high professional status. Thus, educational policy seemed to be controversial and the results demanded happen not to influence social environment and labour market opportunities, which an individual could have. According to the European Commission (2015) Bulgaria has recently improved its performance as regards basic skills and tertiary education attainment. Nevertheless, it still needs to improve the overall quality and efficiency of its school education system and the capacity of education to respond to labour market needs. On the other side, Bulgaria has still not adopted its school education act, which will provide a framework for implementing the comprehensive reforms needed in the school system, including modernising curricula and improving teacher training. The quality of vocational education and training in Bulgaria is insufficient and inadequate, including in terms of its integration in the general education system. The rate of adult participation in lifelong learning is among the lowest in the EU.

3.4. CROATIA

In Croatia education is the most important determinant of employability – more highly educated persons find jobs more easily and faster – but it also doubtlessly carries ancillary non-market effects (for example, easier access to information, greater care for personal health, more active participation in social life which encourages responsible democratic civic behaviour and respect of the rule of law). Non-participation in education is especially dangerous for the children of poor citizens because they are very likely to drop out of the schooling system early, and/or differences in access to higher education are now very stark. The lack of access to levels of education that are highly valued on the market tends to lower their employability and increase the danger of staying in poverty. These factors perpetuate existing inequalities in earning prospects between the poor and non-poor and create the potential for the intergenerational persistence of poverty. A considerable number of youths in Croatia drop out of secondary and higher educational institutions. This is, among other reasons, caused by a serious lack of a network of "second chance" schools, aimed at young people who have either been excluded from education or are on the verge of exclusion. One of the greatest challenges Croatia was addressing through EU accession programmes has been modernisation of curriculum, particularly VET, which are mostly outdated and don't address labour market needs. As this is a structural problem it is expected that most of the 4-year and higher education graduates will continue coming out of the educational system without adequate modern skills and knowledge which, according to employers' representatives perspective, cannot be addressed through internship, apprenticeship or on-the-job-training. Thus, there is an imperative for a different approach to education, curricula, as well as qualifications standards based on learning outcomes. Especially so in vocational education which should provide more hands-on experience and strengthen entrepreneurial skills, by bringing vocational and career guidance and employers closer to

schools. For this reason the activities on curriculum reform began (www.kurikulum.hr). In accordance with the guidelines defined in the Strategy of Education, Science and Technology accepted in 2014, to implement comprehensive curriculum reform the Expert Working Group was established in 2015. The task of this Group was to define the Project management process during the first stage of the curriculum reform, to determine the main directions of curricular changes and to coordinate the work of other sub- groups. Unfortunately, mentioned curriculum reform has been halted without the possibility to its protraction in the nearly future.

3.5. KOSOVO

It is the newest state in South-Eastern Europe and the smallest in terms of territory. The access to primary and secondary education is quite satisfactory, so almost 9 in 10 children of primary education age and about 3 in 4 children of secondary education age are enrolled. Despite the high enrolment there are obstacles that prevent establishing a well-educated population. First, there are differences in terms of enrolment between the poorest and richest and between urban and rural families. Second, girls' enrolment in secondary education continues to be at least 20% lower than boys'. And the third reason is that the quality of schooling is generally poor, which is why the drop-out rates are high. Education is linked to one's employment opportunity and the employment of less well educated people is very unlikely. Around two thirds of less qualified people will most likely remain unemployed. Besides the lack of university qualifications, most unemployed, especially among the youth, lack special training or job experience. The demand for higher skills is increasing and many firms often find it difficult to find people with appropriate skills. There is a general assumption among employers that graduate students lack professional training, since the education system has been very theoretical. In general, reforms are necessary in teaching methods at all levels of education. The education sector faced massive financial and human support from international donors and while aid was not always well located in the beginning, the establishment of responsible institutions and agencies improved the coordination of initiatives. With the downsizing of existing donors' programmes, the continuation or expansion of qualitative programs on youth participation and gender issues are in particular at risk as they are often easily earmarked as 'non-essential' (Wenderoth and Moo Sang, 2004).

3.6. MACEDONIA

The country lags behind other transition countries in student educational performance. In response to such educational challenges, Macedonia is working to establish, re-evaluate and improve the quality of its diverse primary and secondary educational systems. While primary education is still solely provided by the state, secondary education is provided by both state and privately owned schools. For the state schools, the state provides targeted funding for books and transport, as well as funds for other administrative costs in state secondary education, so that

all students can complete this educational degree as well. Higher education is also offered by both public and private universities. The recent few years show a rise in the numbers of high-school graduates that opt for higher education as well as in the number of higher education institutions in the country. Besides the expansion of private investment in the education sector, another reason is the government's focus on extending the public universities into a dispersed system of studying in multiple cities in the country, trying to improve equal opportunities for all and making higher education closer to the citizens. Instead of a more profound improvement of the quality of education vis-à-vis the requirements of the labour market, the policy framework is mainly dealing with making extensive and redundant investments in persons with unwanted skills and capacities. Judging by the current feedback from the labour market, it is arguable that there is a need for undertaking more seriously planned reforms in education policy, starting with vocational secondary and higher education. Macedonia has received support from various agencies and Non-Governmental Organizations to improve educational outcomes, including material inputs and assistance with curriculum and teacher professional development. Education is a high priority for the Republic of Macedonian government since educational performance affects both economic growth and Macedonia's possibilities for EU membership (Holdgreve-Resendez, 2014).

3.7. MOLDOVA

Over the past fifteen years, the educational system in Moldova has undergone a number of reforms intended to modernize and democratize education, as well as to establish appropriate conditions for making full use of each child's potential, regardless of its family's material standing, place of residence, ethnicity, spoken language, or religious beliefs. The major intervention areas of the reform were the changes in the educational system structure and in curriculum, the evaluation concepts and methods, and the management and financing of education. The idea is to ensure the right of every child to a quality education what implies a appropriate and truthful evaluation of education from the perspective of requirements set out for child-friendly schools. Access to quality education in the existing conditions depends in most cases upon the number of children in the family, where people living in large households have highest poverty rate and lowest possibility to attain regular education. Significant problem is imperfect mechanisms for the remuneration of the teaching staff, based mainly on the seniority of staff and not on performance, leading to the exodus of young teaching staff from the educational system. Therefore, the educational financing system needs to be fundamentally streamlined, especially in primary and secondary education. This is directly related to the efficiency/equity dilemma. The new financing mechanism must be based on indicators related to pupils, in accordance with the principle 'the money follows the child'.

3.8. MONTENEGRO

Montenegro started its education reform in 2001 by the adoption of the main principles: decentralization of the education system, equal education rights for all, regardless of gender, socio-cultural origins, ethnicity or physical characteristics and choice in accordance with abilities. Montenegro's school system shows evidence of inefficiency, which is expected in a system that produces poor learning outcomes, confirmed in PISA tests for reading, mathematics and science. The major change introduced by the education reform is the development of primary education from eight to nine years, which is expected to affect the overall education system. No matter the legislation some population groups face difficulties in enrolling into the educational system. Among those groups are Roma population, people with disabilities, children from poor families, the long term unemployed etc. For example, only 7% of the Roma school age population has been enrolled in the school system. Furthermore, regarding the equity of enrolment and completion of educational programme there are serious problems with ethnic Albanian minority. They are often educated in separate classes not schools because the Constitution of Montenegro provides the right of all citizens to be educated in their mother tongue. The curricula and materials in Albanian schools are reported to be of lower quality than Montenegrin schools, with obsolete textbooks, poorly translated texts and a history curriculum that does not adequately represent all perspectives on the country's past (UNICEF, 2012). Thus, there is a need to improving enrolment, attendance rates and quality of education for all children especially for the excluded: Roma, children, with disability, poor, and children in institutions. It is also important to increase the quality of and access to pre-primary school, to insure inclusive, quality education at all levels and to help improve learning outcomes. Finally, crucial is to develop a national education monitoring and evaluation system.

3.9. ROMANIA

In Romania, education has been a field for uncompleted but permanent reforms, each government having many good intentions but very bad results. Different assessments concerning the Romanian education system actually failed in providing a clear picture because of missing the larger perspective. Different assessments concerning the Romanian education system actually failed in providing a clear picture because of missing the larger perspective. There is a permanent lack of trust in the education system; there is no believe that education can ensure personal progress; a large majority of students in universities wants to leave the country immediately after graduation; managers do not wish to organize workplace lifelong learning programmes and qualification courses because, after acquiring the needed skills, many workers look for a job abroad and leave the country. Higher expenditure for education and improvement in their efficient usage would have prevented the human resource drain; for many, a good education for their children provision constituted the decisive reason for leaving the country. A particular problem is access and equity to the higher education institutions, so Curaj *et all* (2015) state that

the number of students accessing higher education has steadily decreased what has being coupled with a decreasing number of students that passed the baccalaureate. The National Pact for Education set ambitious objectives to be reached by 2013 such as curricular reform, enhancements in the management of higher education institutions, achieving full university autonomy, classification of universities by their mission statements and achievements and ranking of study programmes (connected with the financing system), development and introduction of student charter, improving equity in higher education and lifelong learning programmes, as a basis for increasing participation rates in higher education. Such policy documents were considered as offering the grounds for adopting a new law in education and research, in order to prepare the necessary legal framework that would facilitate new developments and corresponding competitive outcomes in higher education. However, many of the nicely stated ideas have not been realised or their realisation is seriously prolonged. Due to the uniformity of universities, public funding was also highly uniform with little incentive for improving quality and equity of education and/or research outcomes (mainly due to the funding formula).

3.10. SERBIA

The education system has also suffered from inefficiencies and inequities. Primary and secondary education suffers from having too many teachers because the school age generational cohorts are smaller and smaller, while the number of teachers has increased. The reason for the overcrowding of teaching in education is largely political: the government behaved economically irrationally because this was one of the ways to create a segment of the electorate that is dependant of government-controlled wages. Tertiary (higher) education suffers from the opposite trend: Serbian universities have too few teachers, and too little teaching space. This creates inefficiencies such as waste and overcrowding. Furthermore, the average number of years of study is very long (7.6 years), whereas 40% of the enrolled students never finish. Such a long period of studying hinders teachers from dedicating more time to each student. The overcrowding effect significantly reduces the quality of teaching at universities and adversely affects their "production": less and less quality students complete their studies as a consequence of overcrowding. The network of institutions of education and training for adults and young people who are outside the regular educational system (both, basic education and vocational training) is very underdeveloped and presents a serious barrier to equity of the access to education. There is an urgent need for the country to develop this subsystem, and ensure that it is enough diversified and flexible. There is also a need to build this educational sub-system, the formal and non-formal education in collaboration with companies that offer training for their workers. As the overall economic situation in the country is unfavourable, the decision makers have trouble supporting financial decentralization because it is difficult to implement it without the efficient equity mechanisms. Without these mechanisms, the social services in the numerous poor regions and municipalities in Serbia would not be able to function.

4. CONCLUSIONS

A considerable number of youths in observed countries *drop out* of secondary and higher educational institutions. This is, among other reasons, caused by a serious lack of a network of "second chance" schools, aimed at young people who have either been excluded from education or are on the verge of exclusion. High drop-out rates drive up the costs per graduate. Systematic prevention of youth exclusion from education could be realized by optimal *flexibility* and the *passability* of the education system at all levels. Flexibility implies sensitivity of the educational system to changes in the needs of the environment and the needs of pupils and adult learners. *Passability implies* avoiding "dead ends", those educational streams (types of programmes) which do not allow for the transfer to a higher degree of education or to a different programme of the same educational level. Dead ends decrease the availability (democracy) of education and utilization of human resources.

Significant problem is also underdeveloped lifelong learning and adult education. For the long-term unemployed population one of the biggest barriers is the lack of education and training necessary to compete on the labour market. In the observed countries only small numbers of the long-term unemployed (less than 10%) are attending some training. Others are not motivated or do not have the money to invest in the improvement of their education. Thus, although significant efforts have been made to increase access to education, it is evident that the system is still inefficient, as the learning outcomes are very low and labour market needs are not fulfilled.

If the ultimate aim of education and training is to maximise the development potential of citizens for their own benefit and that of their society, much remains to be done to achieve this. Unfortunately, in many countries education rather attenuates than lowers inequalities at birth. For a long-run and sustainable economic and social development, the situation should be drastically changed, so the acquisition of human capacities should not be driven by circumstances of persons' birth, although it can and should reflect people's preferences, tastes, and talents. It is necessary to expand people's capacities to lead fuller lives through investing in their education, health, employment and professional advance. Predetermined circumstances should not constrain anyone's innovation or professional development opportunities. This implies that a good institutional environment will not block entry into new business activities and the political system will provide access to public services and goods for all.

According to the various sources, primarily OECD, in the observed SEE countries the considerable problems faced by the educational system are: the lack of emphasis on developing analytical and problem-solving abilities, very weak links between education and the professional world, and the partial development of lifelong learning, mostly oriented to vocational education and vocational skills (neglected are non-formal education and key competencies). Lacking skills prevents the unemployed from reintegration in the labour market and hampers labour mobility. Skills matter even more during the crisis. Thus, there is a need to continue with education and curriculum reforms to raise labour productivity.

In SEE countries there are insufficient links among the education arena, the economy and labour market and not enough attention is given to the estimation of the future trends and needs of the labour force, which causes problems in providing education and skills programmes compatible with the skills and occupations sought on the labour market. The high proportion of workers with fixed term contracts limits the incentives for both firms and employees to develop skills. Insufficient opportunities for education are not the principal reason why many adults do not engage in learning: Evidence on barriers to participation suggests that under-investment in adult learning is due more to the demand side than to lack of supply of learning opportunities. Many adults are simply not interested. This can be because they are not aware of the need for training or because of lack of information, lack of incentives, or a perceived lack of returns. SEE countries should develop flexible and clear pathways through adult education and lifelong learning to increase employability and assure easy entry (or return) to the labour market.

The aggregate effect of any reform, including educational policy reforms on efficiency and equity are not always clear. Whether diverse impacts translate into inequalities in opportunities depends on how new activities open up and are accepted by the wider community, but certainly there will be winners and losers. Outcomes depend on the ability and willingness of government to mitigate losses to particularly hard-hit social groups, possible by redistributing some of the gains accruing from winners. To prosper, a society must create incentives for the vast majority of the population to invest and innovate. The best specific policy mix is a function of country context. Each society must decide the relative weight it ascribes to each of the principles of equity and to the efficient expansion of total production and socio-economic development. Acknowledging history as well as social and political institutions is crucial to avoid policy mistakes.

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Tax changes in the EU-13 during the recent financial crisis

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Abstract:

The aim of this paper is to identify tax changes during the recent financial crisis across EU-13 member states. The recent financial and fiscal crises have changed taxation trends in a large number of EU member states. The member states have been hit differently by the crisis depending mostly on the different degree of macroeconomic imbalances in the economy. Therefore policy responses varied among them and were strongly connected with macroeconomic and fiscal conditions. The tax systems in the EU-13 are transparent, neutral, and straightforward, though not necessarily efficient. In terms of the tax structure, most EU-15 member states raise roughly equal shares of tax revenues from direct taxes, indirect taxes, and social contributions, while the EU-13 member states often display a substantially lower share of direct taxes in total tax revenues. The paper includes theoretical background, comparison of present differences among the taxation systems of the EU-13 member states, and advantages and disadvantages of different types of taxes.

Keywords: PIT; CIT; VAT; crisis; EU-13 member states
JEL codes: E62, H24, H25, H30

1. INTRODUCTION

In this paper we discuss and analyse the tax changes of the EU-13 member states during the recent financial crisis.

Among the EU states there are numerous differences related to tax structure and tax burden per capita resulting with different roles of tax policies in fiscal systems of EU states. Those differences are particularly evident between "old" (EU-15) and "new" (EU-13) member states. Tax systems of the EU-15 member states are older, more inert, stabile, but relatively complex and comprehensive. On the contrary, the tax systems of the EU-13 member states are younger and generally much simpler, but not necessarily more efficient. In terms of the tax structure, most EU-15 member states raise roughly equal shares of tax revenues from direct taxes, indirect taxes, and social contributions, while

the EU-13 member states often display a substantially lower share of direct taxes in total tax revenues.

Different characteristics of the tax systems resulted with different tax policy responses and reform measures taken in order to mitigate the effects of the recession on government budgets. This chapter provides an in depth comparative analysis of tax policy measures taken in the period of recession.

In order to precisely define those differences we will take into consideration reforms taken in three major tax forms (personal and corporate income tax) and value added tax as well as other relevant measures related to tax policy.

The remainder of the chapter is organized as follows. Section 2 summarizes the extant literature on the determinants of tax policy in the EU; Section 3 presents comparative evidence on taxation trends in the EU-13 member states. Section 4 gives some concluding recommendations.

2. THEORETICAL BASICS

The recent financial crisis has put once again tax policy in the limelight. So the role of the fiscal policy has been rethinking by many authors. Feldstein (2009) argues that good tax policy can contribute to ending the recession and Auerbach (2012) presents arguments which confirm that fiscal policy may be especially effective in recession.

According to the dominant view higher taxes on top personal incomes, corporate income and wealth are detrimental to growth and employment. But the issue of tax cuts or tax increases is very politically charged, and connected with the role of government and different views about inequality. The new financial crisis made these inequalities worse in innumerable ways, beyond the higher unemployment, lost homes, stagnating wages (Stiglitz, 2012: 3).

We can expected that tax changes aimed to progressive taxation of tax payers with bigger ability to pay will led to more equity and tax justice, although such measures can also easily led to another unwanted outcome; tax avoidance and tax evasion. Because the top income earners are usually not happy with such tax justice and will use all available mechanisms of pressure authorities to lower their tax burden. Alvaredo et al. (2013) consider in their work the growing bargaining power of top income earners. Piketty et al. (2011) develop a model, in order to compute the optimal marginal tax rate, which integrates a supply side effects (real behavioral adjustments), a tax avoidance effect and a compensation bargaining effect.

Empirical studies about effects of tax or fiscal policy on growth and economic recovery are few. Kneller et al. (1999) suggest that the mix between income taxes and consumption taxes can affect long-run growth. Recent theory from Arnold et al. (2011) demonstrates that economic growth can be increased if the tax base is gradually moved towards consumption and immovable property[1]. It must be noted that they also conclude that growth can be enhanced if the design of income taxes is improved. Gemmel et al. (2011) examine fiscal policy impacts on growth in

[1] By immovable property is especially meant residential property.

OECD countries and suggest that positive growth effects associated with productive public expenditure changes have often been approximately counteracted by tax changes with negative effects.

Also it must be mentioned the standard argument against the progressive income taxation which is if taxpayer knows that more working hours and more effort results with bigger taxis he will substitute work with leisure. However some authors have some doubts and remarks about their implementation in real life such as Corneo (2005: 17). He argues that substitution effect is only relevant as long as a person's working potential is not exhausted.

Studies which examine the determinants and economic outcomes of large fiscal adjustments are many, e.g. Alesina and Perotti (1995), Giavazzi, Jappelli, and Pagano (2000), Mountford and Uhlig (2008), Romer and Romer (2010), Alesina and Ardagna (2013). We use Romer and Romer (2010) paper on the impact of tax changes on economic activity as a starting point of our investigation because they manage to measure effects of tax changes, which is extremely complicated. Tax changes can occur for many reasons and some of them are legislative[2] and some occurring automatically[3]. It is also very difficult to isolate factors that give rise to tax changes from other developments in economy.

3. ANALYSIS OF TAX CHANGES IN THE EU-13 MEMBER STATES DURING THE CRISIS

Having in sight the fact that the financial crises has influenced tax systems of the EU-13 member states with the differing intensity, the EU-13 member states have applied varying tax reform measures to cope with the consequences of the crises. Although the measures used in certain states were quite extensive and encroached all possible spheres of tax systems, we are dealing with those conducted in the system of personal income tax (PIT), corporate income tax (CIT) and value added tax (VAT).

Policymakers were primarily concerned with the effects of tax changes on revenues in the observed period (2008-2012). Of course most tax changes are induced to promote growth and as response to reductions in spending. Romer and Romer (2010) suggest that tax changes have very large effects on output.

Within three major tax forms both tax increases and tax cuts have been introduced over the observed period, and in some cases that happened even in the same tax form. Furthermore, base-narrowing measures have been most common for PIT and CIT, because the member states are not limited in those tax forms as for instance in partly harmonized EU taxes such as VAT or excise duties.

Some EU-13 economies have adopted a flat tax rate system and collect less revenue from direct taxes, because of lower direct tax rates.[4] While the overall tax

[2] Some legislated tax changes are passed for instance to reduce an inherited budget deficit or because the economy is weak, or because of the war or some natural disaster government spending is rising.

[3] They can occur because the tax base varies with the overall level of income, or because of inflation etc.

[4] In 2011 the lowest shares of direct taxes (Eurostat, 2013) were in Lithuania (only 17% of the total, markedly down from 31% in 2008), Bulgaria (18.9% of the total), Hungary (18.7%) and Slovakia (19.1%).

levels are lower in the EU-13 member states, this may not apply to labor taxation, since in Hungary and the Czech Republic implicit tax rates are well above the EU average. Croatia, which gained accession to the European Union in 2013, shares some above mentioned characteristics of other EU-13 tax systems, but has some idiosyncrasies. One of them is the large share of consumption taxes in total taxes and tax treatment of capital income which is in general a little more favorable than in other transition countries. In addition, tax systems in the EU-13 are relatively unstable as these economies made very frequentaly tax changes (Table 1).

Table 1. CIT tax changes in the period of recession

CORPORATE INCOME TAX				
I. Statutory rate				
	2008 - 2009	**2009 - 2010**	**2010 - 2011**	**2011 - 2012**
Increase		Lithuania	Hungary	
Decrease	Czech Republic	Slovenia, Czech Republic		Latvia
II. Base or special regimes				
	2008 - 2009	**2009 - 2010**	**2010 - 2011**	**2011 - 2012**
Base	Estonia		Hungary	
Exemptions and tax abolishments		Czech Republic	Cyprus, Hungary	

Source: authors according to the Eurostat data.

As for the personal income tax, one of the most common types of measure was the direct support of household purchasing power by reductions in the PIT. This was mostly achieved through increases in allowances rather than cuts in rates because this measure has larger impact on low-income households. In few countries PIT rates were increased but only for the categories of high incomes (Table 2).

Table 2. PIT tax changes in the period of recession

PERSONAL INCOME TAX				
I. Statutory rate				
	2008 - 2009	**2009 - 2010**	**2010 - 2011**	**2011 - 2012**
Increase			Cyprus, Latvia	
Decrease	Lithuania	Lithuania, Poland, Latvia	Hungary, Croatia	Hungary, Latvia
II. Base or special regimes				
	2008 - 2009	**2009 - 2010**	**2010 - 2011**	**2011 - 2012**
Base	Czech Republic	Malta	Bulgaria, Croatia	Hungary
Exemptions and tax abolishments, personal allowance	Cyprus, Estonia		Estonia, Bulgaria, Croatia	Lithuania

Source: authors according to the Eurostat data.

In the case of VAT in most countries standard tax rates were increased but in some countries base narrowing measures were introduced[5]. Implications of the measures that increased standard VAT rates have larger positive impact on revenue collection than base narrowing measures (Table 3). Due to a crisis several governments introduced measures with an explicit end date, in order to encourage spending by consumers and businesses in the short term.

Table 3. VAT tax changes in the period of recession

VALUE ADDED TAX				
I. Statutory rate				
	2008 - 2009	**2009 - 2010**	**2010 - 2011**	**2011 - 2012**
Increase		Lithuania, Estonia, Hungary, Latvia	Czech Republic, Croatia	Poland, Slovakia, Latvia
Decrease				
II. Base or special regimes				
	2008 - 2009	**2009 - 2010**	**2010 - 2011**	**2011 - 2012**
Exemptions and tax abolishments		Lithuania		
Reduced rate	Hungary	Estonia, Latvia	Malta, Cyprus, Hungary	Poland, Romania, Slovakia, Latvia, Bulgaria

Source: authors according to the Eurostat data.

In **Lithuania** in 2007 proportional PIT rate was 27%, while in 2008 it decreased to 24%. In 2009 PIT rate was further decreased to 15%, except the dividend income which was taxable at the rate of 20%. In 2011 capital gains accomplished from the real estate sales bought after 1 January 2011 and kept for at least five years before the sale, were exempted from the taxation. Furthermore, since the beginning of 2012 individuals pay 1% tax on the immovable property whose value is greater than 1 million Euro. In 2008, CIT rate was 15% and in 2009 it increased to 20%. In 2008 VAT rate was 18% with two reduced rates, 9% and 5%. More serious changes occurred in 2009 when VAT rate increased to 19% and the reduced rates were abolished. Since September 2009 VAT rate is 21%.

In **Malta** PIT rates differ for: (1) married couples who optioned for joint assessment; (2) singles or married couples who optioned for separate computation. In 2008 PIT rates for the first group varied from 0% to 35%; 0% for the income of 11.400 Euro; 15% for the income between 11.401 and 20.500 Euro; 25% for the income between 20.501 and 28.000 Euro; and 35% for the income over 28.000 Euro. For the other group rates also varied from 0% to 35%, but with different income classification; 0% on income between 8.151 and 14.000; 15% on income between 14.001 and 40.000; 25% on income between 41.001 and 19.000; and 35% on income over 19.000 Euro. In 2009 the income classes changed. For the first

[5] Base narrowing was in some countries also connected with reduction of tax burden on staples.

group classes changed to 0% from 0-11.900 Euro; 15% from 11.901-21.200; 25% from 21.201-28.700 and 35% over 28.701. For the other group classes were determined as follows; 0% from 0-8.500, 15% from 8.501-14.500; 25% from 14.501-19.500 and 35% over 19.501 Euro. In 2012 Malta introduced special income class for the parents with underage children. CIT rate in Malta is 35% and did not change during the observed period. Standard VAT rate in Malta is 18% and they also use reduced rate of 5% and 0%. In 2010 they introduced another reduced rate of 7% which applies for hotel and apartment accommodation.

In 2008 PIT rate in **Poland** varied from 19-40%, depending on the level of income. Since the beginning of 2009 PIT rates changed to 18% and 32%. The CIT rate in 2008 was 19% and remained the same during the observed period. Standard VAT rate in 2008 was 22%. They also used two reduced rates; 7% and 3%. In 2011 standard VAT rate increased to 23%, while the reduced rates increased to 8% and 5%.

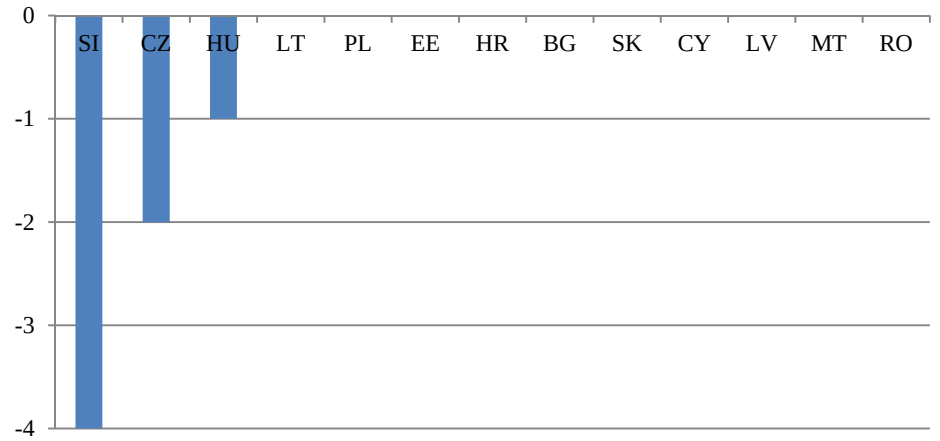

Figure 1. Changes in adjusted top statutory tax rate on corporate income from 2008 to 2012 in %
Source: authors according to the Eurostat data.

In 2008 PIT and CIT rates in **Romania** were 16%. In 2012 Romania introduced some changes in the taxation system but the PIT and CIT rates remained the same. Standard VAT rate was 19% and they also used reduced rate of 9%. However, in 2012 standard VAT rate increased to 24% and in addition to the reduced rate of 9%, they introduced reduced rate of 5%.

Slovakia introduced a flat tax rate of 19% on personal and corporate income in 2004. PIT and CIT rates in Slovakia did not changed in the observed period. In 2011 Slovakia increased VAT rate from 19% to 20% as a measure of reducing public debt. They also introduced a reduced rate of 10%. In 2012 there were no significant changes in their taxation system.

In 2008 **Slovenia** was using progressive PIT rate with rates varying from 16%-41%. In the same year, CIT rate was 22% and then in 2009 it decreased to 20%. In 2012 CIT rate decreased to 18%. Standard VAT rate in 2008 was equal to 20% and they were also using a reduced rate of 8.5%.

In **Cyprus** in 2008 income below 19.500 Euro was exempted of PIT. PIT rates were varying from 20-25%; 20% from 19.501-28.000 Euro; 25% from 28.001- 36.300 Euro. In 2010 Cyprus introduced another PIT tax rate of 30% which was used on incomes over 36.301 Euro. Furthermore, in 2008 CIT rate was 10% for the corporations and 25% for the semi-government organizations. In 2010 the CIT for the semi-government organizations was abolished. The standard VAT rate in 2008 was 15% with reduced rates of 5% and 0%. In 2010 Cyprus introduced another reduced rate of 8% which is used for taxation of provision services, taxi transport and touristic and rural bus transport. In 2012 the standard VAT rate increased to 17% while the reduced rates remained the same.

Until 2007, the **Czech Republic** applied progressive personal income taxation with four brackets, where the top rate was 32%. A flat tax rate of 15% was introduced in 2008. A joint tax return of married couple is not possible in the Czech Republic since then. The CIT rate was gradually reduced from 24% in 2007 to 20% in 2009. The rate for all withholding taxes is 15 %, and the reduced rate is 5%. In 2010 the CIT rate further decreased to 19%. In 2008 standard VAT rate was 19% and the reduced rate was 9%. In 2010 VAT rates increased, the standard rate increased to 20% and the reduced rate to 14% and they remained the same in the following period.

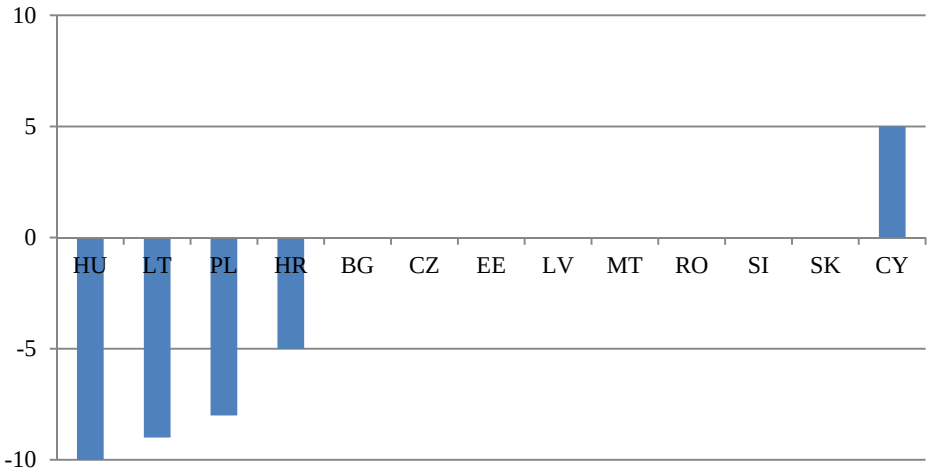

Figure 2. Changes in top personal income tax rates in EU-13 from 2008-2012 in %
Source: authors according to the Eurostat data.

Estonia is one of the member states applying a flat rate system to the PIT. The single tax rate, 22% in 2007 and 21% in 2008, is applied on all labor and personal capital income (dividends, interests, capital gains, royalties etc.). Only income exceeding a given threshold is taxed. The amount of the basic allowance has been increased yearly from 767 Euro in 2003 to 1.535 Euro in 2006 and 1.726 Euro for 2008-2010. From 2008 onwards an additional allowance (same amount as basic allowance) is given to one resident parent for each child of up to 17 years of age,

starting with the first child. In 2010 Estonia cancelled the additional basic allowance for the first child. The personal income tax rate remains at 21%, and the increase of the basic allowance is suspended. The CIT rate is the same rate as the personal income rate, i.e. at 21% in 2008 and since. The standard VAT rate has been stable since 1992 at 18% and the 5% reduced rate till 2009 when the reduced VAT rate increased from 5% to 9%, narrowing of the range of goods to which the reduced rate is applicable and the standard VAT rate increased to 20 %.

As from 2007 in **Hungary** income up to 6.800 Euro is taxed at 18 % rate, whereas above that threshold the rate is 36%. This highest rate decreased 2 percentage points in 2006 from the previous 38%. However from 2007 onwards private persons with a combined annual income of more than 28.000 Euro must pay solidarity tax. The tax base is the portion of the income over 28.000 Euro, the tax rate is 4%. There is no basic allowance. In 2010 PIT rates decreased to 17% and 32%. On 1 January 2011 the progressive PIT system was replaced by a 16% flat rate system which applied not only to salaries but also to all categories of income subject to PIT such as sale of real estate, dividends and interests, and has been used since. Hungary has an established position as a low-tax country, given that it introduced a corporate tax rate of 18% already in 1995, further reduced to 16 % as of 2004. Under certain conditions the tax payer may use a tax rate of 10 % for the tax base of 200.000 Euro. In 2010 CIT rate increased from 16% to 19%. The 4% solidarity tax for corporations and private persons with high income was abolished. In 2011 a tax rate of 10 % is still applicable to income below a certain threshold but as of 1 July 2010 this threshold was increased from 180.000 Euro to 0.9 million Euro for the second half of 2010, and to 1.8 million Euro as of 2011. In 2008 standard VAT rate was 20% and the reduced 5%. As of 1 July 2009, the standard VAT rate was increased from 20% to 25%. In addition a reduced 18% VAT rate was introduced for dairy and bakery products. The reduced VAT rate of 18% is applicable for public accommodation services (as of 9 July 2009) and for district heating (as of 1 August 2009). As of 15 January 2010, the reduced VAT rate of 5% is applicable for district heating. In 2012 VAT rate increased further, from 25% to 27%, therefore Hungary became a country with highest VAT rate in EU.

Latvia has applied a flat rate of 25% since 1995. The non-taxable minimum of the personal income tax and the children allowances have been corrected upwards. In 2009 PIT rate decreased from 25% to 23% and the basic tax allowance for dependent persons and the disability allowances increased. In 2010 the PIT rate increased from 23% to 26%. The tax rate on individuals' business income increased from 15% to 26%. The benefit gained from the private use of a company car is included into the PIT and SSC tax base and a 15% tax to capital gains and a 10% tax to dividends and income from interests was introduced. Furthermore, Latvia introduced taxation of gifts exceeding LVL 1 000 per year, if received from persons not related to the recipient by marriage of from persons other than relatives up to the third degree and changed to the tax incentives for savings (with private pension funds, insurance companies and investment funds). From 1 January 2011 the PIT tax rate has been reduced from 26% to 25%. The tax rate on individuals' business

income was reduced accordingly to 25%. A 15% tax rate is applying to capital gains and the 10% tax rate - to other income from capital (e.g. dividends, interest payments and income from pension and life insurance funds and income from disposal of growing wood or timber). Latvia has reduced its corporate income tax rate from 25% in 2001 to 22% in 2002, 19% in 2003 and 15% since 2004. The standard VAT rate has been 18% since 1995. In 2009 the standard VAT rate increased from 18 % to 21%. Also, there was an increase in the reduced VAT rate from 5 % to 10 %. Various types of goods have been made ineligible for the reduced rate. In 2011 the standard VAT rate increased to 22%, and the reduced to 12%. In 2012 the standard VAT rate was once again changed to 21%.

Since 2008 **Bulgaria** applies 10% flat rate for personal income. In 2010 they introduced mortgage interest deduction for dwellings of young families. Furthermore, a reporting obligation is put on individuals to declare received/extended loans (above certain amount), which are not paid back and the current exemption for producers of unprocessed agricultural products is substituted by a tax base reduction of 60%. Also, the taxable income of seamen is decreased by 90%. In the course of the last decade, CIT in Bulgaria has become increasingly favorable to business. Starting from the 40% rate in 1995 for large enterprises, the rate was lowered almost every year to reach the 10% rate applicable as from 1 January 2007. In 2010 there was an increase of the tax rate on the gross proceeds from gambling from 10% to 15%. The lump-sum taxes on some gambling machines were also increased. The VAT system has been in place in Bulgaria since 1994 and has been amended a number of times. The standard rate is 20% and the only reduced rate is 9%. The latter applies to hotel accommodation and was increased from 7% in April 2011.

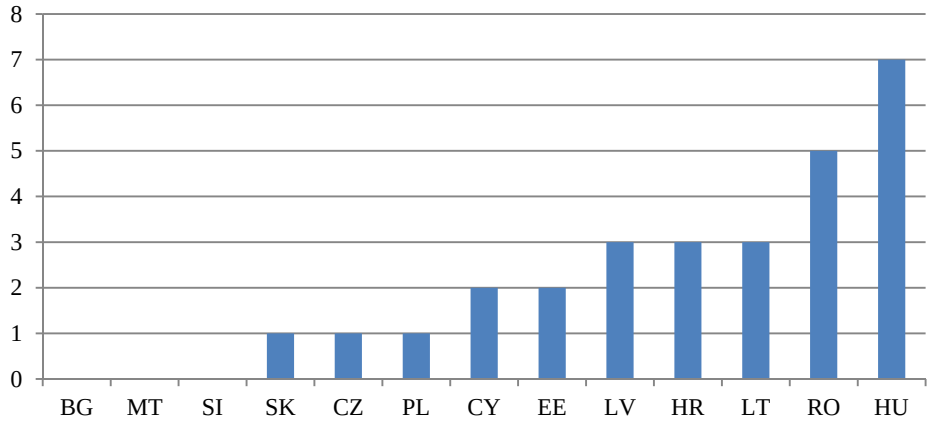

Figure 3. Changes in standard VAT rates in EU-13 from 2008 to 2012 in %
Source: authors according to the Eurostat data.

PIT rate in **Croatia**, as well as other conditions, was changed many times. In the period 2008-2010 there were four income classes. At that time, personal allowance was 1.800 HRK. The PIT rate varied from 15% to 45%, depending on the

Table 4. PIT, CIT and VAT tax rate changes in the period of recession

EU-13	Tax	2008-2009	2009-2010	2010-2011	2011-2012
Bulgaria	PIT	10%			
	CIT	10%		15%	
	VAT	20%			
	reduced VAT rates	9%			
Croatia	PIT	15%-45%		12%-40%	
	CIT	20%			
	VAT	22%		23%	
	reduced VAT rates	10% and 0%			
Cyprus	PIT	20%-25%	20%-30%		
	CIT	10% and 25%		10%	
	VAT	15%			
	reduced VAT rates	5% and 0%		8%, 5% and 0%	
Czech Republic	PIT	15%			
	CIT	24%	20%	19%	
	VAT	19%		20%	
	reduced VAT rates	9%		14%	
Estonia	PIT	21%		21%	
	CIT				
	VAT	18%	20%		
	reduced VAT rates	5%	9%		
Hungary	PIT			17% and 32%	16% and 32%
	CIT			19%	
	VAT	20%	25%		
	reduced VAT rates	5%			
Latvia	PIT	25%	23%	26%	
	CIT			26%	25%
	VAT	18%	21%		22%
	reduced VAT rates		10%		12%
Lithuania	PIT	24%	15%		
	CIT	15%	20%		
	VAT	18%	19%	21%	
	reduced VAT rates	9% and 5%			
Malta	PIT	0%-35%			
	CIT	35%			
	VAT	18%			
	reduced VAT rates	5% and 0%		7%, 5% and 0%	
Poland	PIT	19%-40%	18%-32%		
	CIT	19%			
	VAT	22%			23%
	reduced VAT rates	7% and 3%			8% and 5%
Romania	PIT	16%			
	CIT	16%			
	VAT	19%			
	reduced VAT rates	9%			
Slovakia	PIT	19%			
	CIT	19%			
	VAT				20%
	reduced VAT rates				10%
Slovenia	PIT	16%-41%			
	CIT	22%	20%		
	VAT	20%			
	reduced VAT rates	8,50%			

Source: authors according to the Eurostat data.

level of monthly income; 15% on income between 0-3.600 HRK; 25% on income between 3.600-9.000 HRK; 35% on income between 9.000-25.200 HRK and 45% over 25.200 HRK. Since 2010 till 2012 PIT rate varied from 12-40%; 12% on income between 0-3.600 HRK; 25% on income between 3.600-10.800 HRK and 40% on income over 10.800 HRK. In 2012 basic allowance increased to 2.200 HRK and the classes organization changed as follows: 12% on income between 0-2.200; 25% on income between 2.201-8.800 HRK and 40% on income over 8.800 HRK. Croatia has applied CIT rate of 20% since 2000. In 2008 standard VAT rate was 22%, and the reduced rates were 10% and 0%. Entering the EU, due to the tax harmonization, Croatia replaced the 0% rate with a 5% reduced rate. Croatia increased the VAT rate twice; in 2010 from 22% to 23%, and in 2012 from 23% at 25%. Since 2012 standard VAT rate is 25%, and the reduced rates are 10% and 5%.

4. CONCLUSIONS

The aim of this paper was to identify tax changes during the recent financial crisis across EU-13 member states. The first step in the analysis was to identify legislated tax changes in the period 2008-2012. To do this, we simply look for tax changes in three major tax forms personal income tax, corporate income tax and value added tax. We limit ourselves to actions taken in those taxes because they generate the highest share of tax revenue in all observed countries and should provide a satisfactory insight into the importance of certain reform measures.

The recent financial and fiscal crises have changed taxation trends in a large number of EU member states. It should be noted that member states have been hit differently by the crisis depending mostly on the different degree of macroeconomic imbalances ascendant in the economy. Therefore policy responses varied among them and were strongly connected with macroeconomic and fiscal conditions.

Most EU-13 member states have been trying to consolidate public finance and improve their tax systems in more growth-friendly way. An interesting phenomenon is that increase in indirect taxes does not seem to be accompanied by corresponding cuts in labor taxation which would lead to reduction of labor costs.

The reforms related to CIT are primarily focused on narrowing the tax base in response to the prolonged impact of the crisis on private sector investment. Regarding to the VAT reforms we can see the increase of standard tax rates rather than a broadening of the tax base, because this measures have larger positive impact on revenue collection than base narrowing measures. We can conclude that one of the effects crisis have on tax systems is reinforcement of the trend towards higher consumption taxes.

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Footwear market in the Visegrad Group countries and the Republic of Croatia

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Abstract:

The main objective of the paper is to analyze the position of relevant countries of the footwear sector at a world and European level in terms of the different variables and evaluate the strategic positioning of the different sector players. The paper offers a comprehensive picture of the footwear industry worldwide, focusing on the main trends at international trade, consumption and production. Also, the paper examines the position of the Republic of Croatia and the Visegrad group countires in the context of international trade, consumption and production of the footwear. The paper is essentially data-driven, and includes a synthetic description and analyse of the structure of the sector and of the different competitive factors affecting the sector's evolution.

Keywords: footwear market; footwear industry; Visegrad Group; Croatia
JEL codes: L67, L81

1. INTRODUCTION

The footwear industry covers a wide variety of materials (textile, plastics, rubber, and leather) and products from different types of footwear products. It is a small manufacturing sector that belongs to the core of light industry (Anić, Rajh, 2008: 223). According to Gottfridsson and Zhang (2015), globalization of the shoe industry has resulted in a supply chain in which processes might be spread all over the world. With the widespread adoption of information and communication technologies, computers and process automation, footwear production modernized, particularly in terms of quality of the manufactured products, flexibility of production, level of control on the various processes, consistency and constancy of the quality of the delivered products (Boer and Dulio, 2007: 7). The global footwear industry has been experiencing rapid expansion over the last five-year period, primarily due to rapid demand for new and innovative footwear products worldwide. The critical driving factor that may dominate the footwear business is an increasing competitive pressure from low labor cost producers, especially from China and the Far East

(Wang and Tseng, 2013: 625), which resulted in a market push toward further diversification and demands for higher-quality products. According to Kieserling (2013: 665) it was easy shifting production sites to places of the cheapest labor, since basic skills are relatively easy to train.

The main objective of the paper is to analyze the position of relevant countries of the footwear sector at a world and European level in terms of the different variables (production, exports, imports and consumption) and evaluate the strategic positioning of the different sector players. Also, the paper examines the position of the Republic of Croatia and the Visegrad Group countries in the context of international trade, consumption and production of footwear.

The paper is organised in three sections. At first, leading global footwear producers and consumers are examined. This part of the paper analyzes the structure and distribution of the global footwear production and consumption. Second part of the paper examined the European Union footwear production, imports and exports. This chapter regroups the latest data describing the main market indicators of the sector. Finally, market indicators of the footwear industry in Visegrad Group countries and Republic of Croatia are analyzed within the third part of the paper. This chapter provides an updated analysis of the footwear sector among listed countries, taking into consideration the most relevant indicators showing the market dynamics in terms of footwear production and consumption, divided in seven sub chapters. The paper is essentially data-driven, and includes a synthetic description and analyse of the structure of the sector and of the different competitive factors affecting the sector's evolution.

2. LEADING GLOBAL FOOTWEAR PRODUCERS AND CONSUMERS

Leading global footwear manufacturers are located in the Far East where the development of the footwear industry was primarily based on a cheap labor. In the 1960s, Japan was the world's main low-cost footwear supplier. The success of Japan allowed the market positioning of the leading footwear manufacturers form the Asian continent over time. Some of the Asian countries were taking on and losing the role of the world's leading footwear manufacturer, such as South Korea and Taiwan. The key reason for losing the market position of those two countries was a disruption in the supply chain that occurred in the late 1990's (Ujević et al., 2015). The consequences of the disorder were inability to supply the US footwear market at the agreed time and the agreed price, which resulted in the fall in consumer loyalty and losing positions in the global footwear market. At the same time, by the liberalization of economic policies China became the world's first footwear manufacturer and exporter.

Footwear manufacture is one of the most globalized industries (Markkanen, 2009: 6). Geographically highly concentrated world footwear production reached 23 billion pairs in 2015. This can be supported by the fact that 86.8% of the total world footwear production in 2015 was produced in Asian countries, mainly in China and India. But, it is important to emphasize that the market share of China fell to a record low 59.1% of the world production in 2015 (APICCAPS 2016: 3). Most of these

shoes are synthetic (over 60%) and of low quality and price (Global Footwear Analysis and Jordan, 2012: 1). Table 1 contains information on the leading footwear manufacturers and their shares in the world footwear production in 2015.

Table 1. Leading 10 global footwear producers in 2015

Rank	Country	Million pairs produced	Share in the production	
			Leading 10	World
1.	China	13,581	66,84	59,04
2.	India	2,200	10,82	9,56
3.	Vietnam	1,140	5,61	4,95
4.	Indonesia	1,000	4,92	4,34
5.	Brazil	877	4,31	3,81
6.	Pakistan	366	1,80	1,59
7.	Bangladesh	353	1,73	1,53
8.	Turkey	350	1,72	1,52
9.	Mexico	251	1,23	1,09
10.	Thailand	200	0,98	0,86
Leading 10		20,318	100,00	88,33
World		23,000		

Source: own work on the basis of the: https://www.statista.com/statistics/227256/leading-10-global-footwear-producers-by-country/ (accessed 23. September 2016).

It is evident from the Table 1 that India, Vietnam and Indonesia reinforced their positions. There is now no European country in the table of the top 10 world footwear producers because Thailand replaced Italy at the bottom of this table. The growth in the import of shoes in the European countries is a reason for concern. For example, in traditional shoe making nations like Italy and Spain, shoe imports grew at between 8% and 10%, with the result that increasing amounts of Asian shoes were consumed every year in countries with a long tradition in shoe making and a still-active footwear industry. In Italy, for example, for the first time in 2004 the amount of the shoes imported exceeded those exported, which created a negative trade balance, which occurred as a consequence of the progressive repositioning of Italian shoe production towards the upper segments of the market (Boer and Dulio, 2007: 14). Except Brazil and Mexico (with 6% share in the top ten world producers) all other are Asian countries. The majority of the world footwear production is located in Asia, with high 94.42% in top ten world producers. The strengthening of world footwear production is confirmed by the 84% increase in ten year period, from 12.5 billion pairs in 2002 to 23 billion pairs produced in 2015.

The concept of “big three” in global footwear industry refers to countries such as China, India and Indonesia. The data contained in Table 1 shows that Vietnam took the third position by produced pairs of footwear in 2015 ahead of Brazil and Indonesia. Indonesia is the fourth country in the “big four”. These concepts are related to the value of exported footwear produced in each of these countries. The share of “big three” represented just over 2/3 of total world production in 2015. China achieves a continuous increase in the value of footwear exports and its share in the “big four” was 75.8% and 59% in the world footwear production.

When talking about the category of footwear consumption, the world's largest consumer of footwear is China. China appears in a double role: (1) as the world's largest footwear producer and (2) as the world's largest footwear consumer. With the share of 15.9% in 2011 and 17.3%. in 2012 China occupied the first position in the global footwear consumption. Table 3 shows the footwear consumption in the top ten countries in 2015.

Table 2. Leading 10 global footwear consumers in 2015

Rank	Country	Million pairs consumed	Share in the consumption (leading 10)
1.	China	3,800	30,33
2.	US	2,442	19,49
3.	India	2,196	17,53
4.	Indonesia	826	6,59
5.	Brazil	786	6,27
6.	Japan	660	5,26
7.	UK	560	4,47
8.	Germany	445	3,52
9.	France	422	3,36
10.	Russian Federation	390	3,11
Leading 10		12,527	100,00

Source: https://www.statista.com/statistics/227287/share-of-the-leading-10-global-footwear-consumers-by-country/ (accessed 23. September 2016).

Among the top ten global footwear consumers in 2015, four countries were from the Asian continent with 7.4 billion pairs of shoes (almost 60% of footwear consumption among top ten global consumers): China, India, Japan and Indonesia. According to the World Bank (2015), those countries had 3.066 billion inhabitants in 2015. The largest single footwear consumer was China with 3.8 billion pairs of shoes followed by the USA with 2,442 billion pairs and India with 2,196 billion pairs. Also, three European countries were among the top ten world's leading footwear consumers: Germany, France and the United Kingdom. Their share in a top ten global footwear consumption was 11,35% or 1.427 billion pairs of shoes.

The level of concentration of the top ten footwear consumers is significantly lower than the achieved level of concentration among the top ten footwear producers in total world footwear production. Four of the ten leading lootwear consumers are also on the list of top ten footwear producers, such as: China, India, Brazil and Indonesia. For instance, India produces around 2,200 million pairs of different categories of footwear and exports around 115 million pairs. Thus, nearly 95% of its production goes to meet its own domestic demand (Vanimireddy et al., 2014: 9825).

Table 3 shows the distribution of the world's footwear consumption by continent from 2010 to 2015. There is significant geographic concentration in the global footwear consumption. As the most populous continent, Asia covered 49% of the total world footwear consumption in 2010, or 53% in 2014. In 2010 Europe occupied the second place with a 20% share in global consumption, while the second position in 2014 shared Europe and North America with 16% share in global foot-

wear consumption. North American countries participated in global footwear consumption with a 17% share, South American and African countries with 7% and Oceania with a 1% share in global footwear consumption.

Table 3. Share of the world's footwear consumption from 2010 to 2014 by continent

Continent	2010	2011	2012	2013	2014
Asia	49%	47%	50%	51%	53%
Europe	20%	21%	17%	17%	16%
North America	17%	17%	15%	15%	16%
South America	8%	8%	8%	7%	7%
Africa	5%	6%	9%	9%	7%
Oceania	1%	1%	1%	1%	1%

Source: https://www.statista.com/statistics/227281/share-of-the-worlds-footwear-consumption-by-continent/ (accessed 23. September 2016).

It can be noted that footwear production significantly exceeds footwear consumption only for the Asian market (87% share in world production compared to 53% share of world footwear consumption). All other continents have significantly higher footwear consumption in relation to its production.

The share of the European market in the world footwear consumption was 16% in 2014. Europe had 7 times higher share in the world footwear consumption than in footwear production. The share of North America in the world footwear consumption (16%) was 8 times higher than its share in the world footwear production. South America and Africa participated in the world footwear consumption with a 7% share or twice as much as in the world footwear production. Therefore, it can be concluded that there are significant differences in the spatial distribution of the world's population and its spatial concentration, which ultimately affects the footwear consumption. Table 4 shows the footwear consumption in the top ten countries at the continental level and their index deviations from the average of the top ten global consumers.

Table 4. The footwear consumption of the top 10 global consumers grouped at the continental level in 2015

Countries	Number of citizens in millions	Number of pairs consumed in millions	Number of pairs consumed per capita
Asia (China, India, Japan, Indonesia)	3 066	7 482	2,44
North America (USA)	321	2 442	7,60
Europe (Germany, France, UK)	213	1 427	6,69
South America (Brazil)	207	786	3,79

Source: own study.

It is understandable that the world's footwear consumption measured in available pairs per capita predominantly affects the purchasing power of the population. Table 4 shows that the United States dominated with an average of 7,60

pairs per capita, followed by the three EU member states (Germany, France, UK) with 6,69 pairs of shoes per capita. As the largest footwear consumer market, Asia had only 2,44 pairs of shoes per capita. Therefore, it can be concluded that the majority of footwear production is located in the Asia and the bulk of consumption is located in Europe and the North American countries.

On the list of the top 15 footwear exporters (Table 5) China was in the first place according to the number of exported footwear (9,878 million pairs) and its share in the total value of the world footwear exports (40,4%). Nine countries on the list are the European countries (Italy, Belgium, Germany, Netherlands, Spain, France, Portugal, UK, and Romania). They participated in the world footwear exports with 27.2% in 2013. But, significantly smaller proportion in the physical export in relation to the share in the value of exports is the result of higher average unit price of exported shoes of European producers in relation to China as the dominant exporting country.

Table 5. Market share of the world's leading 15 footwear exporters (2013-2015)

Rank	Country	Million pairs exported in 2015	Share in the world export value (%) in 2013
1.	China	9,878	40,4
2.	Italy	207	9,0
3.	Vietnam	1,041	8,4
4.	Hong Kong	208	4,1
5.	Belgium	239	3,9
6.	Germany	238	3,7
7.	Indonesia	192	3,2
8.	Netherlands	-	2,7
9.	Spain	-	2,6
10.	France	-	2,3
11.	Portugal	-	1,9
12.	India	206	1,9
13.	UK	194	1,6
14.	Romania	-	1,1
15.	US	-	1
-	Turkey	180	-

Source: https://www.statista.com/statistics/227359/market-share-of-worldwide-leading-footwear-exporters/ (accessed 26. September 2016).

3. THE EUROPEAN UNION FOOTWEAR PRODUCTION, IMPORTS AND EXPORTS

The European Union production of footwear shows a sharp trend of decline in recent years. Main reason is the strong Asian competition with China being currently the world number one footwear producer (Scheer, 2009: 8). On the other side, Europe represents the world's leading import market for footwear and related products. The share of European exports of footwear and related products in total imports was 66.8% for the five-year period, from 2009 to 2013. The attitude of European exports and imports ranged from the lowest 1:1,96 EUR in 2013 to the highest 1:2,81 EUR in 2010. In the observed period Europe continuously had a negative balance of ex-

ports in relation to the imports. Table 6 shows the trends in EU-27 (2011.-2012.) and EU-28 (2013.-2015.) footwear imports and exports from 2011 to 2015.

Table 6. Imports and exports of footwear, gaiters and the like (in thousands of €)

Year	Imports (in thousands of €)	Exports (in thousands of €)	Balance (in thousands of €)
2011	15,012,421	6,217,195	-8,795,226
2012	15,667,220	7,451,235	-8,215,985
2013	15,665,802	8,067,898	-7,597,905
2014	17,373,284	8,302,922	-9,070,363
2015	12,321,988	5,533,897	-6,788,091

Source: adapted from European Commission - Enterprise Directorate, Trade report comparision per year (yearly totals).

The growth of European imports in relation to the growth in footwear exports was significantly slower, especially in 2013 when imports increased by 9.1% and exports increased by 52.6% in comparison to 2009. A consequence of slower growth of imports compared to exports is continuous reduction of the negative balance of footwear exports over imports. The slowdown in footwear imports is partly a consequence of the recession in the European market. The negative balance in 2013 decreased by 17.2% compared to the observed base year and increased by 19.3% in 2014 compared to previous year. Finally, the negative balance decreased by 10.6% in 2015 compared to 2014.

Table 7. Imports and exports of footwear, gaiters and the like (in trousands of kg)

Year	Imports (in thousands of kg)	Exports (in thousands of kg)	Balance (in thousands of kg)
2011	1,531,211	179,367	-1,351,844
2012	1,356,951	224,781	-1,132,170
2013	1,679,275	237,410	-1,441,865
2014	1,539,805	233,792	-1,306,013
2015	921,059	145,239	-775,820

Source: adapted from European Commission-Enterprise Directorate, Trade report comparision per year (yearly totals).

Export and import markets are more or less remote. Therefore, transporters must take into account the weight of shoes that must be transported. In the observed period from 2011 to 2015 Europe has continuously achieved negative balance of exports over imports according to the weight of imported and exported footwear. The negative balance amounted 1,441 million tons of footwear in 2013. The data in Table 7 shows that the weight of the exported footwear from EU-27 (2011.-2012.) and EU-28 (2013.-2015.) grew faster than the weight of imported footwear.

Among the top five most important EU import footwear markets are the “big four” Asian countries: China, Vietnam, India and Indonesia. The EU footwear demand is covered with over 62% of the footwear production in the EU member

states. Table 8 shows detailed information on the top five footwear purchasing markets for the EU-27 (2011.-2012.) and EU-28 (2013.-2015.) countries.

Table 8. Imports from 5 main suppliers (in thousands of €)

Suppliers	Year				
	2011	2012	2013	2014	2015
EU	19,897,620	20,722,437	22,189,231	25,084,716	17,346,607
China	7,523,031	7,864,089	7,729,873	8,263,356	5,684,597
Vietnam	1,824,784	2,113,581	2,189,699	2,777,814	2,163,869
Indonesia	1,026,472	1,237,838	1,212,672	1,256,286	988,739
India	1,236,901	1,110,485	1,176,759	1,349,252	884,086
Total first 5 suppliers	31,508,808	33,048,430	34,498,234	38,731,424	27,067,898

Source: adapted from European Commission-Enterprise Directorate, Trade report comparision per year (yearly totals).

Table 9. Imports from 5 main suppliers (in thousands of kg)

Suppliers	Year				
	2011	2012	2013	2014	2015
EU	927,342	969,890	1,136,460	1,215,609	762,637
China	1,050,184	909,216	1,224,620	1,011,268	576,068
Vietnam	138,982	133,347	137,051	166,877	113,116
Indonesia	69,603	75,574	75,665	78,305	59,177
India	75,676	63,645	67,726	78,554	46,516
Total first 5 suppliers	2,261,787	2,151,672	2,641,521	2,550,613	1,557,514

Source: adapted from European Commission-Enterprise Directorate, Trade report comparision per year (yearly totals).

Table 9 provides information on the top five footwear suppliers for the EU-27 (2011.-2012.) and EU-28 (2013.-2015.) market according to the weight of imported footwear. With the exception in 2012, China was a leading supplier for EU footwear market according to weight of imported footwear with 36-46% share among the top five suppliers. 85-89% of the total weight of shoes sold on the EU market between 2011 and 2015 originated from Europe and China. European Union market is the main market for footwear and similar products produced in EU Member States. There is a high level of concentration of footwear produced in the European Union on the EU market, with 41-48% share among the top five suppliers between 2011 and 2015.

With the exception of 2013, the US market was in a second place for footwear produced in EU, with approximately 4% of total value of footwear exported to top five markets. The exception was 2013, the year in which Russian market achieved a 4,8% share in sales value of the top five markets for footwear produced in the EU-27 (2011.-2012.) and EU-28 (2013.-2015.) countries (Table 10).

It can be seen from the Table 10 that the actual sales of footwear produced in the EU Member States in the first five sales markets continuously increased from 2011 to 2014, while 2015 showed significant drop of almost 30% compared to 2014.

The realized value of footwear sales is an indicator of the significance of individual sales markets. Furthermore, the significance of individual sales market can be

measured according to weight of footwear distributed to individual sales markets. The majority of footwear produced in the EU Member States is sold on the same market, with the share of 91-93% in the observed period from 2011 to 2015. Table 11 shows the distribution of footwear produced in the EU-27 (2011.-2012.) and EU-28 (2013.-2015.) countires among five leading retail markets in the observed period.

Table 10. Main 5 markets for footwear produced in EU (in thousands of €)

Markets	Year				
	2011	2012	2013	2014	2015
EU	22,871,308	23,096,350	24,936,841	27,866,887	19,045,896
USA	1,069,117	1,193,246	1,274,827	1,445,013	1,255,480
Switzerland	920,461	1,063,362	1,118,457	1,192,730	1,195,473
Russia	913,067	1,128,466	1,290,914	1,051,390	565,770
Hong Kong	329,340	399,262	434,066	514,314	388,881
Total first 5 markets	26,103,293	26,880,686	29,055,105	32,070,334	22,451,500

Source: adapted from European Commission-Enterprise Directorate, Trade report comparision per year (yearly totals).

Table 11. Main 5 markets for footwear produced in EU (in thousands of kg)

Markets	Year				
	2011	2012	2013	2014	2015
EU	993,941	890,603	988,563	1,104,786	680,462
Switzerland	20,793	21,012	21,785	21,766	19,262
USA	19,340	20,138	20,494	23,459	18,496
Russia	19,786	24,917	30,325	25,248	13,892
Turkey	10,972	11,647	15,521	15,411	13,207
Total first 5 markets	1,064,832	968,317	1,076,688	1,190,670	745,319

Source: adapted from European Commission-Enterprise Directorate, Trade report comparision per year (yearly totals).

4. MARKET INDICATORS OF THE FOOTWEAR INDUSTRY IN VISEGRAD GROUP COUNTRIES AND REPUBLIC OF CROATIA

Footwear export – import ratio in the analyzed countries

The information contained in Table 12 shows that the five countries analyzed can be divided into two groups according to the export – import ratio. Hungary and Slovakia are in the first group that had more footwear export than import. Slovakia is at the forefront with the value of footwear export 85.8% higher than the recorded value of imports in 2011. The second group of countries contains two member states of the Visegrad Group (the Czech Republic and Poland) and Croatia. The lowest coverage of imports by exports was in Poland that had 49.3% lower export than import i.e. realized coefficient of import-export coverage was 50.7%. These results confirmed Cieslik et al. (2016, pp.21) estimations that the probability of exporting in Poland depends on the sector of economic activity, where the largest probability of exporting exists in technology sectors such as electrical equipment, motor vehicles or transport equipment.

Visegrad countries had a total import-export coverage ratio at the level of 94.8%, which is significantly better than the Croatian ratio (84.7%) in 2011. Poland and the Czech Republic achieved higher export of footwear in 2015 compared to 2011. Their growth in exports of footwear was higher than their growth in import. Both countries have increased the coverage of imports by exports in 2015 compared to 2011. Hungary and Slovakia reduced the value of exports in 2015 compared to 2011 and increased the value of imports of footwear. Hungarian export of footwear decreased by 12.5% and imports increased by 30.4%, reducing the export-import ratio from 128.8% in 2011 to 86.4% in 2015. Slovakia has reduced the value of exports of footwear by 8.1%, while the value of imports in the same period increased by 27%. This is the only member of the Visegrad Group whose imports of footwear were covered by exports. The coverage of imports by exports decreased from 185.8% in 2011 to 134.7% in 2015.

Table 12. Some indicators of footwear industry in the countries of the Visegrad Group and the Republic of Croatia in 2011 and 2015

Country	Exports (million USD)		Imports (million USD)		Imports covered by exports, %	
	2011	2015	2011	2015	2011	2015
Hungary	385	337	299	390	128,8	86,4
Czech Republic	570	785	790	816	72,2	96,2
Poland	543	955	1070	1475	50,7	64,7
Slovakia	1122	1032	604	766	185,8	134,7
Total: V4	**2620**	**3109**	**2763**	**3447**	**94,8**	**90,2**
Croatia	160	187	189	242	84,7	77,3

Source: adapted from APICCAPS: World Footwear 2012 Yearbook data up to 2011 (pp. 34, 35, 47, 68 and 75) and APICCAPS: World Footwear 2016 Yearbook data up to 2015 (pp. 52, 54, 69, 93 and 101).

The coverage of imports by exports decreased for the Visegrad countries from 94.8% to 90.2%. In the period from 2011 to 2015 the Republic of Croatia reduced the coverage of imports by exports from 84.7% to 77.3%. One can conclude that in the period 2011-2015 significant changes have occurred regarding actual exports and imports of the analyzed countries (for details see Table 12). There are great expectations of the footwear industry in the Croatian economy, since Croatian industrial strategy states that the Croatian footwear exports will amount to 60% of the total industrial activity by 2020, followed by exports of other leather products (Renko et al., 2015: 187).

The consumption of footwear in the analyzed countries

Data on consumption of footwear in the V4 countries and the Republic of Croatia in 2011 are contained in Table 13. The consumption of footwear is measured by footwear per capita. Average consumption of footwear in V4 countries in 2011 was 4.7 pairs of shoes per capita. There were significant deviations from the average consumption of footwear in the V4 countries.

Czech Republic has the highest consumption of footwear with 12.8 pairs of shoes per capita, and Hungary with 2.4 pairs is on the bottom of the V4 countries. The ratio of consumption of footwear in the Czech Republic and Hungary is 5.33:1.00. With 5.8 pairs of shoes per capita Croatia occupied second place. The consumption of footwear in Croatia was 23.4% higher than the average consumption of footwear in the V4 countries.

Table 13. The consumption of footwear in the countries of the Visegrad Group and the Republic of Croatia in 2011 and 2015

Country	Million pairs		Population in millions	Pairs of shoes per capita		Deviation from the average V4 = 100 %	
	2011	2015		2011	2015	2011	2015
Hungary	24	24	10	2,4	2,4	51,06	85,71
Czech Republic	141	44	11	12,8	4,0	272,34	142,86
Poland	108	99	38	2,8	2,6	59,57	96,86
Slovakia	26	11	5	5,2	2,3	110,64	82,14
Total: V4	**299**	**178**	**64**	**4,7**	**2,8**	**100,00**	**100,00**
Croatia	23	18	4	5,8	4,5	123,40	160,71

Source: created by authors on the same source as in Table 13.

The Czech Republic had the highest GDP per capita in 2011, 20,444 USD, followed by Slovakia with 17,644 USD, Croatia with 14,457, Hungary with 14,050 and Poland with 13,540 USD. The amount of disposable income affects consumption. Czech Republic with the highest GDP per capita had the highest consumption of footwear per capita.

There have been significant changes in the consumption of footwear in 2015 compared to 2011 in all of the analysed countries except for Hungary. Hungary retained consumption of footwear at the same level in 2015 as in 2011. In all other countries, the consumption of footwear decreased significantly which resulted in the reduction of the average consumption of footwear per capita. Thus, the average consumption of the Visegrad countries decreased from 4.7 pairs of shoes per capita in 2011 to 2.8 pairs in 2015. In Croatia consumption of footwear decreased from 5.8 pairs in 2011 to 4.5 pairs per capita in 2015 (for details see the information contained in Table 13). The recession and different spending priorities could be the causes of the above mentioned movements.

The relation between production and consumption of footwear in the countries of the Visegrad Group and the Republic of Croatia

All of the V4 countries and the Republic of Croatia are both producers and consumers of footwear. Data on production and consumption of footwear and the coverage of consumption by production are presented in Table 14. The coverage of consumption of footwear by the production in V4 countries was 27.1%. There are significant deviations from this average by individual countries. The lowest coverage of consumption by own

production of footwear had the Czech Republic with only 2.8% in 2011. Hungary had the highest coverage rate with 95.8% followed by Slovakia with 84.6%.

Table 14. Relation between production and consumption of footwear in million of pairs in 2011 and 2015

Country	Production (millions of pairs)		Consumption (millions of pairs)		Consumption covered by production, %	
	2011	2015	2011	2015	2011	2015
Hungary	23	11	24	24	95,8	45,8
Czech Republic	4	4	141	44	2,8	9,1
Poland	32	35	108	99	29,6	35,4
Slovakia	22	9	26	11	84,6	81,8
Total: V4	**81**	**59**	**299**	**178**	**27,1**	**33,1**
Croatia	10	4	23	18	43,5	22,2

Source: the same as for the previous table.

Croatia had significantly higher coverage of consumption by own production compared to the average of V4 countries (43.5%) or 60.5% more (index = 160.5). It is evident that important changes occurred in the actual production and consumption of footwear in the analyzed four years period from 2011 to 2015. With the exception of Poland that increased production of footwear and the Czech Republic which remained on the same production, all other analyzed countries reduced their production. Visegrad countries have reduced the total production of footwear from 81 million pairs in 2011 to 59 million pairs in 2015, or by 27.2%. Croatia reduced the production of footwear by 60% in the same period.

Only Hungary retained the consumption of footwear in 2015 at the same level as in 2001. All other countries had a decrease in consumption of footwear. The consumption of footwear at the level of the Visegrad Group decreased by 40.5% in 2015 compared to 2011. The decline in consumption of footwear was significantly faster than the decline of the production in the countries of the Visegrad Group. Consequently, the coverage of consumption of footwear by own production increased from 27.1% in 2011 to 33.1% in 2015.

The decrease in production of footwear in the Republic of Croatia of 60% and the decrease in consumption of 21.7% resulted in a significant reduction in the coverage of consumption by realized production. This indicator decreased from 43.5% in 2011 to 22.2% in 2015. For details, see the information contained in Table 14.

The ratio of export and import prices of footwear

Data on exports and imports of footwear in millions of US dollars as well as import-export coverage are contained in Table 15. The ratio of export and import prices of footwear may lead to some observations. All V4 member states achieved higher average export price per pair of footwear compared to the average import price. It can be stated that the footwear industry in these countries focuses on producing quality footwear. The biggest difference between the average export and import prices per pair of shoes in 2011 was in the Czech Republic. The average export

price of a pair of footwear was 168.3% higher than the average import price. Slovakia followed with 95.3% higher price and Hungary was the last with 30% higher export than import prices. In 2011, the Republic of Croatia had the largest difference of footwear export prices compared to import prices. The value of the index was 338.1%. The average export price of a pair of footwear was for 238.1% higher than the average import price. For details, see Table 15.

Table 15. Relation between import and export prices in footwear industry in 2011 and 2015

Country	Export prices per pairs (USD)		Import pricesper pairs (USD)		The ratio of export and import prices	
	2011	2015	2011	2015	2011	2015
Hungary	13,55	18,86	10,42	12,80	1,300	1,473
Czech Republic	11,27	19,31	4,20	10,14	2,683	1,904
Poland	14,05	13,66	9,30	11,03	1,511	1,238
Slovakia	12,17	15,99	6,23	11,57	1,953	1,382
Croatia	35,64	26,23	10,54	11,75	3,381	2,233

Source: adapted from APICCAPS: World Footwear 2012 Yearbook data up to 2011 (pp. 34, 35, 47, 68 and 75) and APICCAPS: World Footwear 2016 Yearbook data up to 2015 (pp. 52, 54, 69, 93 and 101).

All countries achieved higher export than import prices per pair of footwear in the two observed years. Czech Republic, Poland, Slovakia and Croatia had a reduction in the difference between the export and import prices of footwear. The exception was Hungary with the achieved increase between export and import price per pair of footwear. This could be related to the imports of more expensive and higher quality footwear, increased competition and offered similar but cheaper footwear made in the Far East. Individual relation of export and import prices of footwear is shown in Table 15.

The main export market for footwear produced in V4 and the Republic of Croatia

Visegrad countries exported a total of USD 2,620 million worth of footwear in 2011. Footwear exports grew by 18.7% in 2015 compared to 2011. In countries exports of footwear decreased (Hungary and Slovakia) and in two countries it increased (Czech Republic and Poland). Key markets for the export of footwear produced in the countries of the Visegrad Group are given in Table 16.

The most important export market is Germany. In 2011, 34,3% of total exports of footwear of the countries of the Visegrad Group was exported to this market. This was the most important export market for the three countries of the Visegrad Group (Hungary, Czech Republic and Slovakia). The exception was Poland where the main export market for footwear was the Russian Federation. In the Russian Federation, Poland exported USD 2 million more footwear than it exported to Germany. In 2015, 33,7% of total exports of footwear of the countries of the Visegrad Group was exported to the German market. Fifteen of the most important markets for the export of footwear of Visegrad Group countries realised 74.7% of total exports of footwear in 2011 and 70.4% in 2015.

Table 16. The main export markets for footwear produced in V4 in 2011 and 2015

Country / Export markets	Exports in million USD									
	Hungary		Czech Republic		Poland		Slovakia		Total: V4	
	2011	2015	2011	2015	2011	2015	2011	2015	2011	2015
Germany	155	123	122	184	134	321	487	420	898	1048
Austria	85	73	87	124		-	118	101	290	298
Italy	82	40	-	89		-	-		82	129
Romania	17	26	-	-		-	-		17	26
USA	7	-	-	-		-	-		7	-
Slovakia	-	11	83	64		43	-		83	118
United Kingdom	-	-	60	70		-	-		60	70
France	-	-	36	-		-	-		36	-
Hungary	-	-		-		-	89	61	89	61
Czech Republic	-	-		-	30	65	86	65	86	130
Poland	-	-		-		-	60	155	60	155
Russian Federation	-	-		-	136	110			136	110
Ukraine	-	-		-	57	-			57	-
Netherlands	-	-		-	25				25	-
Lithuania	-	-	-	-	-	44	-	-	-	44
Total exports (15 countries)	346	273	388	531	382	583	840	802	1956	2189
Total exports	385	337	570	785	543	955	1122	1032	2620	3109
Top 15 markets in total exports of footware (%)	89,9	81,0	68,1	67,4	70,3	61,0	74,9	77,7	74,7	70,4

Source: adapted from APICCAPS: World Footwear 2012 Yearbook (pp. 34, 47, 68 and 75) and APICCAPS: World Footwear 2016 Yearbook data up to 2015 (pp. 54, 69, 93 and 101).

In comparison to 2011, Visegrad countries achieved 11.9% increase in the value of export to the fifteen export markets in 2015 listed in Table 17. The German market has kept the first place and increased the share of the value of exported footwear by the countries of the Visegrad Group from somewhat below 46% in 2011 to almost 48% in 2015. The significance of the top five export markets changed in 2015 in comparison to 2011. Germany and Austria retained the first and second position as markets for exports of footwear produced in the countries of the Visegrad Group, followed by the Russian Federation, Hungary and the Czech Republic in 2011, and Poland, Czech Republic and Italy in 2015. The importance of the top 5 markets (in relation to the 15 markets previously mentioned) increased from 76.6% in 2011 to 80.4% in 2015. Concentration of the importance of export markets is visible with the focus on the growing importance of the German market.

Germany was the main export market for footwear produced in the Republic of Croatia in 2011. Croatia realised USD 57 million in exports of footwear to given market, or 35% of the total value of exports of footwear in 2011. In addition to the German market, the important footwear export markets for Croatia were: Austria, Italy, Netherlands and France. In all these markets, the share of exports in USD exceeded the share of import. This was due to the export of higher quality leather

footwear. Germany remained the leading export market for footwear produced in the Republic of Croatia also in 2015. It is the only export market, from five leading ones, where export was higher than in 2011. The structure of exports of footwear produced in the Republic of Croatia by major export markets is shown in Table 17.

Table 17. The structure of exports of footwear produced in the Republic of Croatia by major export markets in 2011 and 2015

Main exports markets	Exports in USD million		Export structure (%)	
	2011	2015	2011	2015
Germany	57	81	35,6	43,3
Austria	40	41	25,0	21,9
Italy	22	25	13,8	13,5
Netherlands	15	10	9,3	5,3
France	14	10	8,8	5,3
Top 5 markets	148	167	92,5	89,3
Total exports	160	187	100,0	100,0
Top 5 markets in total exports (%)	92,5	89,3	92,5	89,3

Source: adapted from APICCAPS: World Footwear 2012 Yearbook (pp. 34) and APICCAPS: World Footwear 2016 Yearbook data up to 2015 (pp. 52).

The main footwear import markets for the Visegrad Group countries and the Republic of Croatia

The main footwear import market for the V4 countries was Germany in 2011, with 38,05% of the total imports of footwear in 2011. It was the main import market for three out of four Visegrad countries.

The exception was the Czech Republic where China was the main export market for footwear in 2011. Imports of footwear from China were 28.9% higher than from Germany. In 2015 China and Vietnam occupied the first two positions of the import markets. Germany was third. The Visegrad Group countries and the Republic of Croatia achieved 65.9% of the value of imports of footwear from the 18 markets listed in Table 18. The significance of some import markets for each of the Visegrad Group countries and the Republic of Croatia is shown in the same table. Table 18 presents the main footwear import markets for the Visegrad Group countries and the Republic of Croatia in 2011 and 2015.

By analysing tables 5 and 7 it can be noted that the V4 countries exported and imported footwear in mutual trade. Figure 1 and Figure 2 show imports and exports of footwear between the V4 countries in 2011 and 2015.

The total value of imported and exported footwear by V4 countries was USD 438 million in 2011 and USD 487 milion in 2015. There was increase of 11.2% in the mutual exchange. The Croatian footwear industry did not buy nor sell shoes on the V4 markets in 2011.

Table 18. The main import markets for footwear produced in the V4 member states and the Republic of Croatia in USD million in 2011 and 2015

Country / Export market	Hungary		Czech Republic		Poland		Slovakia		Croatia		Total: V4 and Republic of Croatia, million USD	
	2011	2015	2011	2015	2011	2015	2011	2015	2011	2015	2011	2015
Germany	49	51	152	99	384	134	240	-	-	26	825	310
Slovakia	37	61	74	-	55	-	-	-	-	-	166	61
Bulgaria	35	-	-	-	-	-	-	-	-	-	35	-
Romania	29	-	-	-	-	-	99	56	-	-	128	56
Czech Republic	20	-	-	-	-	-	53	-	-	-	73	-
China	-	-	196	264	178	525	73	253	82	19	529	1061
France	-	38	-	-	-	-	-	-		-		38
Italy	-	-	93	56	115	-	-	-	25	38	233	94
Austria	-	-	46	-	-	-	-	-	-	-	46	-
Belgium	-	32	-	-	49	-	-	-	-	-	49	32
Vietnam	-	-	-	97	-	190	47	133	19	-	66	420
Indonesia	-	-	-	-	-	-	-	-	11	-	11	-
Poland		35		49		-		-		-		84
Slovenia	-	-	-	-	-	-	-	-	7	46	7	46
Hungary								33		-		33
India	-	-	-	-	-	77		21		-		98
Denmark	-	-	-	-	-	71		-		-		71
Netherlands	-	-	-	-	-	-	-	-	-	30		30
Total imports (18 countries):	**170**	**217**	**561**	**565**	**781**	**997**	**512**	**496**	**144**	**159**	**2128**	**2434**
Total imports	**299**	**390**	**790**	**816**	**1070**	**1479**	**604**	**766**	**189**	**242**	**2952**	**3693**
Top 18 markets in total imports (%)	**56,6**	**55,6**	**71,0**	**69,2**	**73,0**	**67,4**	**84,8**	**64,8**	**76,2**	**65,7**	**73,4**	**65,9**

Source: adapted from APICCAPS: World Footwear 2012 Yearbook (pp. 34, 35, 47, 68 and 75) and APICCAPS: World Footwear 2016 Yearbook data up to 2015 (pp. 52, 54, 69, 93 and 101).

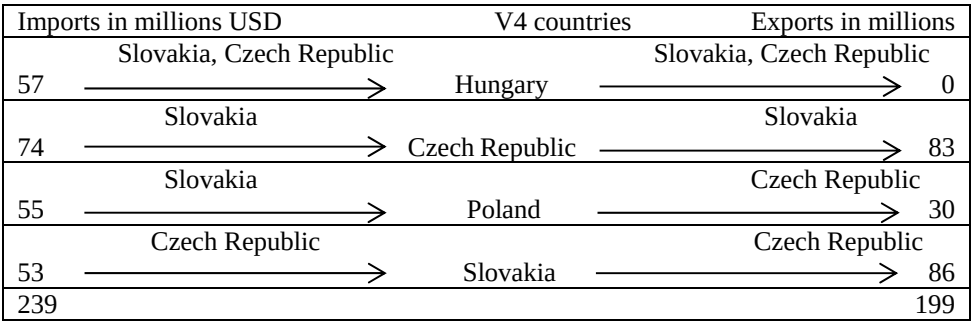

Figure 1. Imports and exports of footwear between the V4 countries in millions USD in 2011
Source: adapted from APICCAPS: World Footwear 2012 Yearbook, pp. 34, 47, 68 and 75.

Imports in millions USD		V4 countries		Exports in millions
	Slovakia,Poland		Slovakia	
96	→	Hungary	→	11
	Poland		Slovakia	
49	→	Czech Republic	→	64
			Czech Republic, Slovakia	
0	→	Poland	→	108
	Hungary		Czech Republic, Hungary	
33	→	Slovakia	→	126
178				309

Figure 2. Imports and exports of footwear between the V4 countries in millions USD in 2015
Source: adapted from APICCAPS: World Footwear 2016 Yearbook data up to 2015, pp. 54, 69, 93 and 101.

By analysing tables 5 and 7 it can be noted that the V4 countries exported and imported footwear in mutual trade. Figure 1 and Figure 2 show imports and exports of footwear between the V4 countries in 2011 and 2015.

The total value of imported and exported footwear by V4 countries was USD 438 million in 2011 and USD 487 milion in 2015. There was increase of 11.2% in the mutual exchange. The Croatian footwear industry did not buy nor sell shoes on the V4 markets in 2011.

The structure of types of exported and imported footwear

The materials used for shoes changed in the 1960s, since the price of leather increased - plastics and other synthetic material became popular among many fashion designers (Au and Goonetilleke, 2013: 177). The footwear industry has placed significant effort in improving material efficiency during the production phase, as well as eliminating the use of hazardous materials in shoe production (Staikos and Rahimifard, 2007: 603). There are significant differences in the types of exported footwear among the analyzed countries. Hungary and Czech Republic had a high proportion of waterproof footwear in their exports. The Czech Republic took the first place with a share of 54% of waterproof footwear in its total exports in 2011, followed by Hungary with a share of 43%. Waterproof footwear was ranked second in the Hungarian export of footwear, just behind the export of leather footwear (with the share of 46%).

Unlike the two mentioned countries, waterproof footwear in footwear exports in Polish, Slovakian and Croatian market had only minor share. The share varied from 1% (Slovakia and Croatia) to 3% (Poland). Quantitative structure of exports and imports according to the types of footwear is shown in Table 19.

Croatia had the biggest share of exports of leather footwear. Its share in total exports was 83% in 2011. This is one of the key reasons for the significantly more favorable ratio between the realised exported and imported footwear prices in the Republic of Croatia. Due to the material used, leather footwear represents more expensive footwear. The difference in terms of export and import prices of footwear by the analyzed countries is evident from the Table 20. Hungary is in the

second place regarding the share of leather footwear in the structure of footwear exports with a share of 46%. With the share of 23% Poland and Slovakia occupied the third position while Czech Republic is in the fourth place with a share of 16%. The Czech Republic is leading with 26% share of textile footwear in footwear export. Poland had a very high prevalence of other footwear in the structure of exports, with a share of 37%. The other footwear category includes: work footwear, special footwear, orthopedic footwear and the other.

Table 19. Structure of exports and imports by the type of footwear in the V4 countries and the Republic of Croatia in 2011 (quantity, %)

Types of shoes	Hungary		Czech Republic		Poland		Slovakia		Croatia	
	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import
Waterproof	43	55	54	68	3	2	1	1	1	2
Rubber & Plastic	1	2	1	1	24	46	57	62	6	37
Leather	46	26	16	8	23	17	23	15	83	23
Textile	6	15	24	21	13	24	17	20	7	22
Other	4	2	5	2	37	11	2	2	3	16
Total:	100	100	100	100	100	100	100	100	100	100

Source: adapted from APICCAPS: World Footwear 2012 Yearbook data up to 2011, pp. 34, 35, 47, 68 and 75.

There are significant differences in the structures and types of imported footwear in the analyzed countries. The Czech Republic was leading in the imports of waterproof footwear with 68% of the total imports of footwear in 2011. In the second place was Hungary with a share of 55%. The other three countries (Slovakia, Poland and Croatia) had a share of waterproof footwear in total imports from 1% to 2%.

Regarding the import of rubber and plastic footwear Slovakia took the first place with 62% share in the total amount of imported footwear. With 46% Poland was in the second place while Croatia was third with 37%. Share of rubber and plastic footwear was minorly present in the total imports of footwear in the countries such as Hungary and the Czech Republic (from 1% to 2%). The biggest share in imports of leather shoes had Hungary with 26%. In second place was Croatia with 23%. Poland was third with a share of 17% and Slovakia fourth with a share of 15%. The Czech Republic occupied fifth position with a share of 8%.

The Czech Republic had a leading position regarding the share of textile footwear in total footwear export. Those exports accounted for 24% of its total footwear exports. The export of textile footwear was second biggest export in Czech footwear industry. The smallest share of exports of textile footwear had Hungary (6%) followed by Croatia (7%). In four out of five analysed countries share of textile footwear in import was significantly higher than its share in the structure of exports. Poland had the highest share of textile footwear in the structure of imports (24%), followed by Croatia with 22%, Czech Republic with 21%, Slovakia with 20% and Hungary with 15%.

Other footwear category in four out of five countries was the least represented in the structure of footwear exports. The share of this category of footwear in the structure of exports amounted from 2% (Slovakia) to 5% (Czech Republic). The exception was Poland with 37% share of textile footwear in footwear exports. This

was the most important segment of Polish exports of footwear. Exports of rubber and plastic footwear in Polish exports of footwear occupied the second position with the share of 24%. In three out of five countries, import of other footwear in the structure of import was lower than its share in the export structure. These countries are: Hungary (2%), Czech Republic (2%) and Poland (11%). In Slovakia the share of other footwear in import was equal to its share in export (2%). Croatia was an exception regarding the share of other footwear in imports compared to its share in exports. Other footwear category had 5,3 times higher share in the structure of import than the share in the export structure. The share of category other footwear in Croatian import of footwear was 16% in 2011.

In four-year time period there have been significant changes in the structure of exports and imports of footwear in the Visegrad Group countries and the Republic of Croatia. Hungary and the Czech Republic significantly reduced the share of exported and imported quantities of waterproof footwear in 2015 compared to 2011. At the same time, they significantly increased the export and import of rubber and plastic footwear. Focusing on quality and expensive shoes resulted in increased exports and imports of shoes made of leather and textiles. Poland increased rubber & plastic and shoes made of textile in the structure of exported footwear and reduced the share of other footwear. The biggest changes in imports were in the category of waterproof footwear with halved quantities. In Slovakia, the share of leather footwear and footwear made of textile in export increased while the share of exported footwear made of rubber and plastic decreased. At the same time in the structure of imports (despite to significant reduction in the share in 2015 compared to 2011) the share of imported footwear made of rubber and plastic dominated with 44%.

Table 1. Structure of exports and imports by type of footwear in the V4 countries and the Republic of Croatia in 2015 (quantity, %)

Types of shoes	Hungary		Czech Republic		Poland		Slovakia		Croatia	
	Export	Import	Export	Import	Export	Import	Export	Import	Export	Import
Waterproof	1	2	3	2	3	1	1	1	1	5
Rubber & Plastic	25	39	23	46	36	45	38	44	14	36
Leather	53	28	24	19	23	20	30	23	63	20
Textile	19	28	41	27	19	27	23	24	12	32
Other	2	3	9	6	19	7	8	8	10	7
Total:	100	100	100	100	100	100	100	100	100	100

Source: adapted from APICCAPS: World Footwear 2016 Yearbook data up to 2015, pp.52, 54, 69, 93 and 101.

The Republic of Croatia maintained a dominant share in volume of export of leather footwear even though its share decreased significantly from 83% to 63%. The share of export of footwear made of textiles and other footwear categories increased. The share of waterproof footwear and footwear made of textiles increased in the structure of imported footwear. Other categories of footwear had minor presence in the structure of imported quantities of footwear in 2015 compared to 2011. Table 20 contains information about the structure of exported and imported footwear by the Visegrad Group countries and Croatia in 2015.

4. CONCLUSIONS

This paper offered a comprehensive picture of the global, European and the specific Visegrad group markets footwear industry, focusing on the main trends at international trade, consumption and production.

The paper estimated that after five years of growth rates international footwear trade declined in 2015. A major contribution to this movement comes from China, whose footwear production in 2015 came to just 13 billion pairs, reducing the country's share of the world total to a 59%. At continental level, the geographical structure of the industry remains broadly unchanged from previous years. With 87% of world production, Asia is the center of the footwear industry, with 7 out of the 10 main footwear producers (China, India, Vietnam, Indonesia, Pakistan, Bangladesh, and Thailand).

As well as other global and European markets, Visegrad group countries and the Republic of Croatia achieved decrease in the value of production and consumption of footwear in the observed period from 2011 to 2015, except for the Poland which increased the footwear production for 3 million of pairs. The most significant decline in footwear production achieved Croatia with 60% decrease in the five-year observed period. Interestingly, the consumption of footwear in the same country was 23.4% higher than the average consumption of footwear in the V4 countries. In terms of footwear consumption among Visegrad Group countries, Czech Republic achieved the highest drop with almost 70% or 97 million pairs in 2015.

On the other hand, Visegrad group countries achieved 11.9% increase in the value of export to the fifteen export markets in 2015, in comparison to 2011. But, there were significant differences in the types of exported footwear among the analyzed countries. Hungary and the Czech Republic significantly reduced the share of exported and imported quantities of waterproof footwear, but significantly increased the export and import of rubber and plastic footwear. Poland increased rubber & plastic and shoes made of textile in the structure of exported footwear and reduced the share of other footwear, while the Republic of Croatia maintained a dominant share in volume of export of leather footwear.

Despite the decline in global footwear production and consumption in 2015, global footwear sales are projected to reach $331 billion in 2018 according to Report Linker research (2016).

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Retailers' competitiveness on global markets

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Abstract:

The aim of the chapter is to show that now retail trade is a global sector but because of its specificity new strategies are necessary if global retailers want to sustain their advantage. The concept of globalization is discussed and then referenced to the retail sector. The process of retail internationalization which resulted in the globalization of retail sector is analysed. It is assumed that the retailers were motivated by the goal of sustaining their competitive advantage. So some ideas of the main theoretical views of developing sustainable competitive advantage (SCA): Environmental View and Resource Based View, referring to the process of internationalization as well as Yip's description of globalization process are presented. On the examples of some companies, leading the process of retail fast internationalization in XX century, like Ikea, Benetton, Carrefour, Wal-Mart, it is shown how the resources they developed and external environment contributed to their globalization process. It is found out that there were two stages of the globalization of retail sector: first, in which non-food companies develop on international market and second, when the mass merchandisers offering food and other Fast Moving Consumer Goods (FMCG) were involved. The fact that after fast internationalization representatives of both groups face problems leads to the conclusion that to be successful in the contemporary global retail market new capabilities should be developed.

Keywords: globalization, sustainable competitive advantage, resource based theory, retailing
JEL codes: F610, M21, L210, L81

1. INTRODUCTION

The notion of globalization is used in different senses resulting from different spheres, that may affect spreading of certain norms, standards, unifying patterns of activity on the global scale. The most important of them include spheres such as: political, legal, ethical, scientific, media, technology, and finally economic (Oczkowska, 2013). They affect each other, but also the process of interaction between the most general level of globalization analysis and the next level – the globalization of markets / sectors and the most basic – globalization of enterprises. Globalization in the economic sphere of markets / sectors applies not only to goods, but consequently to services, labor and technology. This process is stimulated by com-

panies operating in these markets / in these sectors that internationalizes their marketing, purchasing, sales and financial strategies. The aim of these companies is to achieve economies of scale and scope, thus reduce costs and achieve competitive advantage in the market for a particular product without spatial boundaries.

Although in nineties last century, it was an opinion that retail is not global sector (Hout *et al*., 2001) it seems that nowadays trade sector is also a global industry, which is the result of internationalization processes of trade companies. Yet retailers who rapidly developed into foreign markets in the seventies of the last century, and their dynamics was accelerated in the eighties and nineties, are increasingly beginning to encounter problems of development, hence the questions arise what strategies they should undertake to continue growing or they may even have already reached the limits of growth. The article presents the internationalization processes, which resulted in the globalization of the retail industry, theory about development of competitive advantage on global markets, which sought to refer to the retail sector and the problems faced by temporary global retailers. These problems are reflected in the decrease of the growth rate of many of them, including the largest ones like Carrefour and Wal-Mart.

2. GLOBALIZATION – THE ESSENCE, FACTORS, STRATEGIES

In recent years, the most important phenomenon in the world economy is a tendency to globalize markets and sectors and a related necessity to globalize management. Globalization is a very broad and complex process which progresses both in the economic, socio-cultural and political sphere. As an economic process, it takes place at three levels simultaneously: the level of firms, markets/sectors and the world economy. The fundamental attribute of globalization is the integration of activities, processes and entities into the worldwide (global) system functioning at one of the three levels but linked to the others.

Globalization is variously defined in the literature, mainly by specifying its causes or factors influencing the globalization process. In most general terms, we can say that globalization is a worldwide, that is global, perspective for specific strategic decisions and the forms of the activeness of businesses participating in the international division of labor, functioning, in various forms, on the arena of the world market (Gelbrich, Müller, 2011, p. 537; Pierścionek, 2003, p. 307).

Dunning (1992, p. 8) observes gradual formation of the global economy in which economically leading countries are closely interdependent in terms of trade, investments and cooperation of firms. According to Narula and Dunning (1998), globalization means the mutual dependence, the convergence of consumption patterns and technologies in different countries, increasing internationalization of production via branch office chains, and the shortening of technological cycles. Yip (1996, pp. 21-29) considers globalization as the process of mutual adaptation and coordination on various levels of activities of the world economy entities by means of worldwide and multi-factorial integrated competitive strategies.. The European Commission defines globalization as a process in

which markets and production in different countries become more and more interdependent due to the dynamics of the exchange of goods and services, the flow of capital and technologies (Annual Economic Report, 1998).

Zorska (1998, p. 20), using elements of numerous definitions, defines globalization as "a long-term process taking place in the world, of integrating a bigger and bigger number of national economies beyond their borders, owing to the extension and intensification of mutual links (investment, production, trade, cooperation ones), as a result of which a worldwide economic system emerges, with great interdependence and significant repercussions of activities undertaken/pending even in distant countries".

It is assumed that the major institutional participants of the globalization process are the World Bank, the International Monetary Fund and the World Trade Organization (Marzęda, 2006). The institutions associate the majority of the countries of the world (the World Bank and IMF – 184 member states, GATT/WTO – 146), and the scope of their competences is so broad that they perform a dominant role in the formation of international economic relationships.

The globalization process includes an increase in the freedom of the flow of capital, goods, factors of production among countries. Thus, we can talk about gradual disappearance of economic borders and the qualitative leap into the mobility of the factors of production. From this point of view, a new market and a new economy have emerged (Szymański, 2001, p. 15). The new economy is also an effect of information revolution which has brought about the occurrence of many new sectors and new methods of operations and management in economy. The development of the new economy means the dissemination of new information technologies in management, which leads to a major growth of the management effectiveness, the acceleration of the innovation rate, the reduction of expenditure and an increase in the use of resources.

To sum up the above discussion, we can claim that the abolition of border barriers for the flow of capital and other factors of production and the abolition of barriers for locating production, globalization has opened a path to the network-based economy. On the firm level, globalization is a specific concept of firm management, namely management in the global environment, that is oriented to the world markets, global competition and based on global factors of production (Kutschker, Schmidt, 2011, p. 165). According to this approach, globalization is a strategy of a firm strongly dependent on the international economic environment and the world economic situation.

With regard to the quoted definitions of globalization, we can indicate certain features characterizing this process (Zorska, 1998, p. 16-18; Marzęda, 2006, p. 23-25):

- The range – globalization is characterized by a broad international range or activities on a worldwide scale.
- Many-sidedness – globalization progresses simultaneously in several areas of social life: economy, politics, culture.

- Intensity – consists in the intensification of cooperation, mutual links and interdependencies among countries and societies constituting the worldwide community.
- Interdependence – mutual and close international cooperation of entities on various levels (international level and the level of individual economies, sectors/markets, firms).
- Integration – combining the activities of entities, conducted to the international scale on different levels.
- Compression of time and space – "shrinking" of the world, participation in events on all continents, great mobility of people, the offer of goods from all over the world.

Numerous works and studies devoted to globalization emphasize the significance of substantial changes in the global environment, shaped by a lot of factors and determining the international expansion of firms. Among them we should mention the following factors: political and legal ones determining the level of the liberalization of political and economic relations, of scientific and technical progress (the development of technologies, the growth of the significance of intellectual capital), economic ones, of international competition in particular, social ones (the unification of consumer tastes, education).

Globalization processes concern the world economy, sectors/markets and firms. It becomes important to indicate the essence of the globalization of markets and sectors, as each of those globalization forms entails different consequences for various aspects of strategies and activities of firms. Markets are defined by consumers and their needs, thus, the globalization of markets focuses on consumer needs. The extent to which a market is global depends on the extent to which consumer needs with regard to a given product are similar all over the world. The globalization of sectors concentrates on the ability of firms to configure and coordinate their production activities and those aiming at an increase in the added value in a global way, beyond state borders. Globalized sectors are characterized by the world competition, opportunities arising from the economics of scale and scope, fast technological changes, unified technical standards and beneficial trade conditions. Therefore, the evolution of firms' activities includes an increasing geographical range, more intense and complementary use of various forms of international expansion (export, foreign direct investments, alliances), as well as greater configuration and coordination of research, production or trade activities.

Factors which are particularly important in stimulating globalization processes are political and legal factors, as they decide about the internationalization level of international economic exchange. The factors, being a result of specific political decisions of parliaments and governments of individual countries, are of fundamental significance for the internationalization and dynamics of economic cooperation to the global scale. However, it should be remembered that previously those countries introduced trade barriers which protected national markets against foreign products and firms. As the development opportunities based on national

resources and markets were gradually coming to an end, they started to reduce the barriers, inclining to undertake exports and open their own markets.

Among scientific and technical factors shaping the globalization process the development of new technologies, especially information technologies, exerting a stimulating impact on the process of international expansion of firms is particularly important. The development of modern means of transport and telecommunications has enabled a decrease in distance and time separating producers, suppliers and consumers all over the world. Based on new technologies, fast and relatively cheap processing and flows of information enable efficient coordination of activities to the international scale. As a result of faster and faster changes in the environment time is becoming a very important resource whose value keeps growing.

Rapid technical and technological development is closely related to the globalization process. The phenomenon is particularly characteristic for high-tech industries: IT, electronics, biotechnology, telecommunications. In those industries, manufacturing a new product is so expensive that even a firm which is a market leader cannot incur all the costs connected with the development of the new product on its own, but tries to spread the risk onto a bigger number of partners.

According to Omahe (1990) the direct cause of the growth of technology costs is the shortening of product lifecycle and the phenomenon of the dispersion of technology. The phenomenon of the dispersion of technology consists in a faster than before dissemination of new, critical technologies and an inability to maintain competitive advantage rooted in the technology invented by the firm for long (Zembura, 2000, p. 11-16). Fast penetration of inventions and new technologies, accompanied by a shorter and shorter technological cycle result in a fast decline in the value of new technologies and a necessity to accelerate works on new generations of goods. The dispersion of technology causes the loss of the effects of the experiences of leaders in the sectors and the acceleration of the research and development race. High costs incurred on new technologies can be compensated for by fast product commercialization. Joint efforts of a few firms can ensure the implementation of such a strategy. Owing to technology diffusion, the equalization of technological abilities of firms located in various countries takes place, defined as technological parity (technological convergence on the level of countries).

As it arises from empirical analyses, in the first half of the 20th century the average lifecycle of the majority of consumer goods exceeded 20 years, and in dynamic sectors – 10 years. In the 1980s, the lifecycle of many products did not exceed 2 years, and now in the semiconductor industry it is shorter than half a year (Szymański, 2001, p. 58; Rymarczyk, 2012, p. 38).

Under the influence of the liberalization of international trade, the unification and liberalization of capital markets, integration processes, unification of consumption patterns, as well technical progress, to great extent also economic transformations are shaping, particularly in international competition. Important changes in demand, supply and in the conditions of the activity of firms on the international market are taking place. Transformations in demand concern mainly the unification and standardization

of lifestyles, consumption patterns and needs, among others under the influence of the circulation of information and modern information technologies.

In the opinion of the precursors of the globalization concept, Levitt (1983) the world has become "a common market" on which people, regardless of their place of residence, buy the same products and seek a similar quality of life. The unification of customer tastes and lifestyles was defined as the "the Californiazation of need". Hence, firms operating globally should focus their attention on meeting universal needs and forget about differences dividing individual countries and nations. The thesis about the deepening unification of consumer needs worldwide finds its empirical confirmation, but at the same time there is a distinct tendency for the individual customer approach.

Changes in supply refer to various aspects of production and trade. Changes are taking place in the characteristics of products, which are more and more modern and tailored to the needs of specific groups of customers. What has become a critical element of the new strategy ensuring success in the face of global competition is reaching possibly broadest group of recipients with a proper product in proper time.

3. COMPETITION AND COMPETIVENESS ON GLOBAL MARKETS

Competition is considered as the basic mechanism of the market economy whereas the process of developing a competitive advantage as the main goal of the company. This notation is widely discussed in the literature (Wach, 2014). Here the focus is on the problem of global competitiveness and development of the competitive advantage by the retailers facing so called hyper-competition. Hyper – competition started at the turn of 20th and 21st century and its main characteristic features are intensifying globalization of economies, the escalation of deregulation and privatization, the intensification of technological progress and the revival of the consumer sovereignty. The question is how the retailers which got their position on global markets should compete and how to choose their competitive strategies.

The observed changes in competition are both the effect and the condition of globalization. The structure and the level of the fierceness of competitive struggle directly influence international development strategies adopted by firms. Global competition creates new systems of links, a new quality of technical progress, new methods of achieving competitive advantage. New organizational models, different methods of configuring activities and new ways of cooperation with the environment are needed. Firms have to be flexible enough to be able to quickly adjust to the changing environment, anticipate, and most of all be ahead of the occurring changes.

Competing to the global scale is possible owing to innovations focused on creating competitive advantages. The concept of a multi-faceted innovation model was presented by Drucker (1992, p. 44), who indicated the following sources of innovation: new knowledge, changes in perception, moods, values, demographics, innovations arising from the needs of the process, as well as entrepreneurship (Śmigielska, 2007, p. 45-47). Its essence, as Drucker (1992, p. 44) writes, consists in the interdependence of entrepreneurial and innovative activities by means of which success is

pursued. In this way, he refers to the concept created by J. Schumpeter who believes that the nature of entrepreneurship is expressed precisely by the elements of novelty and innovation. It is not only about the creation of novelty but also the conceptualization of all forces operating in the environment (Nowak-Far, 2000, p. 19). Firms have to develop capacity for fast, strategic responses to changes in the environment. They should, according to Bettis and Hitt (1995), master three skills: of sensing changes in the environment, of fast conceptualization of the reaction to those changes, of reallocating the resources for the implementation of this response.

In Cushman and King's (1993) opinion, High Speed Management serves to achieve competitive advantage. It is characterized by:

- Innovativeness – a capacity for product and process innovations, but also structural innovations and innovations in the sphere of management methods.
- Adaptability – an ability to adjust to changes in the attitudes of employees, tastes of buyers, expectations of investors, law regulations, availability of resources and strategies of competitors.
- Flexibility – an ability to increase and decrease the size of the organization, change the directions for the activities and strategies, assimilate acquired firms fast, implement joint ventures, create coalitions and eliminate ineffective or less effective entities.
- Effectiveness – an ability to maintain permanent advantage over competitors with respect to products, efficiency, dividends for investors, job satisfaction, customer loyalty, quality of products.
- Speed – an ability to respond to changes in the environment faster than competitors (Grudzewski, Hejduk, 2001).

The globalization process is contributing to the fast flow of goods, services and capital, migration of people and rapid expansion of transnational corporations. Corporations are introducing the principles of strategic planning and optimization of production to the global scale, and moving production to countries and regions of the world with low manufacturing costs (low-cost economies). The new phase of globalization associates with the relocation of workplaces, production and service provision. It is a reaction to changes in the business environment. The emergence of global markets of production, services, capital, labor and knowledge has resulted in the emergence of the globalized society.

Companies competing on a global scale implement the multinational strategy, where the management of the respective markets is treated independently or global when it is integrated in the international dimension. The basis for the global strategy is cost advantage (the activities are focused on the specific product, product group or segment of buyers), and it is reflected in the market strategy which stresses the low price when at the same time the standard level of technological quality is maintained. Enterprises which are multinational also try to keep costs at low level, however, at the same time they differentiate the product, what transfers to adopt the strategy of quality and price preferences at the assumed competitive price level (Żabiński, 2000, p.51).

The globalization of strategy means the introduction of the integrated management of the firm's worldwide resources and its competitive advantage. A. Zorska (1998, p. 21-34) defines global strategy as an attempt of coordination and standardization in order to integrate activities, both in the systems of products and in domestic or regional markets. It is of a multidimensional character. It strives for the maximization of worldwide results by divisions and integration. Pierścionek (2003) claims that global strategy consists in the formulation of goals and the methods of their implementation in the global conditions, and belongs to the international expansion strategies.

The globalization of strategy aims at managing organizations in an integrated way on the worldwide level. Participation in the market, global products, global location of activities and global marketing are the instruments of global strategy. The application of global strategy ensures the economies of scale, economies of scope and the effects of the optimum product allocation. It also enables to implement the global strategy of competition.

Explanations of the sources of cost advantage which global enterprises have over the multinational ones are provided by the concept of Porters' value added chain (Hout *et al*., 2001). The effectiveness of the company is then converted into benefits for buyers. Levitt (1983), from the marketing point of view, commented on the global strategy as follow: "if the company lowers costs and prices at the same time increasing the quality and reliability of products – maintaining reasonable concern for meeting the needs – then consumers will prefer products standardized on a global scale". Although he stressed the superiority of standardized marketing policy does not mean that he negated adapting elements of the marketing mix to meet local needs, but only if it is necessary to achieve the objectives set for foreign markets.

Enterprises seeking sustainable competitive advantage have crucial role in the creation of global markets for products, by making strategic investments-initiating global competition where they recognize such a possibility (Hout *et al.,* 2001). Capital expenditures, however, must be preceded by an analysis of opportunities to gain and maintain a competitive advantage by answering the following questions (Hout *et al.*, 2001, p. 364):

- Is the firm in the best position to implement a global strategy and defend its benefits among other competitors?
- What kind of resources does it need and for how long it will need them to acquire a key position.

He also draws attention to other factors necessary to compete effectively in the global market, such as the time distance separating the innovator and the followers, and whether the benefits of spending on new technologies, distribution and promotion, create the entry barriers (Hout *et. al*., 2001, p. 375-379).

The next important aspect of globalization process is to take a strategic position on the market for the products, so as the company may acquire a dominant position with the suppliers lowering costs of purchase of products thus contributing heavily to an increase in effectiveness.

The representatives of Environmental View of development of the sustainable competitive advantage (SCA) state that choosing the strategy should start from the analysis of changes in the environment while the representatives of the mainstream of the resource RBV are in the position that is determined by the available resources. They claim that companies' resources are heterogenous and imperfectly mobile which could result in developing the sustainable competitive advantage. Hunt and Morgan (1995), emphasize that the company's specific advantages as enablers of internationalization. Companies enter new markets when they can exploit their resources and develop there a sustainable competitive advantage (Andersen, 1997). For companies competing on a global scale representatives of the mainstream of RBV try to identify the resource group that can be the source of SCA and key competencies in the global market. Fahy (2002) showed, among other things, that in the global environment:

– Enterprise resources are much more important for the development of SCA than exogenous factors (such as, e.g., lower labor costs), as they are more difficult to copy.
– Capabilities are more important in the development of competitive advantage than assets.

Theorists of RBV also try to indicate the key, specific resources for developing the SCA in the global market (Stonehouse *et al*., 2009). Elements of both approaches to develop the SCA can be found in Yip (1996, p. 24-25) who distinguishes three stages of a globalization process:

1. Developing the core strategy, allowing the company to achieve the competitive advantage on its home market.
2. Internationalization of this strategy, namely its implementation on foreign markets, which may need its adaptation to the specifics of these markets.
3. Globalization of international strategy by introducing trans-national integration mechanisms.

Yip (1996) takes the view that at the stage of strategy globalization, namely the introduction of integrated management of the global resources of the company and its competitive advantage, the two groups of factors, i.e. both those defining the position and company resources and factors of globalization of the sector which are equally important (see. Figure 1).

The development of the core strategy is the foundation of the permanence of competitive advantage. Usually in the first phase it is a strategy used in the activities on the domestic market. The basic task is to define the area of enterprise activities, namely to determine the target market and the products offered. The core strategy should include the following elements:

– Type of products offered.
– Market in the geographical sense (spatial range of the market).
– Functional strategies for the most important activities within the value chain.
– Competitive position.

– Investment strategy.

When a firm goes outside its domestic market, its core strategy should be internationalized. The first and most important step is to choose foreign markets. It requires to identify the attractiveness of a market, potential competitors and the way of adaptation to the local conditionings and skills to manage a firm operating in a bigger area.

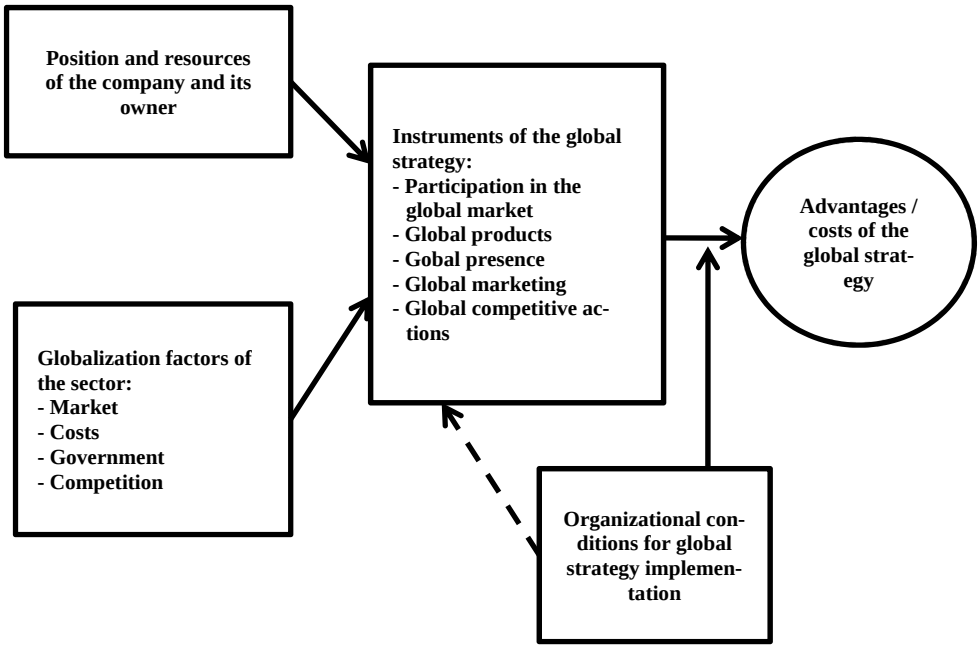

Figure 1. The Framework of global strategy
Source: Yip (1996, p. 28).

The global strategy development requires the introduction of the integrated management of the firm's worldwide resources and its competitive advantage. In order to achieve benefits from global strategy, a firm should define the instruments of its global strategy. Yip (1996, p. 46) indicates five of them:

1. Participation in the market – the choice of domestic markets, engagement level, market share.
2. Products and services – the level of standardization or diversification on various markets.
3. Location of activities – the arrangement of cells of the added value chain on foreign markets.
4. Marketing – the scope of the standardization and adaptation of marketing activities.
5. Competitive moves – the level of subordinating competition strategy on individual markets to the global strategy of competition.

An enterprise implementing a global strategy should fully participate in the global market, that is, possess a majority interest in the "Triad" market, offer global products, global location, global marketing and global competitive moves. Not all of them are possible to achieve in case of retailing due to the fact that it is service activity.

4. GLOBALIZATION PROCESSES IN RETAIL TRADE IN THE CONTEXT OF THEIR INTERNAL AND EXTERNAL CONDITIONS

The globalization of retail sector is the result of the process of internationalization, within which retailers successful on home market entered foreign markets. Due to the essential function of the trade – purchase for resale at a profit – it covers two spheres (Knezevic, Szarucki, 2013):

- Internationalization of activities such as procurement and logistics.
- Internationalization of formats or stores, in order to pursue sales abroad.

Yet, this process is influenced by a number of external and internal conditions. External factors could be grouped into: scientific-technical, social, economic, political and legal (Katzen, 1993). The fundamental, internal conditions include: the specificity of a sector and its maturity, corporate strategies of companies within it, including their resources necessary for the development on foreign markets.

The specificity of the retail sector is expressed by the fact that the majority of retailers are brick & mortar retailers, therefore in the process of internationalization one is forced to (Incandela *et al*., 1999):

- Find suitable locations for the stores abroad.
- Organize the supply of these stores.
- Grapple with many problems associated with the local regulations of economic activity.
- Have a sound knowledge of local tastes and customs.
- Effectively manage employees belonging to different cultures.

For many years, this specificity had been the factor limiting growth opportunities in foreign markets. As a result, although the process of internationalization of trade began at the end of the nineteenth century and intensified after World War II, yet the beginnings of globalization must be considered at the late seventies of the last century.

This can be divided into two stages:

1. The development of non-food retailers implementing global marketing strategy that is offering a standardized product, which took place in the seventies and the eighties of the last century.
2. The development of food retailers implementing the multilocal strategy (due to the nature of the product), operators of hypermarkets, supermarkets, discount stores and convenience stores since mid-eighties of the last century.

Some non-food retailers started develop very fast on foreign markets after World War II. They were successful by offering a standardized product, often own brand, at low prices.

In the mid of eighties last century the retailers offering FMCG started to follow them. An important factor in their success became the information and communication technologies (ICT) that enabled the collection and processing of information from the buyers and efficient management of supply chain based on demand. These innovations allowed retailers to differentiate themselves from competitors by the assortment and reduce logistics costs. ICT were effective in the large-scale operations that also contributed to globalization processes. Wrigley (2000, p. 506) commented as follows: "global retailing is characterized in the mid-to late 1990s then by the efforts of an elite group of companies that leverage their increasing core market scale and the free cash flow for expansionary investment those markets provided, in order to secure the long term higher growth opportunities offered by emerging markets".

Table 1. The largest global retailers in the world, according to the volume of sales on foreign markets in 2008

	Country of origin	The volume of sales on foreign markets (In million dollars)	The share of sales on foreign markets to total sales (in%)	Number of countries
Wal-Mart	US	113,020	26	18
Carrefour	France	91,763	57	33
Metro	Germany	70,724	61	32
Ahold	The Netherlands	49,440	76	9
Schwarz Grp.	Germany	43, 931	51	24
Auchan	France	38,924	53	11
Aldi	Germany	35,269	48	15
Tesco	UK	32,717	30	13
IKEA	Sweden	29,763	94	37
Rewe	Germany	25,955	33	14

Source: Wrigley, Lowe (2014).

So in the nineties there was a change in the factors stimulating processes of internationalization – traditional *push* motives were replaced by the *pull*. *Push motives*, associated with the lack of growth opportunities on the home market, include, among others, perceived/imminent saturation in domestics markets, spreading of risk, consolidation of buying power, public policy constrains, economic conditions and format maturity (Nicholas, 1995, p. 77-79). They were particularly important at the beginning of retail internationalization process. Later, *push factors* often were replaced by the *pull* motives, encouraging retailers to enter foreign market. They include *inter alia* the possibilities of development on a given market e.g. the absence of a specific type (format) of stores, small competition, existence of a market segment that could become a target market, the possibilities of achieving the economics of scale.

As a result, at the end of the first decade of the twentieth century, most worlds' largest retailers, operated outside home countries, and a few even in dozens of countries (Table 1). As seen in Table 1, the highest sales on foreign markets were achieved by FMCG retailers. This was the result of their dynamic development, which began with the end of the eighties and mastery of the large markets. The only

retailer in this group, from another industry, was Ikea, which dominated the global market of home furnishings goods – in 2008 and was already present in 37 countries around the world. Retail internationalization, leading to the sector globalization, looked differently in case of non-food and food retailers.

5. DEVELOPMENT OF RETAILERS ON INTERNATIONAL MARKETS

Development of global, non-food retailers

In the seventies and the eighties., when the globalization process was taking place in many industries, retail companies offering rather cheap, non- food products e.g. Ikea, Benetton, Body Shop Inc., Toys'R'Us, Marks and Spencer decided to internationalize their activities (Śmigielska, 2008). They entered foreign markets mostly immediately after establishing the core strategies on a home market without trying the other possibilities to differentiate (M&S was the only exception). It was due to favorable environmental conditions encouraging fast internationalization.

Their core strategy was based on the unique retail format (e.g. Toys'R'Us) or unique assortment of an own brand merchandise differentiated them from the competitors (like in the case of Benetton). Due to fast internationalization they got the economics of scale in sourcing, logistics and economics of scope in advertising that discouraged competitors from imitating their strategy.

The core strategies of these retailers, determining the success on home markets, were copied on the foreign markets their entered. It means that they rather found outside the home country consumers for their offer than analyzing foreign consumer needs and tried to satisfy them. Using marketing tools (competing mostly on price and advertising heavily) they created the demand for their product and finally have created the "global market segment and the global position they become to occupy" (Goldman, 1993).

For example Toys 'R'Us has increased the demand for toys by making the customers aware of toys importance for overall child education and – at the same time – making the wide choice of toys available for them in big stores (Tordjman, 1996). As far as Ikea is concerned, significant contribution to its success on foreign markets was made by an advertising campaign developed when Ikea entered the Swiss market, which was copied on the other foreign markets later on (Terpstra, Sarathy, 1994, p. 11). Benetton's international advertising campaign "United Colors of Benetton" launched in 1989 "was so successful that worldwide franchisees had to swap the basic Benetton sign above their doors for the green logo featured in the campaign" (Vignali *et al*., 1993).

The retailers mentioned above are said to shape the demand to fit their capabilities and strategies. Their fast development on foreign markets was due to factors related to the companies' as well as to the external (environmental) changes. The most important internal factors necessary to be mentioned are:

– Marketing capabilities which enable to create international retailer's corporate identity and global brand.

– Economics of scale in the process of procurement.
– Effectiveness of the supply chain management as a result of co-ordination of retailer's activities on a global scale.

These factors were assisted by the process of creating global consumers, forming the Common European Market and abolition of many barriers to invest in Asia and Eastern Europe.

Economics of scale and scope achieved by global retailers let them to offer a standard product at a competitive price which was the source of competitive advantage over the retailers in the host countries. It was regardless of the fact if retailers had their own brand (label) merchandise in the assortment (M&S and Benetton) or not (Toys'R'Us). Product image created by the retail format, assortment, kind and level of services offered to clients was reflected in the retail brand. A well- known brand and position had become an important competitive asset in the global market.

So global retailers offering standardized product won competitive war at the first stage of their development. But it seems that since the mid of the nineties the next stage has proceeded. Since that time some thriving retailers (e.g. Toys'R'Us, M&S, Benetton), started to have problems what was reflected in their decreasing profits; for example In 1995 Toys'R'Us total profits dropped from $532 million to $148 million (Domański, 2001, p. 90).

They were caused mainly by growing competition, differentiation of consumers' needs, new and cheaper sources of supply (China). Thus the third stage of globalization which is coordination of all operations on the global scale was found to be the most difficult in practice because of different consumer preferences and conditions in foreign markets. It was the case of Toys'R'Us which stores turned out to be too big for European markets or M&S which was so occupied by the process of internationalization that it failed to satisfy British consumers, which was its biggest market.

The sources of these problems rooted both internally and externally to a company could be classified in three basic groups:

– The weakening of the basis for the creation of advantage – organizations' strengths.
– Depreciation of the value of the previously used strategies as a result of changing environmental conditions.
– The growing competition both in the home and in foreign markets from companies which offer was better adapted to the needs of buyers.

Sometimes environmental changes challenge the core strategy and cause sweeping changes as it was in the case of Benetton (Camuffo *et al.*, 2001). Benetton core capability had been created by the archetype networks including supplies from more than 100 small producers in Italy. This system had to be changed due to the competition from fashion retailers like Hennes & Mauritz AB Sweden (H&M) and Zara owned Spanish Inditex SA, which cooperated with the suppliers from the countries in which the cost of production was lower. It meant a big change in Benetton's strategy because it had to find new suppliers and organize the supply chain from the beginning. The three-year plan was drafted in 2003. It was aimed

at restoring the distinctive position of the company primarily through increasing price competitiveness as a result of reducing employment, transfer of production to China and increased cost control. At the same time the company is intended to take action to improve the quality of our products and launch new outlets. In spite of these changes, profit's and share prices of the companies in the years 2002-2005 showed a downward trend (Clark, Rohwedder, 2003).

The globalization the FMCG retailers

FMCG sector includes both food products and non-food items. Global competitors are running chains of supermarkets, hypermarkets, discount stores and convenience stores, where food accounts for at least 50% in the turnover and operate on a world-wide scale . However, when analyzing the process of internationalization of the sector we refer to the precursors of food retailers such as Julius Meinl. He founded the company in Vienna in 1862, which in 1932 had already stores in Poland, Hungary, Yugoslavia, Romania and Italy (Dawson, 1994, p. 267-282).

But the spectacular development of FMCG retailers has been only since the mid-eighties when they developed their core strategy allowing them to benefit from the scale of operations. It involved the implementation of information technology (ICT). ICT also enabled them coordination and control of operations located in various countries. On the other hand the unit cost of the technology decreased with the increase of the scope of activities. Fast internationalization processes involved such companies as inter alia operators of hypermarkets (Auchan, Carrefour, Promodes) and discount stores (Aldi and Lidl & Schwarz).

An important factor in the development of FMCG chains in the nineties was the fact that the new possibilities to invest in Asia and Eastern Europe became opened for them. These big, not saturated markets with fragmented retail structures, lacking innovative retail formats like hypermarkets, favorable law and consumers' sensitiveness to branded product had encouraged the international retailers to open their stores there. To stay competitive they had to invest in the saturated markets of old EU and US as well as in the emerging (not saturated markets) in Asia, Eastern Europe and Africa. As a result of exploiting internal resources and external opportunities of entering new, foreign markets, after less than twenty years of internationalization (in the late nineties), some retailers had their activities in many countries, for example in 1999 Toys'R'Us had 1565 stores in 27 countries.

As the result of rapid internationalization process of retail companies the globalization of the sector took place. The global nature of trade sector is testified by the strategies implemented by companies competing on the global scale:

– Investing in the market in which direct competitor operates. An example is the internationalization of Wal-Mart, which was not due to the push factors or motivated by the possibilities of gaining higher profits in overseas markets, but was primarily the response to the investment of European businesses in the United States (Śmigielska, Figiel, 2001).
– Investing in the same markets as the main foreign competitor, which was attended e.g. by Tesco and Sainsbury (Aleksander, 1995).

– Investing in the markets of the triad, which include North America, Asia and the countries of the EU, often not paying attention to profitability of such an investment, as evidenced by some of the investments of retailers in China and India.

As a result of the pressure of constant growth and the imperative to participate in global competition, many companies started to invest in more and more remote regions and industries and sometimes they were not necessarily the best possible options to use their resources, as for example was the case of Wal-Mart in the Chinese, German or British markets. For example Wal-Mart's decision to invest in China was closely connected to the fact that global competitors had already operated there (Śmigielska, 2003).

FMCG companies, which rapid development in foreign markets began later than non-food retailers, at the beginning of the twenty-first century were in the phase of growth in the global market. It does not mean that they did not face any problems. Royal Ahold – a company with a high degree of internationalization – in 2001 was already present in 27 countries and its share of foreign sales in total sales reached 86.5% – has had difficulties since 2003, when the scandal of inflating the company's profits was revealed (Śmigielska, 2007, p. 181). Since that time, in order to achieve a stable financial position, Royal Ahold has sold a number of foreign investments, including Argentine subsidiary – Disco SA, its shares in the Spanish market, G. Barbosa and Bombrero chain in Brazil, and BI-LO and Brunos chains in US. The consequence of these problems and the low exchange rate of the dollar (revenue from the US market accounted for approximately 70% of total revenues of the company) was the decline in profitability in the first quarter of 2005 by 55% compared to the same period the year before. In this way, Ahold, the retailer having one of the strongest positions in the global FMCG market (next to Wal-Mart, Carrefour), lost it to the booming Tesco. FMCG companies have begun to face the problems of development, not only in new markets abroad but also in the home countries, which often remained the leading markets. Thus, for example, Wal-Mart and Tesco became the subject of harsh criticism and Carrefour was faced with the loss of an image of the company offering goods at low prices in France, where price plays a decisive role in the consumers' choices on FMCG market. In 2004 Carrefour faced also problems in foreign markets.

The company was founded in France in 1959 but t started to develop very fast in 1963 due to introducing the innovative format – hypermarket. Carrefour successful core strategy was based on discount prices, decentralization of power (a lot of freedom was given to the store managers), reduced emphasis on aesthetics, modest equipment, and accelerated rotation of stock. This store was unique in its size which let the consumers meet all their shopping needs under one roof (Lal *et al*., 2004). Hypermarket concept was attributed not only to convenience but also to price. The target markets for hypermarkets were "young people and new suburban dwellers as well as the budget-conscious consumers affected by the high inflation rates in the 1960s."(Carrefour SA, 2016).

It was pushed to internationalize in 1969, due to the legal restriction on opening big stores. First, it expanded to Belgium, then to Spain and in 1975 to

the other continent – Latin America, to such countries as Brazil and Argentina. In Asia it started operating in the late eighties by expanding to Taiwan. Yet the boost of conquering new markets came in the nineties. In Europe Carrefour entered Portugal, Italy, Greece, Turkey and Eastern European countries like the Czech Republic, Slovakia and Poland, in Latin America – Columbia and Chile and in Asia: Malaysia, Singapore, Indonesia, Taiwan, China, Japan and South Korea (Bilińska-Reformat, 2015).

Carrefour, which after the merger with Promodés, has become the second largest FMCG retail company, despite a significant presence in 30 countries and a systematic increase in sales, announced in 2004, a 15% decline in net profits (Śmigielska, 2007, p. 181). It was largely a consequence of losses in Japan. Despite the pressure on the continuous growth of this retailer there was also a withdrawal from a number of markets in which it had failed to succeed, among the others, in 2003, from the UK and Chile, in 2005, Japan, Mexico, Norway and Slovakia, in 2006, from Czech Republic and South Korea, in 2007 and 2009, from Switzerland, Algeria and Russia. The main reason for withdrawing from these markets is primarily the lack of achieving intended objectives because of unsuitable offer or too strong competition.

Multinational FMCG companies having a distinctive position on the global market, at the beginning of the twenty-first century thus began to meet similar problems as global retailers and finding the strategy to solve them was not easy. On the one hand, increasing global market share is essential for them because they could effectively implement new technologies and grasp the benefits of the position reached. On the other hand, to satisfy consumers they have to adapt marketing strategies to the needs of very diverse local markets. As the scale of operations and achieved position is crucial for the effectiveness of FMCG retailers so sometimes they "race" to enter the new foreign markets, without assessing the chances to be successful. It often caused problems.

6. PROBLEMS AND STRATEGIES OF CONTEMPORARY RETAILERS COMPETING ON GLOBAL SCALE

Due to the growing pressure to enter the new markets, retailers competing on a global scale started to open their stores in a more and more distant markets. Apparel/footwear retailers, which were the forerunners of globalization such as Benetton, although in 2014 operated on many foreign markets (Benetton in 120 countries), were not the biggest global retailers in the terms of sales. They have been overtaken by competitors better responding to the changing environment. The leading group includes retailers such as H & M and Inditex SA (the main brand of that retailer is Zara) which sales were several times higher than that of Benetton (Lahouasnia, 2010). Thus it is not the number of markets in which a chain operates but its strategy determines the dynamic growth of sales in the global market. The fastest growing apparel retailers keep the costs at low level and at the same time adapt their strategy not only to the changing environment but also to the preferences of the markets on which they operate. An excellent example of this type of strategy is

provided by Zara, known for flexible management of supply chain as well as positioning and differentiation depending on a foreign market.

Among retailers of FMCG, a dominant position on the global market for many years has been occupied by Wal-Mart operating in 28 countries around the world but it should be noticed that still the majority of revenue is coming from the US market. The number of countries where the retailer operates has grown over the years 2008-2014 by 10; from 18 to 28. But even the world's biggest retailer, is affected by troubles in a global market. As a consequence Wal-Mart withdrew from Germany and last time decided to close 269 unprofitable stores in the US and Brazil (D'Innocenzio, 2016).

Also other European operators managing many formats hypermarkets, discount stores, supermarkets, superstores etc. face problems. Since 2008, the number of countries where the leaders of globalization process Carrefour, Metro and Schwarz group almost haven't changed, and in the case of Ahold, there was even a decline – in 2014 when the company operated only in 6 countries. It should therefore be concluded that these companies focus on strengthening their position on the domestic and foreign markets, yet not all of them has been successful. For example, Tesco (operating in 13 countries reported drop in sales in 2014 compared to 2013 and reached the value of the index retail revenue CAGR of 1.8%. Its close competitor on the global market – Carrefour reported sales growth, while the CAGR for this company was negative and amounted to -2.8% (Global Powers of Retailing, 2016*)*. More successful have been smaller retailers but with more focus strategies like Auchan Group or Casino.

Contemporary trend in retail globalization is concentration on the large, fragmented markets, having the rapid pace of retail sales growth, such as China, India, Russia and Brazil. Competing in these markets, however, is extremely difficult and requires expertise in adapting to the expectations of buyers. Global retailers should take into account that on these markets they will not only compete with other global companies but also with fast learning local competitors.

The examples presented in the paper show that for effective competition in the global market occupying the market position as well as having the recognized brand is not enough to compete successfully. On global market effective management of value chain is crucial. In this value chain some elements must be standardized and the others must remain flexible, so that the company could respond effectively to the environmental changes and sustain its competitive advantage. Difficulties in maintaining standardized marketing strategy resulting e.g. from the need for continuous improvement of a service level by retailers, according to the growing expectations of customers; hence the problems of M & S, Tesco or Carrefour on their home markets. Another important reason is growing diversity of the markets as the globalization process progressed. Adapting the offer to the needs of buyers may cause negative consequences – in addition to reducing economies of scale related to standardization, the company may also lose a clear image, as it happened in the case of Benetton (Camuffo, *et al.*, 2001).

7. DISCUSSION

The issue of retail internationalization and globalization is a widely discussed (Yeng, Yazdanifard, 2015; Páll, Hanf, 2013; Lahouasnia, 2010; Coe, Wrigley, 2009). Vida and Fairhurst (1998) developed the model of retail internationalization in which they discussed the antecedents, the process and its outcome. They have found out that international retailers have advanced strategies, management and marketing expertise. Their findings as well as findings of the other Authors dealing with the problems of retail internationalization are generally similar to what has been presented in this paper. Novelty is the use of the Yip's model combined with the theories of sustainable competitive advantage development which give strong background for the research as well as separation of two branches food and non-food (or more generally FMCG) retailers and non-food retailers.

The limitation of the research is that is does not give the clear answer to the question on limits of growth. Although some global retailers have problems with further development the others are boosting. For sure e-commerce will change the rules of competition but now it is difficult to predict the results.

8. CONCLUSIONS

General theory of globalization processes, Yip's model as well as the theories of sustainable competitive advantage development could be applied successfully to analyze the process of the retail sector globalization. Yet, in the case of retailing there were two waves of it: development of enterprises implementing a global marketing strategy (non-food retailers) and the development of FMCG retailers. Internal factors of this process include development of necessary resources (capabilities and competencies) which enable the successful internationalization. External factors include progress in technology and networking characteristic for the knowledge-based economy, opening up many, non-saturated markets in which the core strategies could be implemented.

Regardless of the branch (food or non-food), represented by a company operating on the global market, a key role in the success will have the resources allowing them to coordinate spread operations: capacities in supply chain management (IT and logistics) and marketing management, developed on the basis of their core competencies. However, they must adopt a new formula, corresponding to the current competitive environment, emerging at the beginning of the twenty-first century and becoming increasingly fierce.

It seems that food retailer have followed the same path as non-food retailers so now some of them are facing problems with sustaining the growth rate. At this point they should decide on their key resources and key markets to develop new competitive strategies.

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Features of food industry on the Internet: A case of Lithuania

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Abstract:

The objective of this paper is to identify and present the current situation of Lithuanian food industry sector in terms of online presence, use of e-marketing tools and internet strategy implementation, paying attention to food manufacturers, marketers, and food delivery (including fast food and restaurants). The following methods as comparative analysis of the scientific literature, secondary data analysis, data comparison and logical grouping, graphical representation of data, and descriptive statistics employed. For empirical study, it was decided to investigate online activities of the food industry sector of Lithuania using structured observation technique. Following assumptions were formed after study: companies of food industry are more oriented to Russia than to European market, and Baltic market is really important for this sector. It is necessary to investigate food industry sector activities and strategies in other regions, and to develop model of Internet strategy forming for food industry by online presence decisions. The originality of this work lies in studying some aspects of strategic and tactical decisions related to online presence of food industry companies of Lithuania.

Keywords: e-commerce; e-marketplace; Lithuania; internet usage; food industry; web marketing
JEL codes: L66, M15, M31, O33

1. INTRODUCTION

Development of information and communication technologies (ICT) causes changes in processes of management, commercial and marketing activities of organization as well as changes in other areas such as consumer behavior patterns, learning peculiarities etc. The need of constant evaluation of markets, understanding of consumer, and knowing new technical solutions are vital for organizations nowadays. So as proposes Gajowiak (2016), it becomes necessary to use the resources (particularly the intangible ones) intelligently, and aim at increasing pro-innovation behavior, because role of intangible values continues to rise, as the existence of modern organizations is conditioned by innovations as well as by gaining

the trust of customers, by creating brand and by effectively responding to changing reality. The specific aspects of e-strategies implementation, decisions concerning online presence, choice of e-marketing solutions, understanding consumer behavior, presupposes actuality of the analysis of current situation in all fields of business activities. Food industry is not an exception in this case, and new insights in order to understand phenomenon of success are necessary. The food and beverages industry is one of the largest and most developed industries in the Lithuania. Compared with European Union countries, Lithuania is the one with the strongest orientation to the food and beverages manufacturing. The sector's contribution to the country's GDP excesses EU-27 average more than 2 times. Food industry has a good development prospects and export activities contributes to the sector's growth. This becomes more important in terms of the decreasing inside market related to declining population in the country, and e-commerce and reaching international markets via internet become one of perspectives.

The goal of the article is to identify and present the current situation of Lithuanian food industry sector in terms of online presence and use of web marketing tools paying attention to food manufacturers, marketers, and food delivery (including fast food and restaurants).

This study allows to evaluate level of usage of main elements (strategic decisions for web marketing tools, online presence, etc.) and to identify trends for further research in order to increase efficiency of food industry sector performance in the internet (scientific and practical perspective). The e-commerce market peculiarities of Lithuania analyzed and shortly presented in the article as well, in order to present whole picture.

The following methods as comparative analysis of the scientific literature, secondary data analysis, data comparison and logical grouping, graphical representation of data, observation, and descriptive statistics employed.

2. PREVIOUS RESEARCH

Innovation is one of the main motives and factors not only for economies, but also for businesses, and there is a great variety of definitions referring to innovative activity (Kosala, 2015). So, ICT can be treated as business innovations as well. ICT development and changes caused by development of ICT is a complex phenomenon, which consists of many different research areas such as ICT in companies' performance, ICT security, e-business development and solutions, e-commerce, e-logistic, web marketing, e-learning and many more. In this section overview of previous studies in a field of web marketing and e-commerce will be presented via such topic analysis as: website classification, website quality assessment, internet marketing studies and its use peculiarities in different sectors. In order to reach a goal, it is vital to analyze internet strategies and implementation tools, which will be analyzed and presented within next section.

The use of e-commerce activities in the food industry are widely discussed by scientists and practitioners (Annunziata & Vecchio, 2013; Carlucci, De

Gennaro, Roselli, & Seccia, 2014; Yang & Shang, 2015; Papaioannou, Georgiadis, Moshidis, & Manitsaris, 2015, Briz et al. 2016; Fang et al. 2016; Verheyen, 2016). The scientific research of the development strategy of green food e-commerce in Heilongjiang Province was made by Qi-Zhao Yang, Jie (2015). Eugenia Papaioannou et al. (2015) analyzed issues such as e-commerce potentials in the fast food industries, the acceptance of e-commerce alternatives by the consumers and the collaboration between businesses and customers. Domenico Carlucci et al. (2014) in order to target the goal to provide useful insights for small and medium-sized enterprises (SMEs) interested in online selling of extra virgin oil, studied the relationship between the price of extra virgin olive oil and its main quality attributes, in the specific case of business-to-consumers e-commerce channel. A. Annunziata and R. Vecchio (2013) analyzed the websites of Italian companies engaged in the production of typical and traditional foods in order to investigate web marketing strategies of food producers in Italy. The research has shown that these firms invest very little in web marketing and focusing their efforts on the internet only as a secondary promotion tool, while web based direct selling is confined to market niches.

E-commerce activities are closely related to the broader and more general fields of study, which are important to analyze in order to perform research methodology. A lot of researchers paid attention to the quality assessment of website (Aladwani, 2006; Collier & Bienstock, 2015; Cuddihy & Spyridakis, 2012; Dholakia & Zhao, 2009; Guseva, 2010; Hasan & Abuelrub, 2011; Lee & Kozar, 2012; Rocha, 2012; Saremi, Abedin, & Kermani, 2008; Shejul & Padmavathi, 2015; Subramanian, Gunasekaran, & Yu, 2014; Wang, Yeh, & Yen, 2015; Zhang & Dran, 2000), customer behavior (Alzola & Robaina, 2010; Bressolles & Durrieu, 2010; Dennis, Merrilees, Jayawardhena, & Wright, 2009; Hamid & McGrath, 2015; Hodkinson, Kiel, & McColl-Kennedy, 2000; Yue & Chaturvedi, 2000; Maditinos & Theodoridis, 2010; Rahim, 2014; Su, Li, Song, & Chen, 2008), marketing communication tools such as: research in the area of web advertising efficiency (Moore, Stammerjohan, & Coulter, 2005; Richardson, Ganz, & Vallone, 2014), social media usage in different communication models (Agnihotri, Dingus, Hu, & Krush, 2015; Chan & Guillet, 2011; E Constantinides, 2015; de Vries, Gensler, & Leeflang, 2012; Jarvinen, Tollinen, Karjaluoti, & Jayawardhena, 2012; Kärkkäinen, Jussila, & Väisänen, 2010; Laroche, Habibi, & Richard, 2013; Michaelidou, 2011; Pabedinskaitė & Davidavičius, 2012; Riemer & Richter, 2010). It is important that social media usage depends not only on the chosen communication model, but also on the industry specifics (Barnes, 2010; Buhalis & Mamalakis, 2015; Panagiotopoulos & Shan, 2015; Senadheera, Warren, & Leitch, 2011). Barnes and Mattson (2010) analyzed the e-behavior of Fortune 500 companies, focused only on a limited set of industry categories, i.e., computer, food, special retail, commercial banks, semi-conductors, motor vehicle, insurance and IT (Levina & Vilnai-Yavetz, 2013). The specifics of navigation and quality of e-commerce perception of Lithuanian consumers were presented

by Davidavičienė, Tolvaisas (2011), Davidavičienė, Sabaitytė, Davidavičius (2012), Davidavičienė, Paliulis, Sabaitytė (2012).

Taking in mind the rapid e-marketplace changes and growing business needs, as well as opportunities and appearance of new tools, constant exploring virtual markets (food industry not exception) peculiarities, is necessary. Deeper understanding of sectors development and progress in use of e-tolls is actual for scientists as well as for practitioners. Further will be analyzed internet strategies and online presence aspects in order to form research methodology.

3. INTERNET STRATEGIES CLASSIFICATION

The performance of organizations depend not only on changes caused by ICT development and new tools which are implemented, but it largely depends on a type of Internet strategy which organizations choose taking in alignment with overall strategy of organization. Many scientists have investigated the Internet strategies typology, classification, and use in different sectors (Spiller & Lohse 1997; Amit & Zott 2001; de Kare-Silver 2001; Biyalogorsky & Naik 2003; Doherty & Ellis Chadwick 2003; Weltevreden et al. 2005). In this article, further will be employed classification proposed by Weltevreden et al. 2005 and adopted to nowadays situation. It is one of the most extensive Internet strategy classification, which relays on three types of companies activities intensity relying on website type (Weltevreden, Atzema, & Boschma, 2005):

1. No website: *pre internet passive* (no activities planned), *pre internet proactive* (URL and activities planned), *developing* (URL and activities developing);
2. No online sales: *billboard (*use the Internet to make potential customers aware of their existence, no additional services), *brochure* (limited product information), *catalogue, service (*provide additional services to enhance the relationship with their customers (e.g., help desk services, community building services, online ordering without online transaction, etc.));
3. Online sales: *export*, *mirror* (online sales as additional activity of company), *synergy* (both traditional and online channels are equally important), *anti-mirror* (most part of business online), *virtual (*business online).

In order to make link between Internet strategy and changing customer needs, which enhance overall interaction via website the online presence elements should be analyzed and fit to the Weltevreden et al. (2005) proposed classification.

4. ONLINE PRESENCE

Online presence is direct reflection of organization goals. Different features of the website leads to the website type alternatives and internet strategy implementation. Hence, Efthymios Constantinides (2002) emphasizes the four main managerial ingredients of web marketing: scope, site, synergy, system. The 4S marketing mix firstly aimed as an educational tool, but very soon has been proved as a tool for designing website and improving the existing one, either elaborating

online presence strategy. According to the E. Constantinides (2002) one of the most crucial ingredients of web marketing is website, which strategic role could be described as main generic types: informational, educational, relational, promotional and transactional. However, David Chaffey and Fiona Ellis-Chadwick (2012) identified five types of online presence: transactional e-commerce sites, service-oriented relationship building or lead-generation website, brand-building site, portal or media site, social network or community site. Classification is based on the differences of each online presence type features (see Table 1).

Table 1. Main features of online presence solutions

Internet strategy Group	Internet strategy	Online presence type	Main features
no website	*pre internet passive*	**No website**	–
	pre internet proactive		
	developing		
no online sales	*billboard & brochure*	**Brand-building site.**	Provides experience to support the brand. Typically no possibility to purchase online. Merchandise may be. Experience is developed by content marketing and social outposts.
	catalogue		
–	*social network site*	**Social network or community site**	Enabling community interactions between different customers by posting comments, sending messages, rating and tagging content etc. May be used for public relations, brand building, opinion researches.
online sales	*export*	**Transactional e-commerce sites.**	Possibility to purchase online. May provide information for offline customers
	mirror, synergy, anti-mirror,		
	virtual		

Source: own study based on Chaffey, Ellis - Chadwick (2012), Weltevreden et al. (2005), Constantinides (2002).

A. Annunziata and R. Vecchio (2013) emphasizes that the website is the key element in developing web marketing strategy, as it is a relationship building instrument between the consumers and enterprise existing in the market. However D. Chaffey and F. Ellis – Chadwick (2012) highlight that due to provided classification it is not suitable clearly categorize websites, because many of it may have blended features. We suggest that for this research first three types of presence (transactional e-commerce sites, service-oriented relationship building or lead-generation website, brand-building site) have to be considered as types of website owned by organization and social network or community site as the microsite or activity in third party's networks.

The theoretical background for further research set by identifying online presence types, which can be described by website types and its features and belonging to the internet strategy. In next section research methodology will be presented.

5. MATERIAL AND METHODS

Two research methods were employed for this study: 1) secondary data analysis, and 2) observation of food industry companies' activities in the Internet.

Overview of internet usage, created GDP, average spends per shopper and amount of shoppers in electronic environment in general were evaluated in order to present market situation. In order to evaluate food industry sector performance in the internet and to draw the general picture of this market in Lithuania the structured observation method was chosen for empirical research. Sample of 146 business entities was taken with confidence level 95 and confidence interval 8.

Analysis of industry representatives focusing on different e-solutions in B2B and B2C communication were performed according the classification preformed and presented in previous section (table 1). It was agreed on 3 industry types for observation, such types were: food manufacturers (meet products, fish products, fruits and vegetables, oil, milk products, grain, bakery products, other), food delivery (e.g. restaurants, fast food, etc.), food marketers (hole sellers, retailers, supermarkets). Indicators representing food industry sector: activity in the internet (having website and its type); use of languages (companies market orientation), involvement of web marketing tools (having separate websites for different product brands, presence in social networks).

6. RESULTS AND DISCUSSION

According statistics there were 19% of companies that sold goods or services via internet in year 2014. Sales via e-networks compared to sales overall were 9 % (Official statistics portal, 2016). In year 2014 in Lithuania 650 thousand people shopped online, which is about 26% of the population. E-commerce share of eGDP in Lithuania is 1.13%. In comparison eGDP share in Britain' which is leading by this indicator in EU is 5.74%, in Europe 2,5%. Lithuania is only in 22-nd place in ranking by eGDP share in Europe, and 6-th place from 8 countries in Northern Europe region, while the share of e-commerce GDP in Denmark 3,84 %, Estonia - 0,77%.

The turnover of e-commerce in Lithuania was 410 million € which is much less in comparison to greatest turnover in Northern Europe which is at Denmark (9,9 billions €; first place), the lowest turnover is in Estonia - 150 million € (last place). Lithuania is 5-th in ranking of Northern Europe in turnover. Average spends for one shopper in Lithuania were 630 €, meanwhile greatest average spend per shopper in Denmark is 2721€, lowest in Estonia – 283 €. Despite Lithuania is in a group of Northern countries – the results are low in comparison with other.

In summary, situation in Lithuania's internet infrastructure, penetration and usage are at the level close to European average, and some aspects are even higher, which with fact that European markets are open for Lithuanian business let to conclude that there are all the preconditions to develop e-commerce to the level close to those averages of Europe.

As one of the possible reasons of low turnover and eGDP considered the Lithuanian e-commerce, which is highly self-oriented that is to say the foreign markets are poorly exploited and employed. To test this assumption the research of foreign languages usage in Lithuanian food industry business websites in general and e-commerce sites was completed.

During the research it was found that 64.2% companies had websites, 31.1% had no website and website did not loaded 4.7% of all analyzed companies. Further analysis revealed that in different sectors of food industry tendencies of using web tools are different (see fig.1).

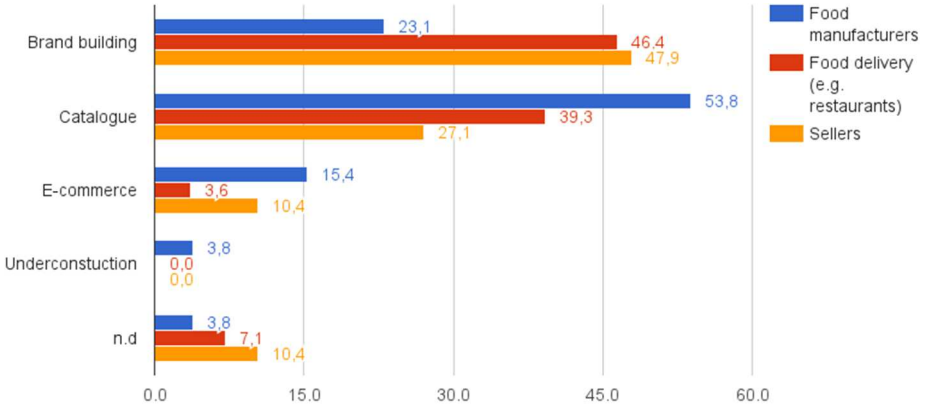

Figure 1. Online presence in Lithuania food industry
Source: compiled by authors.

Observation reveals that food manufacturers keen to have catalogues and present all range of products 53.8%, meanwhile food delivery and sellers presenting themselves via brand building sites. Unfortunately, all groups of food industry show quite low activity in e-commerce and do not choose online strategies that is why further type of online strategies not discussed. Under construction graph mean, that companies use passive or development strategy. Unfortunately, it was some websites which specific was not identified: some of them did not loaded (most of them sellers section – 10,4%); others were hacked at a moment of observation.

Information in other languages percent (see fig.2) in different sectors of this industry (analyzed food manufacturers, food delivery (restaurants) and sellers (marketers) varies.

Food manufacturers are most oriented to foreign speaking inhabitants or to export markets because most of them have one or more foreign languages in website. A lot of food delivery companies (restaurants, fast food, pizzerias) are offering information in local language. Chart (fig. 2) reveal that German and Polish language is used less than Russian (taking in mind ethnical structure of population of Lithuania (here lives approximately the same percentage of Russians and Polish) the assumption that these companies are more oriented to Russia than to

European markets could be formed. It should be noticed that from other languages group, which as revealed important to food manufacturer and sellers, such languages as Latvian and Estonian were implemented. This show that common Baltic market is important for this sector as well.

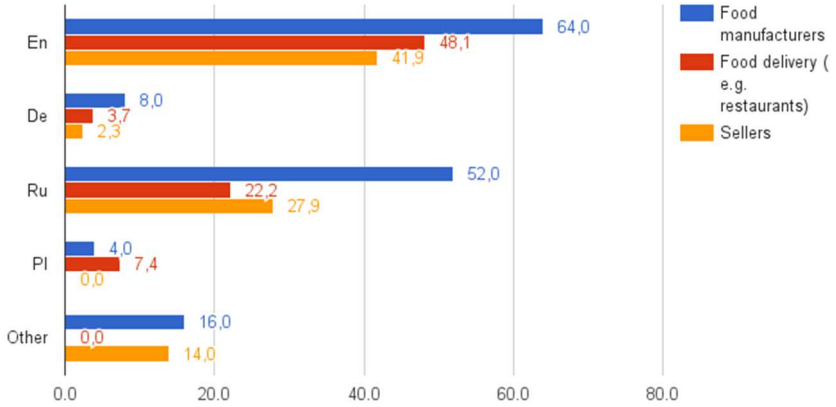

Figure 2. Use of languages in Lithuania food industry websites
Source: compiled by authors.

Involvement of web marketing tools like having separate websites for different product brands is really low (from all researched companies just four companies (2,7%) exploited this web marketing solution). Presence in social networks results are much better. From all companies 43% had page in social network Facebook (82.5% from this range has website as well), but these solutions are oriented to local B2C oriented web marketing communication.

7. CONCLUSIONS

Previous studies in a field of e-marketplace, Internet strategies and web tools were analyzed, and this was the theoretical background for the research of food industry sector of Lithuania. The Internet strategies classified and they relations with online presence categories found. The analysis the Lithuanian electronic market were performed: analysis of internet usage, e-commerce turnover, and share of e-commerce GDP, average spent per consumer and market size was taken in consideration. Important to mention that level of Lithuanian internet usage is close to European countries averages. Despite that e-commerce GDP is quite low, so additional measures for encouraging to exploit more e-commerce possibilities should be taken. Low turnover of e-commerce activities in Lithuania might be related to the fact that it is not fully exploit the potential of other markets by Lithuanian e-commerce participants. This statement was deeper analyzed in food industry sector of Lithuania.

Analysis of the usage of languages in food industry sectors research revealed that websites are more focused on inner markets of the country. Two assumptions

were formed and must be studied deeper: companies of food industry are more oriented to Russia than to European market, and Baltic market is really important for this sector. So, taking in mind geopolitical situation (Russia-Ukraine crisis) food industry companies should be more active targeting Asia and America markets in order to split the risk and expand activities. For this the general websites oriented to business to business cooperation should be well performed or orientation to business to consumer could be exploited as analog strategy via e-commerce solutions (but in this case food industry companies should explore consumer behavior and needs in target markets in order to develop proper web marketing plan.

Further research should be focused on food industry activities on the Internet for investigating peculiarities of web marketing solutions for international markets, as well as studies of peculiarities of strategic decisions, and online presence models formation for this sector.

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A general overview of usage of smartphones and mobile applications by young consumers in Poland, Croatia and Serbia

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Abstract:

Emergence of smartphones with strong wireless networking capabilities has set the field for foundation of a various mobile commerce services. The improving access to wireless communication technologies is bringing mobile commerce to the focus of marketers and retailers as a new marketing and retail channel in the context of multichannel retailing. Research studies deal with the level of adoption and factors influencing adoption of mobile commerce within various groups of consumers in different markets. However, there is a scarcity of research studies explaining level of mobile commerce adoption in Central and Eastern Europe. The main goals of the paper are to explain the level of adoption in three countries in this region and to describe patterns of usage of smartphones and mobile applications as shopping tools within the population of young consumers in those markets. This paper, based on secondary data, explains the state of the art of smartphone usage in Poland, Croatia and Serbia. Furthermore, based on a primary quantitative survey on student population, the paper brings valuable data on smartphone and mobile application among young customers in mentioned markets. The primary research was conducted on more than 450 examinees in Poland, Croatia and Serbia and in this paper basic descriptive statistical analysis was conducted in order to discuss types of activities and some basics characteristics of young consumers regarding mobile commerce in general.

Keywords: mobile commerce, smartphones, mobile applications, Central and Eastern Europe, millenials
JEL codes: L8, L81, L86, M31, M15

1. INTRODUCTION

Smartphones created its users opportunity to be online every time and everywhere. This tool delivers them much more satisfaction than any PC or tablets previously- they let satisfy a different types of needs: to be closer with other people, to entertain, to educate or develop social and cultural life every moment users want. Access to all offered through this type of mobile devices products and services created new opportunities for telecommunications companies and communication services. As a result telecommunication infrastructure in developing countries grew respectively in last decade. This provided new possibilities to marketers and retailers who started to redefine their communication and approach with potential and existing customers (see Yadav et al, 2016).

Smartphones generate tremendous flow of data, contributing to the big data phenomenon (McAfee and Brynjolfsson, 2012). In addition, marketers can reach student population through smartphones. Placing information about the products and services online is the key for success for many retailers even in the situation when customers are not willing to buy online. Omni channel strategy become dominant in the last several years and its significance will grow in the future.

There are numerous studies dealing with technological aspect of mobile commerce (for instance: Lembke, 2002, Lee et al, 2007, Chong, 2013), in addition a bunch of studies explains adoption and behavioral aspects of mobile commerce in various consumer groups and various countries (for instance: Choi et al., 2008, Chan et al, 2013, Hamkaa F., Bouvman H., de Reuvera M., Kroesena M., 2014, Thakur, Srivastava, 2013; Kucharska 2015; Molina-Castillo, López-Nicolas, Bouvman 2008). However, there is a scarcity of comparative studies of various aspects of mobile commerce across countries, especially in post-communist markets, except few examples which touched the problem of usage of smartphones in that part of the world (Ponder and Markova 2002). Lovreta, Stojkovic (2014) and Sojkovic et al. (2016) explain the role and position of electronic commerce in multichannel strategy of retail chains in Serbia, but they are not dealing with mobile commerce as a channel which is bringing new challenges and potentials to the retail market. Knezevic et al (2014) explain how students are using Internet as a source of purchasing information not addressing the issue of mobile commerce usage in Croatia. But Knezevic et al (2015) have dealt with potential of smartphones and mobile applications as shopping tools in Croatia, while Duzevic et al (2016) explained loyalty factors of mobile commerce in young customers' population. Up to our knowledge there is no study explaining phenomenon by comparing more Central and Eastern European countries. There are also few examples of research in Poland – the authors analyzed the attitude of customers toward m-commerce and types of opportunities it creates for companies (Frąckiewicz 2015; Lewicki 2015; Borusiak and Szymkowiak 2014).

Some researchers concentrate on the attitude of younger customers. The generation Y differs fom the older generation because it is technologically highly aware and willing to use digital tools in all spheres of life (Howe and Strauss 2001; Worley

2011; Archana and Heejin, 2008; Lazarevic, 2012; Rahman and Azar, 2011), thus it is worthwhile to research how students, as a waste part of generation Y, are using wireless technologies in everyday life and as a source of purchasing information. Kumar and Lim discovered that the mobile service quality attributes are important to Generation Y users and baby boomers, but their study also showed significant differences between the two groups in terms of the effects of perceived economic and emotional value on satisfaction (2008). There are still some gaps in knowledge on so called Millenials and their attitude and shopping behaviour toward m-commerce.

As a result the primary research was design to answer following research questions:

1. Do young consumers in Central and Eastern Europe express characteristics of "handset generation" as described by Turban et al (2012, p. 279)?
2. What is the pattern of their activities regarding mobile applications?
3. Is culture of freebies present among young consumers in Central and Eastern Europe?
4. Do young consumers use mobile commerce for shopping?

Those questions results from limited knowledge on young customers from Eastern Europe who use smartphones. But as the same time the market of m-commerce is still growing and has high dynamics of growth so the aim of the authors is to check if the description of Turban et al (2012, p. 279) fits to young consumers from other countries.

More than 450 students from Poland, Croatia and Serbia took part in this research and research was taken anonymously in written form and online in the controlled environment. For the purpose of this paper simple descriptive statistical analysis was conducted. Descriptive statistical methods were applied to describe the structure of the sample and attitudes on the sample level, and data was scrutinized and discussed among countries as well.

The paper is divided in two main parts. In the first part definitions and main characteristics of mobile commerce are given together with the state of the art regarding Internet and smartphone (as primary mobile device) usage in Poland, Croatia and Serbia is described. In second part primary research is described starting from methodology and sample description towards discussion of results. Discussion of results includes following topics (a) Young consumers in Central and Eastern Europe as "handset generation", (b) Patterns of young customers activities regarding mobile applications, (c) the culture of freebies and (d) usage of smartphones as shopping tools.

2. DEFINITION OF MOBILE COMMERCE AND ADOPTIONOF INTERNET AND SMARTPHONES IN POLAND, CROATIA AND SERBIA

Chaffey (2007, p. 132) defines mobile commerce as electronic transactions and communications conducted by using different mobile devices and typically with a wireless connection. Even though, mobile commerce is considered as a relatively new phenomenon (Yadav et al, 2016) fully enabled throughout wireless technology and handheld devices such as PDAs (personal digital assistants), palmtop computers and mobile phones, Chaffey (2007, p.132) states that mobile technologies are not only technology that enables mobile commerce because, for many years it was possible to

access to networks via laptop and modems from locations outside company. But, Laundon and Traver (2007, p. 84) emphasize wireless as the main characteristic of mobile commerce and they claim that the major advantage of m-commerce is possibility to access Internet by anyone, from anywhere using wireless devices. Similarly, Turban et al (2008, p. 8) define mobile commerce as electronic commerce transactions and activities conducted in full or in part in a wireless environment. Another important emphasis was made by Laundon and Traver (2007, p. 17) who claim that conducted transactions are commercial in their nature. M-commerce is often considered as an extension of e-commerce eco-system which is extended by wireless technology and mobile devices application (Zhang et al, 2012). Therefore, the first approximation of e-commerce and m-commerce potential of the mobile commerce can be based on penetration rate of Internet and Facebook. In Figure 1 data are shown for Croatia, Poland and Serbia together with average rates in Europe, European Union (EU-28) and for World. According Figure 1, in Croatia 75% of population use Internet, in Poland 67,5%, and in Serbia 66,2%. Regarding social networks, in Croatia 42,6% of population uses Facebook, in Poland 36,8% and in Serbia 50,6%.

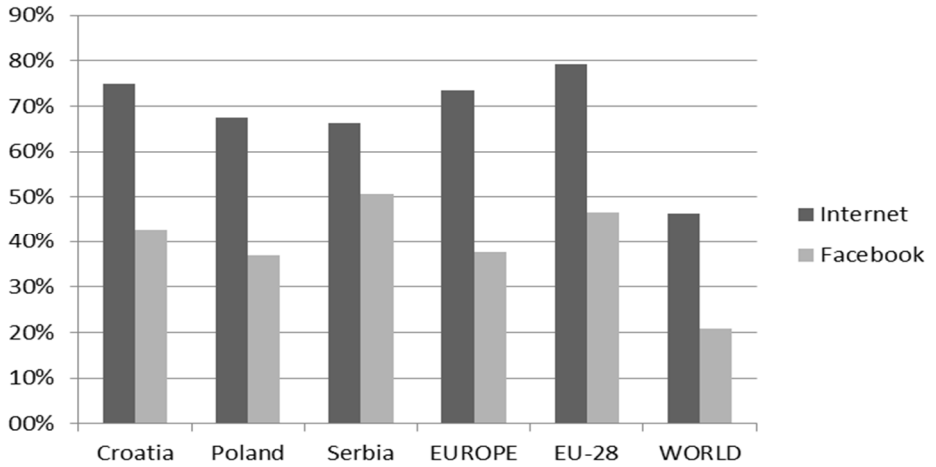

Figure 1. Internet and Facebook usage in total population
Source: own compilation according to http://www.internetworldstats.com/stats9.htm (accessed on 27th September 2016).

However, as it can be observed, all three countries are significantly above world averages, but when we make comparison with European or EU averages the situation is different. Croatian Internet penetration rate (75%) is in line with the European average (73,5%), but below EU-28 average (79,3%). Only data for Facebook usage in Serbia (50,6%) is above both European averages (Europe 37,7%; EU-28 46,5%). All other indicators for all three countries are below European averages. Therefore, we can conclude that situation can be improved in the near future.

Another important indicator, when discussing mobile commerce potential, is the adoption of smartphone devices within the population. In 2013 the number of mobile

phone users in Central and Eastern Europe was almost 284 mln. According to forecasts in 2019 number of mobile phone users in that region will account 314,2 mln. The penetration rate will increase from 65,9% in 2013 to 72,1% in 2019 (Worldwide Internet And Mobile Users Report… 2015). According to Mason Group opinion, smartphones will account for at least 75% of handsets in all CEE countries except Ukraine by 2019 (Iacopino, Bailey and Hare 2014). Figure 2 shows trend of growth of smartphone usage. In all three observed countries in 2015 number of smartphone users exceeded 50% of the population, in Croatia it is above 60%.

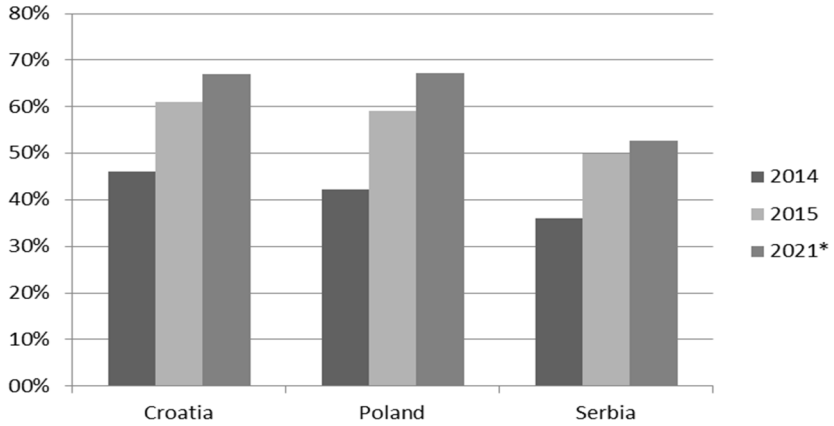

Figure 2. Smartphone usage in total population
Note: * 2021 – forecasted value.
Source: own compilation according to https://www.statista.com/statistics/347221 (accessed on 26th September 2016).

Till 2021 it is estimated that growth trend will continue and that in Poland and Croatia there will be more than 65% smartphone users within population, while for Serbia predictions are around 53%. Therefore, based on the presented data on Internet and Facebook adoption, and based on smartphone usage growth trend, we can conclude that companies in observed markets have to consider Internet, Facebook and smartphones as communication and distribution channel with a huge potential for direct and continuous commercial communication with customers (for illustration see studies: Pejic Bach et al., 2010; Knezevic et al, 2011).

Comparing to e-commerce, Turban et al. (2012, p. 432) emphasize several value-added attributes of m-commerce: ubiquity, convenience, interactivity and personalization. Ubiquity refers to accessibility of information from any location in a real time. Convenience refers to ease of use of mobile devices in comparison to desktop devices which are smaller and thus more usable for information access on the move. Mobile devices improve interactivity because users are able to communicate, search for information and use services in a real time.

Moreover, the individual usage of mobile devices enables a high level of personalization according needs and requests of an individual user which gives a business opportunity for delivering personalized information, products and services. The knowledge on users' physical locations in a real time creates a business opportunity to offer location-based information, services and products. This aspects are investigated and proved as benefits or influential factors of m-commerce adoption in studies such as: Choi et al. (2008), Chan et al (2013), Chong et al (2013), Zhang et al (2012), Thakur and Srivastava (2013), Yadav et al (2016) etc.

3. PRIMARY RESEARCH RESULTS

Methodology and sample

In this research the survey was taken on student population. A paper and an online questionnaire were formed and it included 26 questions of different types: 17 one choice questions; 1 multiple choice, 8 Likert scale ranking questions. The questionnaire was structured on the basis of previous research studies mentioned in the previous part. Questions were divided into several groups:

1. Socio-demographic characteristics.
2. Experience in online purchasing (questions were adapted according to Ling, Chai and Piew 2010).
3. Smartphone and mobile application usage (questions were adapted according adapted according to Laundon and Traver 2007, Iacopino, Bailey and Hare 2014, Knezevic et al 2015).
4. Impulsive vs. planned purchasing (questions were adapted according to Ling, Chai and Piew 2010).
5. Motivation and issues in mobile purchasing (questions were adapted according to Choi et al. 2008, Turban et al. 2012, Chan et al 2013, Knezevic et al 2015).
6. Usability and effectiveness of mobile purchasing (questions were adapded according to Thakur and Srivastava 2013, Yadav et al, 2016).

However, in this paper we will focus only on question groups 1, 2 and 3 on which we will apply the basic descriptive statistics methods in order to compare relative frequencies on smartphone experience and usage in Poland, Croatia and Serbia. The gathered poll consisted of 454 answered and validated questionnaires form Poland, Croatia and Serbia. The structure of the sample according to demographic and economic criteria is shown in Table 1. The gender structure of the sample was in the accordance to the student population within faculties of economics and business in Eastern Europe. On average, there were 67,4% of female and 32,16% of male students at the sample and distribution by age is similar in all three countries. The largest proportion of students (on average, 82,16%) is old between 20 and 25 years, 11,45% of them have more than 25 years and only 6,39% are less than 20 years old. Nonetheless, distribution by age differs between countries.

Due to differences in average wages and in order to avoid misunderstanding among currencies, instead of typical question on incomes, we decided to ask examinees to evaluate their economic situation on scales from 1 – very bad to 5 – very good. In Table 1 average grades are shown together with the median and modal values and standard deviations. In Polish case, economic situation is evaluated as good (4). The views of Serbian and Croatian respondents are summed up with a median of 3, which can be described as an average perception. Respondents are not negative in general which is also connected with their age and student status.

Table 1. Characteristics of the sample

Country of origin				
	Poland	Croatia	Serbia	Total
Number of respondents	157	163	134	454
Frequency in %	34,6	35,9	29,5	100
Frequencies in %				
Gender	Poland	Croatia	Serbia	Total
Males	39,5	28,8	27,6	32,2
Females	60,5	71,2	72,4	67,8
Total	100	100	100	100
Frequencies in %				
Age	Poland	Croatia	Serbia	Total
less than 20	8,3	0,6	11,2	6,4
20-25	89,8	74,9	82,1	82,2
more than 25	1,9	24,5	6,7	11,4
Total	100	100	100	100
Perception on economic situation (1-very bad, 5-very good)				
Statistical values	Poland	Croatia	Serbia	Total
Mean	3,6	3,23	3,13	3,33
Median	4	3	3	3
Modal value	4	3	3	3
Standard deviation	0,62	0,76	0,74	0,74

Source: own research.

Discussion of results

Young consumers in Central and Eastern Europeas "handset generation"

Table 2 illustrates a worldwide omnipresent phenomenon, which is the increasing use of smartphones as primary devices. About 95% of the respondents are using smartphone as a primary device. This aspect shows the significance of smartphones in the daily lives of all respondents. The number is noticeably higher than in the whole population, so it confirms that Millennials are much stronger oriented on using mobile devices than other segments.

When it comes to the respondents' experience in smartphones usage (see Figure 3), the majority has at least two years of experience (more than 24 months). This group is mostly presented by Polish respondents (about 91%) and – to

a smaller extent – by Croatian (84%) and Serbian respondents (78%). However, this data show that most of the respondents are experienced smartphone users.

Table 2. Smartphone as primary device

	Relative frequencies in %			
	Poland	**Croatia**	**Serbia**	**Total**
Yes	95.5	96.9	94.8	95.8
No	3.2	3.1	5.2	3.7
n/a	1.3	0.0	0.0	0.4
Total	100	100	100	100

Source: own research.

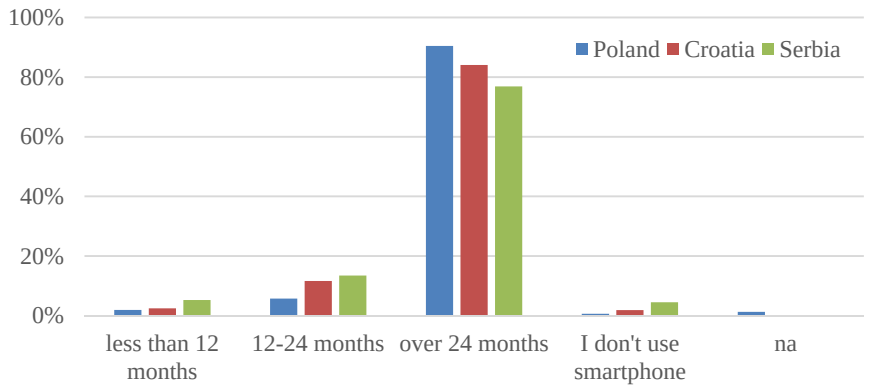

Figure 3. Experience in smartphone usage
Source: own research.

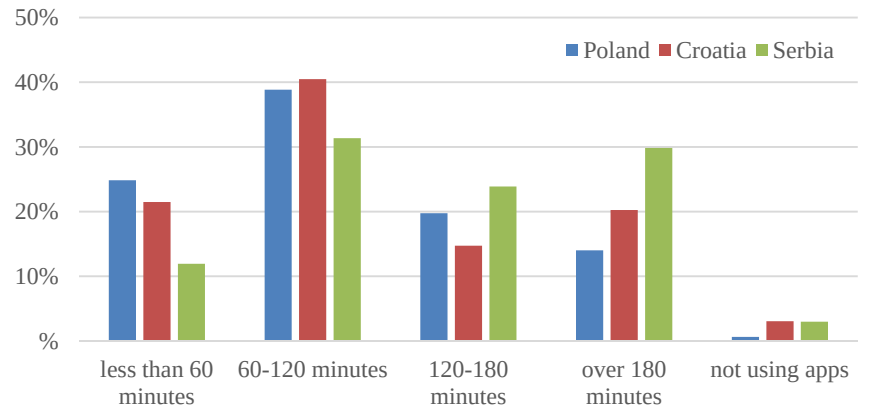

Figure 4. Daily usage of mobile applications
Source: own research.

Regarding the first research question, all above mentioned facts bring us to the conclusion that in all three countries we are dealing with experienced and heavily smartphone-oriented users which confirms Turban's claim that contemporary young consumers are so called "handset generation" (Turban et al, 2012, p 279). In order to adjust to this new generation of consumers, retailers and marketers should pay more attention on changes in shopping behaviour provoked by extensive use of smartphones in their everyday life.

Patterns of young customers activities regarding mobile applications

First of all, design, availability and application market used for application download hardly depends on operation system used on mobile device. In Poland, Croatia and Serbia predominant operation system used on mobile devices in Android (see Figure 5).

IOS ranks number 2 with a much smaller percentage than Android. Nonetheless, in Croatia number of users of iOS is respectively high comparing to other two countries (almost 30%). Therefore, peculiarities of this operation system should be addressed more carefully when designing mobile applications and providing mobile services. Windows appears to be the least used operation system among the respondents (less than 10%).

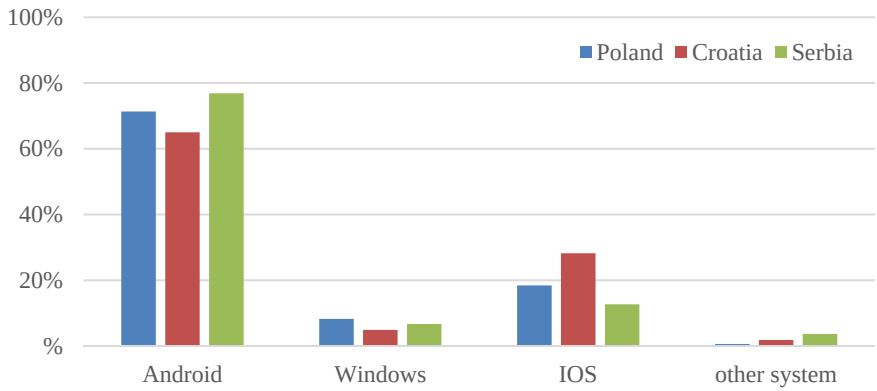

Figure 5. Operation system
Source: own research.

Figure 6 show that most respondents download 5 to 50 apps a year (65% to 75%). Only a few seem to be downloading more than 50 apps a year, which shows that 50 is the limit. Still, such a wide span (5 to 50) is not favourable for a more precise analysis, which prevents us from drawing further conclusions. But, Figure 7 illustrates how many apps are being uninstalled per year. Despite the fact that Croatian and Polish respondents download 5 to 50 apps a year, most of them (about 45%) delete only 5 to 10 of their downloaded apps.

Serbian respondents are equally represented in all three categories. This brings us to the conclusion that users are actively updating their smartphones during the year by application uninstallation.

Despite a huge amount of downloaded apps (5 to 50) most respondents appear to use frequently three to ten apps per week.

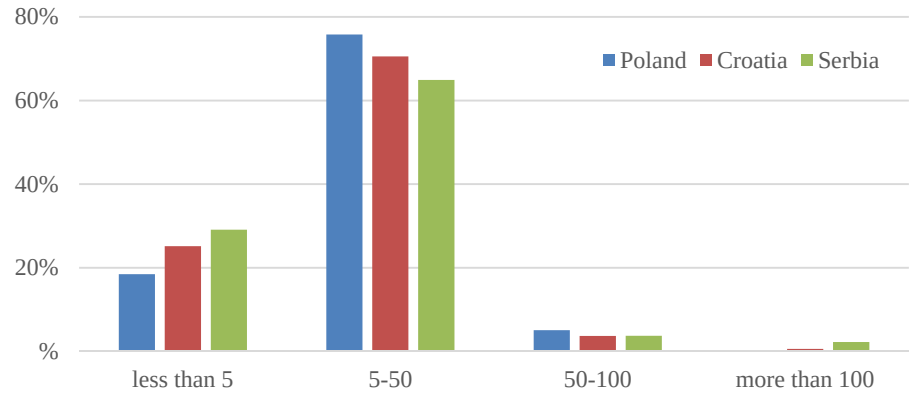

Figure 6. Apps downloads per year
Source: own research.

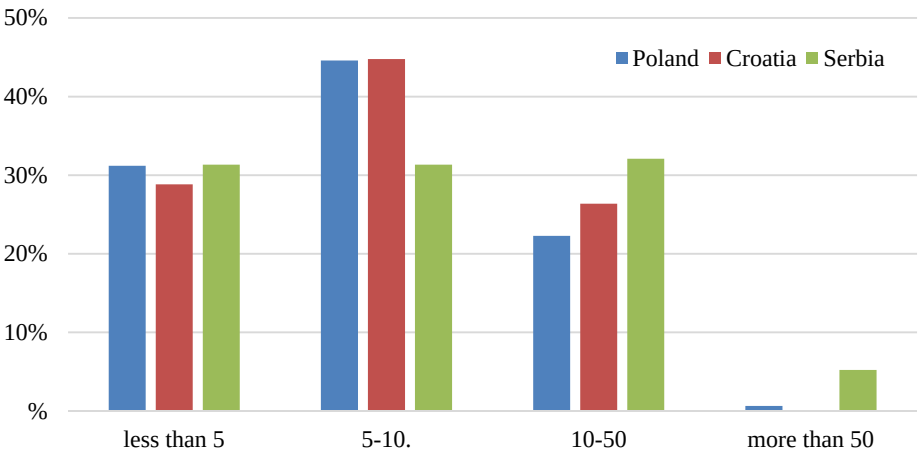

Figure 7. Apps uninstall per year
Source: own research.

More than a half of all Polish respondents use 3 to 5 apps per week and about 33% of all Croatian and Serbian respondents frequently use 5 to 10 apps per week (see Figure 8). These numbers are moderate compared to the number of downloaded apps.

When it comes to choosing types of applications, there are a lot of similarities between the three groups of respondents (see Figure 9). Social networking plays an important role especially for Serbian and Polish respondents. Downloading apps for entertainment purposes is popular among all of the respondents (notably

Croatian). Serbian and Croatian participants do also download apps that inform them about the latest news. Business usage is the lowest in Serbia and highest in Poland. Probably it results from the fact, which respondents who are students are not fully active on market and are not employed, so they concentrate on developing social relations and entertain. What is noticeable is that Croatian respondents distinguish from other in the category of finance – which confirms they interest in that area. After entertainment and social network following news is the most marked answer. So it confirms their interest in all around situation.

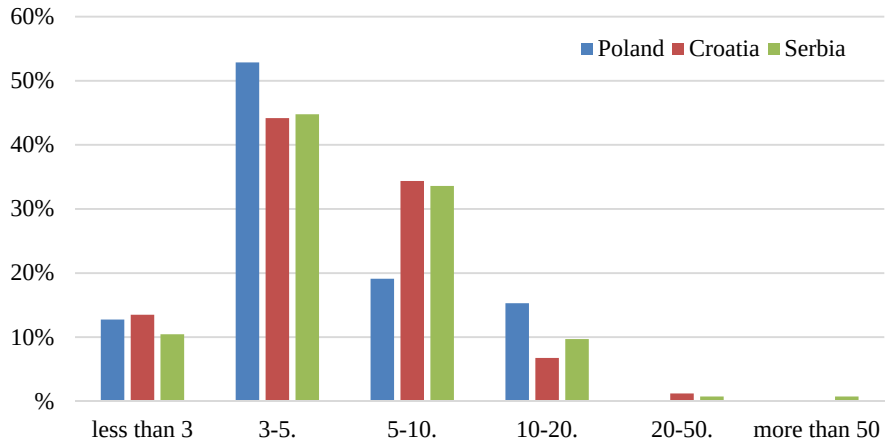

Figure 8. Number of applications in frequent use per week
Source: own research.

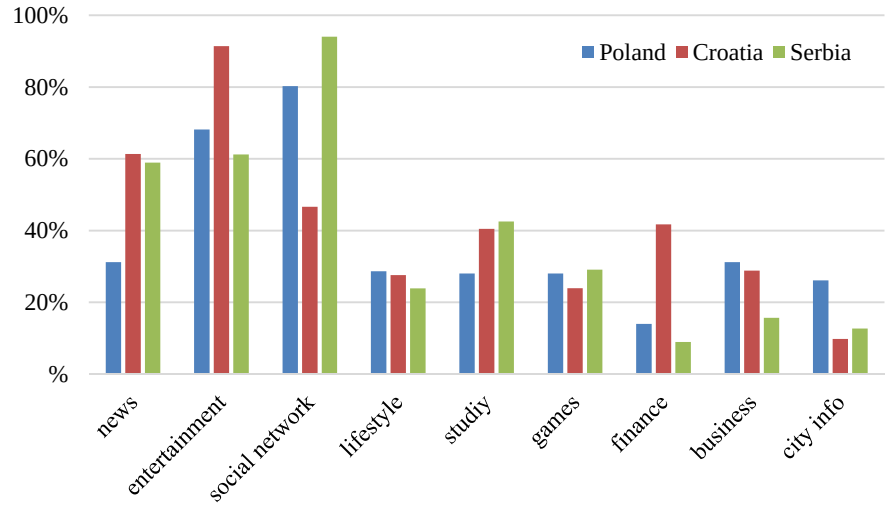

Figure 9. Types of applications (activities) on smartphones
Source: own research.

Applications are being used as learning tools as well. Among Polish respondents, applications are most frequently used to keep in touch with professors and students. Respondents say that they also use apps to obtain information for their classes. Croatian respondents use apps to stay in touch with their professors and other students as well as to get information about schedules and exams. Serbian respondents use apps as learning tools most frequently to acquire information about schedules and exams. They frequently use them to contact professors and other students. Distance learning is not common among Serbian respondents.

Is culture of freebies present among young consumers in Central and Eastern Europe?

One of the most interesting cases for businesses is the willingness to pay for apps. The Figure 10 clearly illustrates that most participants (80% to 90%) are not willing to pay for applications. Approximately 15% of all Polish respondents pay sometimes, in Croatia this proportion is 11% while in Serbia below 10%. The lack of willingness to pay for such products as applications can certainly be attributed to the economic standards in a country as well as habits to get online services for free. This may be far-fetched but there is a positive relation between the perception of the economic situation and the willingness to buy apps. Moreover, Figure 11 expresses the willingness to pay for apps in monetary value. Apart from the fact that Croatian and Serbian respondents are not ready to pay at all (over 60 and over 70% respectively), Polish respondents admit to be willing to pay between 1 to 5 EUR.

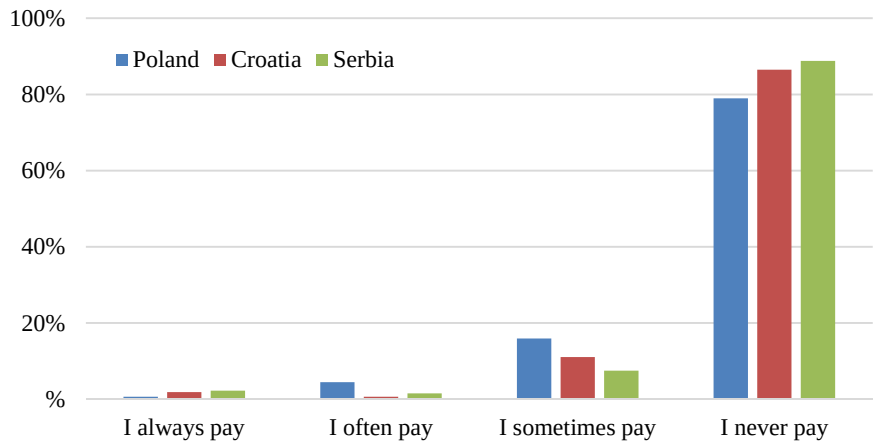

Figure 10. Willingness to pay for apps
Source: own research.

On the basis of data shown in Figures 11 and 12 we can conclude that in young generation we are facing the phenomenon of freebies culture regarding mobile applications and mobile commerce and with this conclusion we have answered **the third research question**.

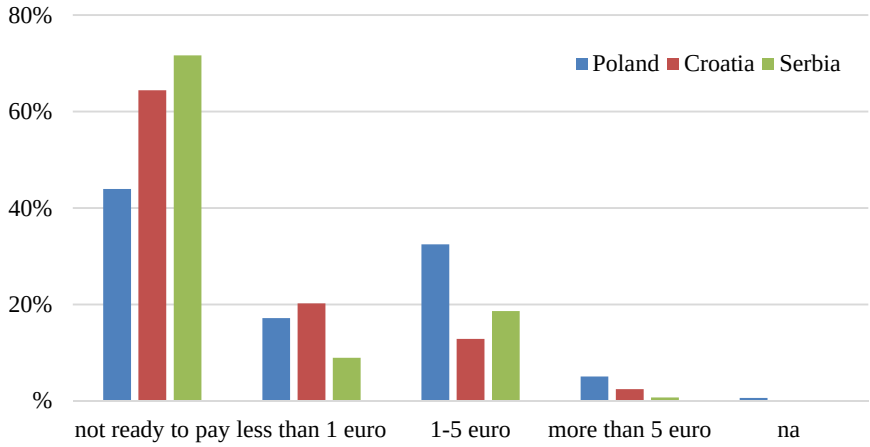

Figure 11. Readiness to pay for apps (in monetary value)
Source: own research.

On the basis of existence of culture of freebies among young population, the challenging question for retailers in near future will be: "Whether the culture gratuity and freebies move into other sales channels when this young generation will become even more active as consumers?"

Do young consumers use mobile commerce for shopping?

Figure 12 shows that over 70% of Polish respondents and 80% Serbian respondents do not shop via mobile phone at all. This is very high percentage and it shows that mobile market is undeveloped in these countries. It is in the same time the sign that there is no significant offer and it shows that these markets are interesting for new marketers. Croatian respondents favour m-shopping compared to the other participants. Almost one third shops via mobile phone at least once a week and more than 25% shops at least once a year. This can be explained by taking into account well developed ticketing services suitable for mobile devices that are found extremely well accepted by Croatian customers according to Knezevic et al (2014) who explored online buying behaviour and found out that tickets for cinemas, theatres and other events are the most significant product category purchased online. Another explanation is high adoption of online and mobile services by largest domestic owned retail chain, but this fact should be more explored in the future. It is worth to add that in Poland many transactions starts via smartphones, but are finished by means of PC or laptops (E-commerce w Polsce dopiero rozkwitnie, 2014). Customers don't want to share the personal information with retailers, they are afraid to take a financial risk.

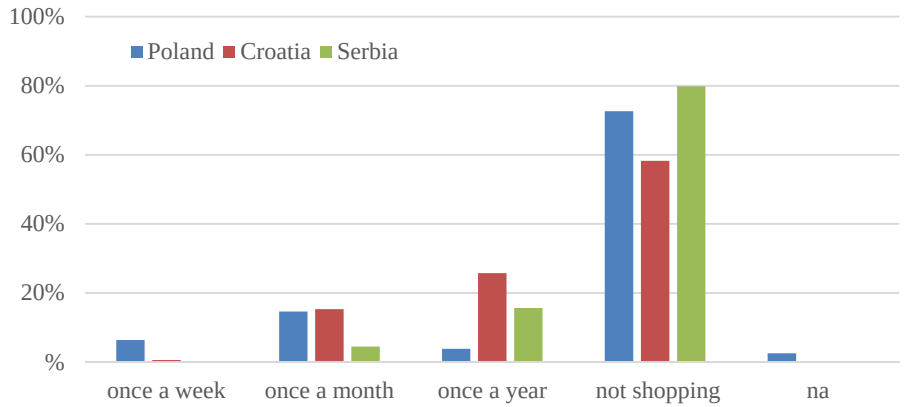

Figure 12. M-shopping frequency
Source: own research.

4. CONCLUSIONS

Mobile commerce adoption in Central and Eastern European countries is rapidly increasing in last decade. This brings new opportunities and challenges to businesses who have to adapt to the new – "handset generation" of shoppers with a habit of freebies usage which is the common behaviour in mobile commerce world.

In this paper, based on primary research conducted in Poland, Croatia and Serbia, we answered four research questions: (1) Do young consumers in Eastern Europe express characteristics of "handset generation"? (2) What is the pattern of their activities regarding mobile applications? (3) Is culture of freebies present among young consumers in Eastern Europe? and (4) Do young consumers use mobile commerce for shopping?

Although in many situations answers for presented questions are similar, we may observe some crucial differences, which confirms, that for each market strategy of communication and offering product and services has to adopted to local conditions and stage of development of telecommunication industry. There are some interesting and noticeable conclusions which should be considered by retailers who want to use this channel of communication with younger generation. First of all, research results show that smartphones are very present in student population in three observed countries. Over 95% of students have smartphone and more than three quarter has been using it over 2 years. This result is consistent for all observed countries. However, students in Croatia are much more willing to buy goods and services using smartphones than their counterparts in Poland and Serbia. Our research confirms Turban's claim that contemporary young consumers are so-called "handset generation" (Turban et al, 2012, p. 279). In all three countries we are dealing with customers who are very experienced and heavily smartphone-oriented users. It has strong managerial implications – retailers and generally marketers should

pay more attention on communication through mobile devices, especially in creating more personalized messages and sales promotion offers.

Our research also indicates that smartphone shopping behavior does not depend only on economic development of the country which has to be proven by deeper research study in future. A lot of other factors should be taken into considerations such as: e-commerce offer, financial infrastructure, customer's readiness to buy online, security issues etc. Students have used to get things for free on the Internet and it is not easy to persuade them to pay for applications. These results implicate that smartphones are the tool that can help marketers to get information about student population. According to our research, there is probability which should be a topic of future research, that exists a positive relation between the perception of the economic situation and the willingness to buy apps.

Another interesting conclusion is, that in all three countries shopping via mobile phones is not popular, except in Croatia due to access to applications which are popular among students. But it confirms the need to develop retail sales to online offer and make it available in easy and safe way.

To sum up, there is a strong need to continue research to learn more about young customers' attitude and their shopping behaviour in the nearby future. Most retailers are preparing or already implemented applications to simplify shopping online via mobile devices. So the next step is to learn more about individual predispositions of customers in order to prepare more targeted offer – to make it more attractive and shorten process of shopping. In authors opinion it's necessary to continue research and create both psychographic profile of mobile phone young users, recognize process of shopping and create new or modify existing models of sales.

5. LIMITATIONS

There are some limitations in our research, which has to be considered in interpretation of results. First of all, our research was conducted among students, who are only a part of Millennials generations. We can't generalize our conclusions to the whole population, however they may reflect students attitude toward mobile devices. The sample was not randomly selected and this also create some limitations in generalization of our conclusions.

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Knowledge management and leadership: the carbon emissions scandal in the automobile industry

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Abstract:

This paper analyses the Volkswagen scandal from a KM point of view. We use a KM framework of analysis basing ourselves in the concept of Knowledge failures. We describe the VW case of management and then analyse it from the point of view of KM. We conclude that in the VW case on carbon emissions a massive operation of KM existed, that some consider to be a success, despite the consequences, and others see as a failure. We discuss the conditions that allowed it to happen and how to prevent it in the future. We also discuss the implications of the scandal to the societies it involves and in particularly to the Economies of Central Europe.

Keywords: Knowledge failures; carbon emission scandals; Volkswagen; Central Europe
JEL codes: F64, D83

1. INTRODUCTION

If there is a good that represents the affluent societies of the 20th century, it is the automobile. Cars represented for long social status and economic development as well. Henry Ford coupled with Frederick Taylor to signify the Second Industrial Revolution, powered by oil. Limousines and Rolls Royce's were the features of business men and leaders. Developed countries were made around brands like Ford, Fiat, Renault, Volkswagen, and British Leyland. The emergence of Japan was also defined by the raise of Toyota and Toyotism. The Ladas encapsulated the failure of the Eastern European countries, and the non-existence of automobile brands in the underdeveloped world was a basic feature of their underdevelopment. When India began to emerge Tata saw the light of the day and China's economic development occurred when bicycles replaced automobiles in many households.

There have always been exceptions. Einstein famously rode a bike, and the first big warning about the perils of the automobile industry to the global economy came with the Meadows Report in 1972 – the economic system would be doomed if we continued to rely on oil, and cars were a part of the problem. Since the eighties, smaller cars whose consumption rate per 100kms were much

less like Honda Civic invaded the market, limiting the effect of the increase in the oil prices following 1973 and 1979 crashes.

Finally in the year 2000 evidence was put forward that carbon emissions due to automobiles were badly damaging the environment causing a ozone hole which might have devastating effects in the world economy. Agreements were made and signed by Governments, which created responsibilities for companies and organizations in order to introduce in the automobile industry devices that would reduce those emissions and effectively save the planet. If was in those years that Corporate Social Responsibility coupled with Sustainability became major world concerns, some would say paramount facets of the ideology of political correctness which prevailed in the world in the first decade of the 21st century.

In 2015 some encouraging news emerged, first with the data that showed a reduction in the ozone hole, and second with the singing of the Paris agreement by 150 countries including the biggest polluters, like the USA, China, Russia and the European Union.

Another very important transformation that occurred in the last 50 years was the emergence of a Knowledge based and service led economy. After WWII Human Resources had become the focus of much investment in advanced societies so that Human Capital was seen as the counterpart of financial capital and physical capital to generate private success and social prosperity. But with the Third Industrial Revolution Knowledge Management and Intellectual Capital became two major fields of analysis, along HRM and HRD. The question was not only anymore - How to develop competent people? but also, How to manage these people knowledge? and also How to use those new forms of capital strategically?. The various types of models in fact deal with intangibles, IC being the sum of human, internal and external capital, and the explanatory factor of the difference between market value and book value. All those analysis have dynamic aspects, and relate to technology, people and processes. Even with the financial crisis of 2007-8, which may be considered a product of knowledge failures these basic ideas and theoretical background were not affected, because indeed, they are very much grounded in society.

However rather shockingly during 2015 and 2016 the world economy was shaken by the surprising revelations concerning the control of emissions in fuel automobiles, starting with the case of Volkswagen and rapidly reaching many of the main European car companies. Suddenly it became clear that for years one of the most trusted car companies in the world had been cheating the regulators and by consequence the costumers and profiting enormously out of it.

Analysis have been made on the VW scandal, above all from a newspaper point of view, searching for conspiracy theories and for “who-did-it” situations, looking for criminals and discussing potential geostrategic implications.

However in the context of a knowledge economy that we just described above, we strongly believe that the case of Volkswagen should be analysed from, a KM point of view. Following Bratianu 2015 and the analysis of the Space shuttle disaster as a knowledge failure in this paper we analyse the VW scandal from a KM point of view, that one being the research question.

For so doing the remaining of paper is divided in six parts. In part one we present the theoretical background. In part two we describe both Volkswagen and the Carbon emissions scandals. In third part we analyse the carbon scandal from a KM point of view. In part four we discus implication of the scandal for KM theories. In part five we analyse the implications of the scandal for the economies it relates too and in particular to the economies of central Europe, and in part six we present the paper's conclusions, and suggests ideas to do further research.

2. LITERATURE REVIEW

KM is a well-developed area of research. Seminal works include reflections on tacit and explicit knowledge (Polanyi, 1963), definition of the Knowledge cycle and the associate "Ba" concept of dialogue (Nonaka and Takeuchi, 1994), definition of knowledge worker and knowledge company (Drucker, 1964), definition of knowledge city and knowledge region (Edvinson and Bonfour, 2004). Other very important studies relate to knowledge dynamics (Kianto, 2008; Schiuma, 2011) unlearning (Moya and Cegarra, 2004) and to the stages of KM history (Edwards, 2011).

Most of the literature focuses on how getting the best from scarce resources, and on how to improve the use of those scarce resources. There is an urgency to define best practices and ideal frameworks of action.

More specifically, and regarding the scope of this paper KM has been analysed in relation to the automobile sector. Topics analysed covered product development (Aoshima, 2002), the technical capabilities (Rajadhyaksha, 2005), knowledge creation (Pillania, 2008). product performance (Laksman and al, 2008), operations management (Taylor and Taylor, 2008), transfer of knowledge (Gentile-Lüdecke. and Giroud, 2012) balance scorecards (Hassan, 2012), strategy (Moore, 2012), action learning (Strategic Direction, 2013), knowledge sourcing and reuse (Filieri, and Alguezaui, 2015), critical success factors (Karami and al, 2015), innovation and knowledge policy (Macneil and Hughes, 2016), and green innovation (Leal Milan and al, 2016),

The analysis related to countries so different as Brazil (Laksman and al, 2008), Germany (Moore, 2012), India ((Rajadhyaksha, 2005, Pillania, 2008), Iran (Hassan and al, 2012, Karami and al, 2015), Italy (Filieri, and Alguezaui, 2015), Japan (Aoshima, 2002), Taylor and Taylor, 2008), Poland (Gentile-Lüdecke. and Giroud, 2012), Spain (Strategic Direction, 2013, Leal Milan and al 2016), and the UK (Moore, 2012, Macneil and Hughes, 2016).

The analysis was essentially concerned with cost effectiveness and creating order (Aoshima, 2002, Rajadhyaksha, 2005, Laksman and al, 2008, Taylor and Taylor, 2008, Hassan, 2012, Moore, 2012, or Karami and al, 2015) or managing knowledge by addressing chaos (Pillania, 2008, Gentile-Lüdecke. and Giroud, 2012, Filieri, and Alguezaui, 2015, Strategic Direction, 2013, Macneil and Hughes, 2016, and Leal Milan and al, 2016). All those analysis were centred in success – how to achieve it and how to replicate it.

However in the last years attention began to the paid to failures in the management of Knowledge (Sterrey and Barmet 2000). Those failures have been described

in terms of organizational characteristics that make them possible (Weber, 2005). Well known characteristics of Japanese organizations, previously held to be the foundations of innovation, change and flexibility, were found equally be significant barriers to change, innovation and adaptation in turbulent economic environments (Collinson and Wilson, 2006). More recently, one study highlighted the importance of anonymity while sharing the experience of failures (Huerta and al, 2012). Furthermore, unexpected accidents are found to be a form of Knowledge failure that should be prevented (Paltrinieri and al, 2012). Muehlfeld and al, 2012, found that the degree of stimulation to deliberate learning was important to learn from failures in acquisition processes which occurred in the newspaper industry. Other study centred in analysis of possibility of failures and its effects by interviewing experts (Lou and Lee, 2014). Moreover, failures were also considered important in New Product Development (NPD) (Yu and al, 2014). Finally, Cecez-Kecmanovic and al, 2014 analysed failure in Information Systems as a failure in relational processes described by sociomaterial practices; namely, "*the IS project and the implemented system as objects of assessment are not given and fixed, but are performed by the agencies of assessment together with the assessment outcomes of success and failure*".

KM has also been linked with corporate social responsibility in theoretical terms by enhancing processes (Preuss, Córdoba-Pachon, 2009), but also regarding countries like Australia (Wailes, and Michelson, 2008) and Vietnam (Hi and Nguyen, 2016). Lately the theory was revised and adjourned to include the notions of KM for sustainable development (Siltaoja, 2014) and also green intellectual capital (Chang and Chen, 2014).

Finally KM has been found to be a force of knowledge development by enhancing competitive advantage of those regions (Tallman and al, 2004), by creating smart cities (Angelidou, 2015) and also by generating knowledge based coalitions between regions (Roos, 2014; Schebesch and al, 2014; Cabrita and Cabrita, 2010).

All those theories and previous analysis provide the background to the analysis that will follow about the VW case. Namely it is evident from the literature:

1. Knowledge and KM have a decisive impact in organizations, nowadays.
2. Knowledge failures exist and are related to information failures and processes which go awfully wrong.
3. KM is a factor of CSR and sustainability.
4. KM is a factor of regional development by the operation of clusters, knowledge cities and coalitions.

These four main ideas will base the remaining part of the paper.

3. THE VOLKSWAGEN CASE AND THE CARBON EMISSIONS

A winning company

Volkswagen company was created in the 1937, and after WWII became one of the most important car companies in the world and one of the most important companies in Europe. Volkswagen brand image was related with the idea of being a "car

for the people" so basically middle class and working class, by opposition with some other companies that produced cars that were seen as signs of affluence like Rolls Royce or the American cars. VW was meant to be made in western democracies unlike the Ladas from the Eastern block of Europe and was meant to be cheap, reliable and resistant. It also should be attractive visually and in the sixties the "Beetle" car was the synonym of that features, giving VW an almost unique status. Those popular characteristics were responsible for the fact that VW resisted rather well to the disturbing events that took place in the automobile industry during the seventies and the eighties and that were consequence of the rise in oil prices and the increased competition from Japanese companies.

In the nineties and the first fifteen years of this century the branding of VW and of the automobile industry became increasingly more related with sustainability, green and social responsibility issues. Cars should be safe, spend the less oil possible, send to the atmosphere the less carbon emissions – and this should continue to be made with cheap vehicles, even if the living standards and disposable income of the potential costumer in the last decade has been much higher than the one of the costumer in the sixties. An interesting way of analysing that change was to compare the Beetle version of the nineties with the version of the sixties – more technological, more aero-dynamic and also more expensive, and with less social impact.

In 2015 the automobile industry is an oligopoly of big companies located essentially in Europe, Japan, the USA and India. Those companies are have billions of market value, are hugely profitable and employ millions of workers. Also those companies seem to be in fierce competition every year issuing new amazing models that are promoted in fabulous fairs and with highly developed and expensive marketing strategies.

Of course the automobile industry as described has been the object of papers on the Knowledge Management field (Pillania, 2008, Gentile-Lüdecke. and Giroud, 2012, Filieri, and Alguezaui, 2015, Strategic Direction, 2013, Macneil and Hughes, 2016, and Leal Milan and al, 2016), and also from a more strategic point of view in the Intellectual Capital field (Aoshima, 2002, Rajadhyaksha, 2005, Laksman and al, 2008, Taylor and Taylor, 2008, Hassan, 2012, Moore, 2012, or Karami and al, 2015).

The unexpected scandal

It was in this context of prosperity, which occurred even considering the last not so good years in the European economy, that suddenly in September 2015 the world heard that the German company had for years concealed the fact that the cars were sending to the atmosphere a much higher amount of emissions than it was declared and expected (Holten, 2015). The situation had been detected by the United States Environmental Protection Agency (EPA). Cars met standards during regulatory testing but emitted up to 40 times more carbon in real-world driving. Afterwards if was found that already in 2011 the European Commission Joint Research Centre new that Volkswagen was emitting more gas than it was expected and a warning was given in 2013. The company first reaction was to say that only technicalities were responsible for what happened but then the company acknowledged it had "screwed up". Up to 11 million cars could be affected and most of them had to be

recalled. In October 2015 and for the first time in 15 years VW had a negative results in a quarter. Shares dumped. The CEO resigned. And Chancellor Angela Merkel showed concern about the company urging transparency.

More amazingly even, suddenly in 2016 it became apparent the other major companies had also cheated – the Mitsubishi president stepped down in May 2016 (Top Gear 2016) because if was found the company had been wrongdoing since 1991. Other similar situations occurred in Suzuki and Renault until now it seems in a lesser scale. At time of writing (November 2016) the expected amount of losses for VW derived from the scandal is at least of 14.7 billions, imposed by the American courts (Atieh, 2016). These are however the direct costs. To them, one must add the loss in sales, the damage to reputation and the reduction of activity. As a consequence the company just announced the dismissal of 30 000 workers, in the next few months (Riley, 2016). Significantly, the rally division, which was crowned world champion, will cease its operations in December and will not be competing in 2017 (Lauraux, 2016). Macro-economically the crisis adds to the owes of the German economy: even if the current surplus surpasses the limits admitted by the EU regulations (Mitchell, 2015), Deutsche Bank has problems with its earnings ratio, which are accrued by the Volkswagen scandal, and led already to a fall in the share value of around 50 per cent (Bird, 2016).

The scandal was already the topic of academic works, based on the fraud itself (Patra, 2016), or on Corporate governance (Rhodes, 2016).

4. THE VW CASE FROM A POINT OF VIEW OF KM

The VW scandal occurred because technical deceit existed and was concealed. The technical device was designed and implemented during years. Consumers and regulators were misinformed and cheated.

In fact KM occurred, although in a malicious and erroneous way at the various stages of the:

a) The device was created;
b) The device was implemented;
c) No information was given about the device's use;
d) Eleven million cars were sold with the device and nobody new;
e) Reports were made in the suggestion of compliance with laws and promotion of CSR and Sustainability values which were false;
f) Profits were made in a false basis;
g) The company made its name and reputation as being efficient and the device exposed cheating as a basis to that efficiency.
h) Even if it is not completely clear "Who knew what ?" in the company, it all ended in a massive case of fraud and failure of governance.

Therefore, this scandal should be considered as a massive operation of information and knowledge management with highest implications. We may analyse the scandal according to the various phases of the knowledge cycle or according to the SECI model.

The knowledge cycle:

a) Creation: Knowledge was created when the device was set, and whenever data that derived from the consequences of that installation were generated.
b) Sharing: VW being a big multinational the wrong data were profusely disseminated in the world, as also were all the financial and economic consequences and the data they also implied.
c) Stocking: Wrong data about the efficiency of VW and data on the company's operations based on the false basis were stocked in vast knowledge basis in the VWs' headquarters and subsidiaries.
d) Renewal: each year the dimension of the fraud was accrued and not even some news that the authorities new about what was happening as early as in 2011 made the alarm bell ring; in fact VW seemed to trust that nobody in the political world wanted to make public that he / she knew what was happening; this fact led to the "conspiracy theories" according to which issue was raised by the Americans in order to defend the ailing automobile industry from its German counterparts.
e) Unlearning: this seems to be the current situation, in which because of the American Court ruling, everyone involved from company workers, buyers, sellers, government agencies, shareholders and other stakeholders have to come to their senses and understand that reality was not what it seemed to be and it is necessary to unlearn the reality based in the false date and learn a harsher but more correct one.

The SECI model:

a) Socialization – discussions, meetings and brainstorms, happened between people who believed they were using, selling and buying a very performative and clean car.
b) Externalization – tacit knowledge acquired with wrong basis was made explicit by the writing of reports of memories.
c) Combination – reports were made combining several types of false data generated by the devices.
d) Internalization – ideas read or heard about the fake reality created by the device was incorporated in the discourse and minds of millions of individuals who, for more than a decade believed they were buying a non-polluting car when in fact they weren't.

In a word: the scandal was rooted on KM and survived because of it. The device was only implemented to generate misleading information and to create wrong or deceptive knowledge.

5. DISCUSSION

There are at least three ways regarding which the scandal is currently debated, namely as a failure or a success, as a symptom of capitalism and as a show of power. We will analyse those different aspects in succession.

Knowledge failure?

It is easy to agree that the VW scandal was based in information and knowledge management. But it is not consensual if the VW scandal constituted a knowledge failure. There are at least to ways of analysing the situation, and each one arrives at a different conclusion.

According to a more justice prone view of the scandal, the device was indeed a knowledge failure because it led to mistakes and in the end caused massive disruption, whose effects are yet to be seen in their totality, and that may end up affecting the position of Germany economy in the European Union and in the world, causing massive damage to its people and the their neighbours, like the Central European countries. The authors of this paper tend to agree with this version of the facts.

But, while writing the paper, and after presenting a draft version of it in a Conference, we found out that there is a very different and alternative version of the crisis. According to this second version, that we will call, in inverted commas, the "perverse version" there was no knowledge failure whatsoever, because for more than a decade the device effectively generated massive profits, earnings, wages, dividends and jobs, and now we are only witnessing a small reflux when compared with the big business that was generated by the device in more than 10 years.

Modern capitalism?

That the situation lasted more than 10 years, in age of globalized information should draw our attention about how oligopolies work. The automobile industry is an oligopoly and for more than 10 years players decided to hide their game believing nobody would find out. The VW scandal and also the scandals in other companies should be studied from the point of view of game theory and cartels. The economic theory says cartels put the economy away from efficient and fair solutions; indeed it seems that this time the cartel worked to fool consumers and the state by generating wrong information and misleading knowledge.

Also, the scandal not only about one emblematic company but about capitalism in the new age of sustainability and corporate responsibility and after the fall of the Berlin Wall in 1991. Karl Marx would be probably amused hearing about the ways major companies foul the State in order to make profits nowadays. As usual is seems that new is old and that the VW scandal is only the 21st socially responsible, green, sustainable and clean face of the lawless capitalism Marx fought in the 19th century.

Leadership and power?

Finally the scandal has clear implications and ramifications on leadership. The scandal could only happen because CEOs were not informed or if they knew about the situation, they in fact depended on the engineers to create and implant the device, and this speaks volumes about who really has the power in the companies of the 21st century (Tomé 2005). This means that our century company owners are dependent on creators (who in fact are the best, most valuable and less numerous

knowledge workers) who in fact are the most powerful persons in the new knowledge economy (Tome, 2012, Tomé and Remenyi, 2017).

6. THE CENTRAL EUROPE CASE

The VW scandal will have major repercussions in Germany.

But second to the home country there is good reasons to believe that the Central European countries will be the most affected. Namely:

1. First of all, VW has important factories in many Central European countries like Poland, Slovakia, Hungary, the Czech Republic and Bosnia-Herzegovina. The closing of a plant in any of these countries would represent a problem with probable massive bad consequences.
2. Secondly, in Central European countries consumers are used to by VWs at comparatively accessible prices, and the scandal will probably use the effect of rising the prices of the German cars.
3. Thirdly, Central European countries have extremely dense economic ties with Germany, and Germany is among the first trading partners of those countries. And the same happens regarding tourism, and foreign investment. Therefore if the worst case scenario will happen, the VW scandal will have repercussions in Germany via Deustche Bank, causing if not a recession at least a slowdown in the German economy. In this case, all the Central European countries will be affected, and the effect will be worse the more connected the country is with Germany. Additionally small countries would tend to be more affected than larger ones because it is easier for Germany to be relatively more important as a partner is a smaller neighbour like Slovakia than in a large one as Poland.
4. Continuing in the worst case scenario the scandal may have a knock out effect in the Central Europe because VW represented like no other brand the reliability and availability of the goods and services. The fact that the brand might be considered corrupt or at least prone to corruption and fraud, would be very damaging to the image of all the economic space that uses VW as an emblem.

7. CONCLUSIONS

The VW emission scandal was the biggest fraud known to date in the corporate world of advanced economies. That is lasted so long and that it had ramifications in other concurrent companies describes as may be no other fact the capitalism of the first decades of the 21st century. A world in which knowledge and information are the decisive assets, which are used for profits by corporations even if they postulate obeying and believing in major ideas like corporate social responsibility and sustainability. The full consequences of the fraud are yet to be known, but it is well understood that we are dealing with a long string of deceit and misinformation, which lasted for years, and had enormous consequences, first keeping the companies going and now with the backlash. There is a debate about the extent of the knowledge failure and the authors of this paper tend to consider that indeed the deceit was a failure of correctness that generated a scandal when discovered. Anyway there is a consensus

about the fact that the scandal was about knowledge, information and ultimately knowledge (mis)management. Finally, as usual in these cases, in which corporations or banks act riskly, the society is the ultimate underwriter (Sveiby, 2013); and it is in this context that the scandal can still be a problem for Central European economies in the near future.

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