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CONTENTS

DEVELOPMENT OF FRANCHISING IN CROATIA OBSTACLES AND POLICY RECOMMENDATIONS

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ABSTRACT

Franchising is very popular growth model but despite the wide application of franchising in the developed countries of the world, its impact on the Croatian economy is still marginal. The purpose of this research is to identify the obstacles and challenges to a wider application of franchising in Croatia and generate policy recommendations for removing the identified obstacles. Obstacles and recommendations are identified on the basis of a conducted longitudinal qualitative research, the first phase of which was conducted in 2006, and second in 2014. The overall results of this research were presented in a form of PEST analysis and compared with the results of the 2006 research aiming to detect changes (improvements / deterioration) in individual areas of the research political, economic, legal and technologic factors of influence on the development of franchising in Croatia. Based on the detected changes, conclusions and policy recommendations were identified.The obstacles can be divided in two categories: franchising specific barriers and general business related obstacles for doing business in Croatia. Without removing most of these obstacles, it is unrealistic to expect high growth of franchising activities in Croatia in near future.

Keywords:
franchising, business model, obstacles, policy recommendations

1. DEFINING THE CONCEPT OF FRANCHISING

According to the Seid (2002) franchising occurs when the franchisor licenses its brand and its operating methods to the franchisee that agrees to operate according to the terms of a franchise contract. Other authors give similar definitions of franchising, with emphasis on the legal relationship between the franchisor and the franchisee (Emmerson, 1990), economic category that offers a favorable combination of the economy of scale (Stanworth, 1991), trade or service mark (Spinelli et al., 2004), intellectual property package and franchise agreement (Mlikotin Tomic, 2000), or system of placing goods, services and technologies on the market (European Franchise Federation EFF, 2005). The franchise business model brings advantages and disadvantages to both sides of the business relationship. By using the franchise business model, the franchisor achieves faster growth with lower capital commitment and can have a potentially higher growth rate. Rapid growth enables achieving economy of scale with minimum investment where three main resources: managers, money and time, are provided by the franchisee (Shane, 2005; Maitland, 2000). As a disadvantage for franchisors and a source of potential conflicts Shane (2005) stated the issue of profits because the franchisor wants to achieve higher revenues through higher royalties, and the franchisees strive to maximize profits by keeping costs under control, which often causes lower sales volume, concentration of retail outlets in a particular area and lower investment in advertising and training. One of the biggest advantages of the franchise business model for the franchisee is that it provides a proven business model (Maitland, 2000) which guarantees recognition in the market. Maitland (2000) and Shane (2005) mention additional benefits: lower risk of failure, standard product and quality are offered through a validated business system, help in choosing a location, benefits from the franchisor's development program, and, ultimately, protection from the competition. Nieman and Barber (1987) state franchisor's excessive control and elements of risk in business operations as disadvantages of the franchise business model for the franchisee. Other authors cite the following weaknesses for the franchisee: poorly estimated ability to prosper within the system and a low threshold of tolerance for restriction of freedoms, that is, franchisor's business restrictions and control (Kukec, 2009), overdependence on the franchise system, reduced operating flexibility and exposure to factors that the franchisee cannot influence (Selnew, 1998). Castrogiovanni and Justis (1998: 170) stated that "*franchising organizations differ from most others in three important respects: (1) geographic dispersal of organization units; (2) replication across units; and (3) joint ownership.*" They also noted that although some other organizational forms have one or two of the above characteristics, it is rare to see another organizational form with all three features. Compared to other growth models (licensing, authorized dealer, authorized agent, organic growth), franchising brings more benefits and less risk to both franchisor and franchisee. Franchising requires less capital commitment than

the other models, has smaller business and financial risk, enables faster and more secure growth, needs smaller number of employees and enables highly motivated managers which run franchised locations (Stanworth and Purdy, 2002).

2. THEORETICAL ANTECEDENTS

The most commonly researched topic in the franchising field has been the reasoning behind using franchising as a growth model, comparing to organic growth and opening own locations. The two most important theories used for explanation of this phenomenon are resource scarcity theory and agency theory.

Resource scarcity theory identifies franchising as a mechanism for removing financial and managerial obstacles for company growth. This theory has become a widely accepted approach for explaining the tendency of companies to grow by using franchising. In this theory it is assumed that economy of scale is a significant determinant for the survival of the system in which franchisees provide capital and other resources, and companyowned locations are more profitable than locations operated by franchisees. Oxenfeld and Kelly (1969) explored the problem of the lack of franchisor's capital. It was found that companies use franchising business model to gain access to scarce resources (financial and managerial) in order to grow. In situations when companies are young and small, it is difficult for them to raise the necessary capital for the growth and expansion by using traditional financial market instruments and develop the talent needed to manage new locations on their own. Franchisees are a source of cheaper capital (franchise fees and royalties) that allow franchisor to grow. Later research on the franchise business model explored the scarcity of human capital (Norton, 1988) and managerial talent and knowledge of local market conditions (Combs and Castrogiovanni, 1994) as the crucial drivers for the use of franchising. Resource scarcity theory emphasizes the importance of age, company size, growth rate and the availability of capital as the key factors of impact when deciding on use of the franchise business model as a growth strategy (Gillis and Castrogiovanni, 2012). Rubin (1978) criticized the resource scarcity theory noting that franchising is an inefficient way of providing capital compared to traditional capital markets. Lafontaine and Kaufmann (1994) emphasized that, besides money and management of locations that are provided by the franchisee, franchising has the advantage in retention of control over company operations. Combs et al. (2011: 414) emphasized that *"gaining access to franchisees' resources is an important advantage of franchising but, since franchising continues once resource scarcities are eliminated, there have to be other important aspects for implementation of franchising."* The conducted research confirmed that most of the franchise systems have a dual structure they have their own and franchised locations.

Agency theory is another most commonly used approach in franchising research, focused on identifying the effectiveness of employees and managers in in-

dependent franchise locations (Rubin, 1978; Shane, 1996). Based on the assumption that agents have their own interests and goals that differ from the objectives of the principal, the principal has to expend resources (agency costs) to ensure that agents act in its best interests. (Eisenhardt, 1989). Agency theory is focused on several issues: moral hazard cost control, freeride problem, and potential for a selection of quasirent (Rubin, 1978; Norton, 1988). Agency theory examines franchising as a mechanism for alignment and improvement of incentives between the principal company level and other locations (agents). Gillis and Castrogiovanni (2012,82) stated that *"in franchising, risk neutral franchisors (principals) contract with risk adverse franchisees or managers (agents) to perform certain activities, such as running a franchise location in accordance with a standardized system of operating routines."* Agency theory assumptions provide symmetrical explanation for the franchise business model. Balancing the advantages and disadvantages of franchise locations in comparison with their own locations determines in which direction the company will start to grow. Franchising is administratively efficient when high costs of supervision are in connection to ownership. Carney and Gedajlovic (1991) found that if the cost control amount is insignificant, the franchising model does not provide substantial contribution to business efficiency so in that situation company will opt for opening its own locations. Agency theory is based on comparison of costs associated with monitoring companyowned sites (distance between sites, local knowledge) and problems associated with franchising insufficient investment, freeride and contract negotiations. Besides the two mentioned theories, other commonly referenced theories in franchising research are: plural organization theory (Bradach, 1997), upperechelon theory, resources based theory (Combs et al., 2004), institutional theory (Shane and Foo, 1999), tournament theory, property rights theory and strategic deviance theory (Combs et al., 2011). Variety of different theoretical approaches to franchising imposes the need for further research on franchising issues and research implications.

3. FRANCHISING AND ECONOMIC INFLUENCE WORLDWIDE

Franchising is primarily seen as a method of distributing goods and services to the final consumer (Selnew, 1998). In addition to the method of distribution, franchising can be considered as an alternative way of forming the capital, as a catalyst for technological achievement of business objectives, and as an investment opportunity. Alon (2006) stated that franchising impacts economy among other through output and job creation, modernization of economy, development of entrepreneurship and increasing of capabilities and skills. Additionally Dwivedy (2002) noted that franchising influences transfer of technology and business methods and offer of quality products and services at reasonable prices. Castrogiovanni and Justis (1998: 170) stated that "*the importance of franchising is expanding beyond domestic borders with franchising rapidly becoming the fastest growing form of business in the global economic*

system." The franchise business model is considered to be a driver of employment and development of entrepreneurship, and is determined by the method of successful business operations and an optimal number of employed in the franchise system. The franchisor has to develop its own sales team for development and support of the franchising network, aiming on maximizing profits, which ultimately increases the income and number of employees.

Today there are more than 28,000 different franchise systems in the world (EFF, 2010) that operate in one or more countries. The highest number of franchise systems is recorded in Asia and Europe, while Africa has the lowest number, but with a significant increase in recent years (Siggel et al., 2003). According to research conducted by the International Franchise Association (IFA) and the US Census Bureau (Mesenbourgh, 2010), there are more than 450,000 companies involved in franchising networks in the USA, with more than 7.9 million people directly employed and accounting for 1,300 billion US dollars sales of the 7,700 billion USD total in the USA. In Europe, franchise systems employ more than 2.5 million people and generate more than 145 billion USD (EFF, 2010). The leaders in franchising in Europe are France, Germany, Italy, United Kingdom and Spain. Asia, as the highest populated continent, represents an important franchising market. In China, there are currently more than 2,100 franchise systems operating in 120,000 locations, with more than 2.1 million people employed and having sales of over 30 billion USD. India has around 1,200 franchise systems with sales of 13.4 billion USD, which generated almost 1.5% of GDP in 2012. South African Republic is the franchise leader in Africa, with around 400 franchise systems, out of which almost 90% are domestic. The most developed franchising market in South America is Brazil, with around 2,100 franchising systems, 900,000 people employed and having 43 billion USD in sales. Australia has around 1,000 franchise systems in 70,000 locations with around 700,000 people employed and having sales of around 128 billion USD.

Franchising in Croatia started in 1969 when Diners Club Adriatic with headquarters in Zagreb started to operate as Diners Club International franchisee in the whole of the former Yugoslav market. The first substantial promotion of franchising as a way of doing business was done with McDonald's entering the Croatian market in the early 1990s. McDonald's established a company, McDonald's Hrvatska Ltd., and signed business agreements with key suppliers in Croatia. McDonald's presentations in cities where the franchisor sought franchisees generated great interest among potential franchisees and debates on the nature of the franchise agreement offered by McDonald's (Alon et al, 2010). Franchising contract is not defined in the Croatian legal system, and in practice commercial courts and lawyers apply European Franchise Code of Ethics as a foundation and guideline for concluding and terminating franchise agreements in Croatia (Glujic, 2008). A couple of years after McDonald's entered the Croatian market, several other franchisors appeared, such as Hungarian bakery franchise Fornetti and U.S. restaurant franchise Subway. At the

end of 1990ties, a new wave of franchising development started in Croatia with arrival of fashion franchise systems (Esprit, Escada, Palmers, Terranova, Calzedonia).

Institutional support initiative for franchising development in Croatia started in 2003 when the first Franchising Centers in Osijek and Zagreb were founded. Soon after, Croatian Franchising Association started promoting franchising and organized the first Franchising Fair in Zagreb in 2003. All three organizations are principal reference points for getting information about franchising in Croatia and are also used for establishing contacts between potential franchisees and franchisors. According to the European Franchising Federation (EFF, 2010) there are 180 franchise systems in Croatia, out of which 25 are of Croatian origin (14%). Franchise systems are operating in some 1,000 locations and employing around 16,500 people. Compared to Croatia, other transition countries have many more franchise systems, and, what is especially important to observe, a much higher share of domestic franchises: Poland 73%, Hungary 70%, and Slovenia 49% (Table 1.). In 1990s transition countries have become an interesting market for international franchisors since differences in doing business were decreasing and there was increasing demand and brand recognition for products coming from the "Western world".

Table 1.: Comparison of franchising in Croatia and several European countries

Country	Number of franchises	Number of domestic franchises	Share of domestic franchises	Number of franchised locations	Number of employed in franchises
Croatia	180	25	14%	1.000	16.500
Hungary	341	240	70%	18.000	100.000
Italy	870	835	96%	53.000	180.500
Slovenia	107	52	49%	1.500	6.900
Poland	565	410	73%	26.600	350.000
France	1.370	1.220	89%	51.600	690.000

Source: European Franchise Federation, 2010.

In 2010, in order to support the development of franchising in Croatia, Croatian Ministry of Entrepreneurship and Crafts initiated a pilot support program aimed at providing financial subsidy for the development of Croatian franchise systems. The program increased entrepreneurs' interest and promoted franchising as a way of growing the business as franchisors or as a way of entering the business as franchisees. Within this program Ministry of Entrepreneurship and Crafts awarded 12 grants to entrepreneurs, with the total amount of grants of 130,000 EUR, and the average grant amount of 11,000 EUR (Entrepreneurship Impulse, 2013). Despite the positive results, the support program for franchising development was not included in subsequent state granting schemes.

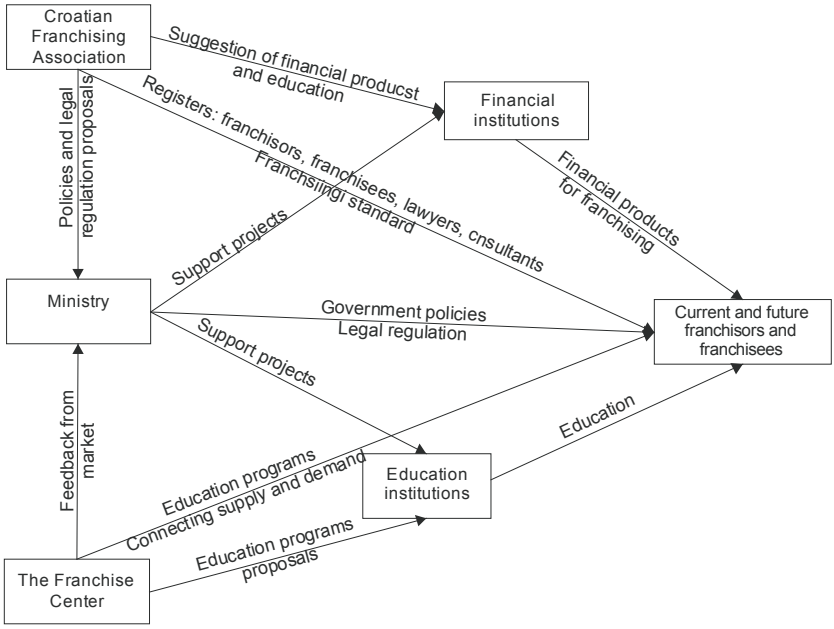
4. BARRIERS TO DEVELOPMENT OF FRANCHISING

Previous research identified obstacles and barriers for development of franchising in different environments. Alon (2004) identified lack of managerial and entrepreneurial talent of the franchisor, lack of capital for international expansion, risk of political instability and insufficiently developed infrastructure as main obstacles that may affect the development of franchise business model. Fulop (2000: 40) noted that trends affecting the size and growth rate of the franchise industry are *"the degree of economic activity; shift towards the service sector; rate of entry into franchising by established firms; and extent of crossborder franchising."* Caffey (2009) identified complicated system of operations, high costs of starting business operations, weak company brand, lack of financial resources and necessary experience, and unresolved legal issues of the company as internal obstacles for franchising development. Obstacles are especially emphasized in countries where the franchise business model is relatively new, while in developed countries these barriers are less visible. This primarily refers to existence of supporting institutions and franchise associations that help companies that opt to use franchising as a method of growth. In transition economies, one can find substantial challenges and obstacles for franchising development. Sanghavi (1998: 38) stated that some of those obstacles include *"incompatible business practices, infrastructural deficiencies, underestimated costs of imported ingredients, tariff barriers for input components, the absence or misjudgment of the required demand, lower purchasing power of the target group, investors, etc"*. Obstacles can be seen also in different sectors. DiazBernardo (2009: 61) mentioned three potential obstacles in hotel franchising development in Europe: *"lack of potential franchisees with both the necessary skills and the financial resources needed, great concern about quality standards of potential franchisees and how to enforce the chain's quality standards in the franchisee's property, and litigation and other legal issues involved in franchise contract."* Hoffman and Preble (2004) stated that political barriers have significant influence on franchising, which include concerns about economic stability and possible changes in political environments. Socioeconomic barriers also influence franchising growth in some countries through problems, such as inflation, low income and weak currency that may affect success of the franchise system. Technological barriers are also a significant element for franchising growth and they can be found in form of different regulations, sanitary measures and standards.

Previous research on franchising in Croatia (Alon at al., 2010) identified the main obstacles to the development of franchising as: insufficient legal regulations related to franchising, slow judicial system, mistrust, low interest of foreign franchisors to enter the Croatian market and, ultimately, low level of education on benefits and opportunities provided by franchising. According to Pavlin (2008), who conducted similar research in Slovenia, main obstacles to franchising are: increased competition in the market, lack of understanding of the franchising philosophy, turbulent environ-

ment (transition time and the recession), absence of capital and financial resources, and a lack of legal experts specialized in the field of franchising. Alpeza et al. (2012) mentioned additional obstacles to the franchising expansion: problems of intellectual property protection, insufficient information about the franchise business model (fairs, books, magazines) and a lack of professional and fair conduct between entrepreneurs (franchisors and franchisees), which influences relationship in franchising. All the previously mentioned studies have identified a number of common problems that potential franchisors face in their countries when starting a franchise. The most commonly mentioned obstacles to franchise development in Croatia are inadequate knowledge about franchising, insufficient number of legal experts in franchising, lack of financial resources and knowledge about franchising among bank representatives. Previous research has yielded a number of recommendations which could resolve a part of the obstacles, especially at the macro level, affecting further development and use of the franchise business model in Croatia. This particularly applies to creation of legal framework for franchising, establishing a registry on franchising activity at national level and strengthening infrastructure support for the development of the franchise business model by educating key stakeholders associated with the franchise business model (bankers, lawyers, consultants). Based on the research conducted in 2012 among franchisors in Croatia, Erceg (2012) developed the model for increasing the number of franchise users (franchisors and franchisees) in Croatia.

Figure 1.: Model for increasing the number of franchise users



Source: Erceg (2012: 202).

In his model Erceg identified the crucial role of the Croatian Franchising Association (CFA) in implementation of activities aimed at promotion and improvement of the franchising environment in Croatia. The model shows the influence that different stakeholders, such as the CFA, franchise centers, financial and educational institutions have on increasing the number of franchise users (both franchisors and franchisees). CFA should lead the process of promoting the use of franchising in Croatia. CFA should also aim its efforts towards the relevant ministry for enactment of legal framework for franchising and for creating franchising agreements. By creating educational programs, franchise centers act toward different education institutions in order to provide systematic education for potential franchisees and franchisors. By creating special financial products for franchising, financial institutions enable easier entry into franchising. The relevant ministry acts toward increasing the number of people included in franchising through adopting government policies, legal framework and support programs for educational and financial institutions. Over time, this model should result in an increased number of franchisors and franchisees, which would increase the impact that franchising has on the Croatian economy (number of directly and indirectly employed, revenue, number of locations, etc.).

5. METHODOLOGY

This paper presents the results of a qualitative longitudinal research, that is, continuation of research entitled "Perspectives of development of franchising in Croatia", which was conducted in 2006 by The Franchise Center of Center for Entrepreneurship in Osijek, Croatia. In that period, "Entrepreneurial Croatia a USAID SME support project in Croatia cofinanced organization of three workshops on franchising targeting (1) lawyers interested in providing consultant services in franchising; (2) bankers interested in providing financial support for franchisees and (3) SME consultants interested in providing counseling services to franchisees and franchisors. Each of the workshops was followed by a focus group discussion and survey, based on predefined open questions designed to analyze the macro environmental factors (political, economic, social and technological) influencing the development of franchising in Croatia. Total number of participants in the focus group discussions and survey was 45, with 15 representatives of each targeting group of professionals (Alon et al., 2010). Longitudinal research results presented in this paper are based on repeated measurement of perceptions about the perspectives of development of franchising in Croatia in 2014 with representatives of the same population (lawyers, bankers and consultants for small and medium enterprises and franchise experts), using the same questionnaire with predefined questions, which make up the backbone of discussion between the participants of the focus group. When analyzing the research results of both focus group discussions and questionnaire results, the level

of overlap in attitudes and perceptions of individual groups was identified, as well as newly identified answers and inputs to those previously identified in 2006 research. The overall results of this research were presented in a form of PEST analysis and compared with the results of the 2006 research aiming to detect changes (improvements / deterioration) in individual areas of the research political, economic, legal and technologic factors of influence on the development of franchising in Croatia. Based on the detected changes, conclusions and policy recommendations were identified. The research results in 2014 represent the attitudes of 15 lawyers, 15 bankers and 15 SME and franchise experts (in total 45 participants).

6. RESEARCH RESULTS

The research results in 2014 confirm a high level of overlap in attitudes and perceptions of representatives of key stakeholders (lawyers, bankers and SME and franchise experts) about the existence and influence of main operational challenges influencing the development of franchising in Croatia (Table 2.).

Table 2.: Comparison of major opportunities and threats for franchising development in Croatia identified in 2006 and 2014

	Lawyers	Bankers	Franchise experts
Opportunities identified in **2006**	• development of the service industries sector; • insufficient awareness of franchising as a business model	• customers increasingly focus on quality service and quality control; • market still not saturated by this business concept;	• country in transition economy; • incentives for franchise development; • Croatia facing EU accession
Opportunities identified in **2014**	• insufficient awareness of franchising as a business model undeveloped franchising market; • Croatia as a new market in EU	• undeveloped franchising market; • brand preference among domestic market;	• undeveloped franchising market; • EU accession

	Lawyers	Bankers	Franchise experts
Threats identified in **2006**	• lack of governmental and banking sector support; • insufficient protection of franchisors' rights; • frequent regulation changes; • insecurity of conducting business and debt collection due to slow justice system	• slow legal system; low TEA index; mentality	• low attractiveness of Croatian market to foreign franchisors, • lack of expertise and experts; • Croatia facing EU accession • lack of adequate knowledge on franchising
Threats identified in **2014**	• insufficient protection of franchisors' rights; • frequent regulation changes; • insecurity of conducting business and debt collection due to slow legal system; • low purchasing power; • bad economic condition	• slow legal system; • low purchasing power; • small and undeveloped market; • administrative barriers for doing business; • high taxes	• lack of adequate knowledge on franchising; • slow legal system; • banks unwilling to support franchising; • lack of intellectual property • protection; • bad economic condition; • lack of entrepreneurial capacity for coping with challenges in the environment and meeting franchisors' expectations; • franchising as legally unregulated area of doing business; • low level of business discipline and affirmative business culture

Source: Authors'.

Consensus of attitudes was achieved in identification of the following obstacles: (1) slow, inconsistent and insecure legal system with frequent regulation changes and high level of taxation; (2) insufficient protection of franchisors' rights, especially in the field of intellectual property protection; (3) poor economic environment, including low purchasing power of domestic population. On the organizational level, consensus of attitudes was achieved in the identification of insufficient knowledge on the franchise model and the opportunities it provides. Additionally, representatives of SME and franchise experts emphasized the obstacles related to organizational limitations of companies and lack of personal entrepreneurial skills managers in coping with exter-

nal and internal challenges imposed by implementation of franchising as a business model. Lack of entrepreneurial capacity for coping with challenges in the environment and meeting franchisors' expectations, low business discipline and lack of affirmative business culture are newly identified challenges in 2014 research, which did not appear as relevant in the research conducted in 2013. It is important to emphasize that all three groups of stakeholders confirmed already identified opportunities in research conducted in 2006 that are accession to EU and underdevelopment of franchising in Croatia. Other identified challenges in 2006 that are still persistent in its influence in 2014 are: lack of franchising legal regulations and insufficient knowledge of franchising as a business model. However, lack of franchising legal regulations hasn't been grouped in any of the most relevant obstacles, since franchising related business practice confirmed that this could be compensated by highly efficient general legal framework. In case of Croatia, it is argued that legally regulated franchising would not increase significantly the level of implementation of franchising, because of the wider inefficient, insecure and slow legal framework for doing business that influences entrepreneurial activity in general. The influence of the identified obstacles on the level of entrepreneurial activity and in Croatia is confirmed by the results of major international research studies that collect and analyze the quality of business environment. World Bank survey Doing Business (2013) identifies main problems related to the quality of business environment in Croatia as following: getting construction permits, protecting investors, registering property, trading across borders, resolving insolvency. The most problematic factors for doing business in Croatia, according to Global Competitiveness Report (2013) are: low efficiency of public administration, corruption, instability of policies, tax rates, restrictive labor legislation, access to financial resources, tax regulations and poor work ethics of national workforce. According to the results of Global Entrepreneurship Monitor (GEM) research, the main problems for raising the level of entrepreneurial activity in Croatia are identified in the area of entrepreneurship supporting government policies, regulatory framework, attitude towards growing companies and entrepreneurs in general and interest in innovation from business perspective (Singer et al., 2012). All of the mentioned international studies confirm the existence of following characteristics on business environment in Croatia: administrative obstacles (long and expensive procedures for startup and termination of an enterprise), inefficiency of the judiciary system, long ownership registration procedures, low focus on entrepreneurial education, poor perception of entrepreneurship as a desired career choice and underdevelopment of nonformal financing forms in business ventures startup. Research participants (both in 2006 and 2014) were expected to identify political / legal, economic, social and technological factors (PEST analysis) influencing the development of franchising business model in Croatia. Collected answers in 2014 were systemized and presented in a form of matrix overview and compared to the results of the research conducted in 2006 (Table 3.).

Table 3.: PEST analysis of the mayor environmental factors influencing franchise development in Croatia

	Research results 2006	**Research results 2014**
Political factors	• no registry of movables which could be used as a collateral; • bureaucracy; • insufficient protection of franchisors' rights; • lack of legal experience in regulating franchise as a business concept; • insufficient arbitration usage; • possibility of sudden regulatory interventions by the legislators; • franchise agreement nonexistent in state regulations; • inadequate intellectual property rights protection; • lack of lawyers who are highly specialized and trained for franchise business model	• slow and inefficient legal system with consistent changes in laws and tax regulations; • problems in collection of due receivables; • inadequate and too slow intellectual property rights protection; • bureaucracy; • lack of legal experience in regulating franchise as a business concept; • franchise agreement nonexistent in state regulations; • national classification of industries not updated; • corruption; • no registry of franchising networks; • potential of franchising for development of entrepreneurship not recognized at the policy level; • non flexible labor force market and regulations; • lack of vision of economic development of Croatia at policy level
Economic factors	• Croatia is not recognized as a taxfriendly market; • small market; • lack of public institution support; • unwillingness of banks for participating in franchise purchase financing; • low purchasing power with relatively high franchise product / service prices; • insufficient economic development; • high unemployment rate; • lack of adequate financial tools	too expensive labor force; decrease in purchasing power as a result of crisis, poverty; long time needed for return of investment; lack of structural reforms of the economy and its influence in decrease of GDP; too small market; low capital potential of investors; banks not willing to finance startups; unwillingness of banks for participating in franchise purchase financing; lack of nontraditional financial products in the market;

	Research results 2006	Research results 2014
Social factors	• mentality (infringements of business agreements, quick profit expectations); • low standard of living; • lack of knowledge; • high indebtedness of the population; • atmosphere of mistrust; • intellectual property rights violations	• lack of knowledge on franchising; • refraining from investment fear of future; • high rate of unemployment; • no tradition of franchising; • mistrust to foreign franchisors; • fear of longterm binding by agreement; • fear of undertaking entrepreneurial activity; • huge differences in market potential of different parts of Croatia; • aversion to accepting new ways of doing business • lack of knowledge and willingness for selfemployment
Technological factors	• lack of adequate knowledge; • low R&D investment rates; • bad infrastructure; • low level of technological education; • underdevelopment; • technology obsolescence and low rate of new technology trends' adoption	• numerous regulations which increase insecurity; • undeveloped industrial sector; • decrease in production of different goods which directs entrepreneurs to import many ingredients in some industries; • low level of computer and internet skills among population for collecting information on business opportunities.

Source: authors'.

Political factors influencing franchising development identified in 2014 research could be divided into two groups of factors: general business related factors and franchising specific factors of influence. Comparing to research results in 2006 when most of the political factors identified were specifically linked to implementation of franchising business model in Croatia (lack of legal experience in regulating franchise as business concept, or franchise agreement nonexistent in state regulations), in 2014 most of the factors are affecting all types of businesses, regardless the business model applied. Development of franchising, therefore, like any other kind of doing business in Croatia is strongly influenced by slow and inefficient legal system with consistent changes in laws and tax regulations, inadequate and too slow intellectual property rights protection, bureaucracy, nonflexible labor force market and regulations, lack of vision of economic development of Croatia at policy level, etc. Analysis of **economic factors** influencing the development of franchising in 2014

identified even less favorable economic conditions than those coming from 2006 research results. Economic factors have all been unsupportive for franchising development, and again, being more generally linked and unfavorable to all businesses, not just franchise networks. The most commonly identified and emphasized economic factors are: too expensive labor force, decreased market potential due to low purchasing power and poverty of local population, lack of structural reforms in Croatia and so on. **Social factors** identified in 2014 research are deeply rooted in mentality and longterm period of crisis and its consequences on entrepreneurial environment in Croatia. In that context, most important social factors identified in 2014 research are: refraining from investment due to uncertain future, fear of longterm binding agreements and huge differences in market potential of different parts of Croatia. **Technological factors** identified in 2014 research represent highest deviation from 2006 research results, among 4 groups of factors. Lack of adequate knowledge, as a consequence of low level of technological education in Croatia and low R&D investment rates are still persistent identified factors influencing franchising and other business forms. However, infrastructural preconditions could be identified as rather supportive as unsupportive factor for business development in Croatia. Newly identified technological factors in 2014 research are: undeveloped industrial sector, importoriented economy and highly regulated business environment which increases the level of insecurity and complexity in the market.

7. CONCLUSIONS AND POLICY RECOMMENDATIONS

The research conducted in 2014 and described in this paper aimed on identification of barriers for development of franchising in Croatia. This research represents continuation of research conducted in 2006, what enabled identification of changes (improvements / deteriorations) in the franchising environment in Croatia from 2006 2014. The identified obstacles in 2014 could be divided in two categories: (1) franchising specific barriers and (2) general business related obstacles for doing business in Croatia. Franchising specific obstacles are consistent to those identified in 2006 research: the absence of franchising legislative regulations; lack of banking franchise purchase (co)financing programs; lack of accompanying advisory and informational support for franchising, lack of knowledge on franchising. The general business related obstacles were additionally identified and emphasized in 2014 research by majority of focus group and survey participants. High level of consensus of attitudes was achieved in identification of issues related to legal system (slow, inconsistent and insecure, with frequent regulation changes), taxation, intellectual property rights protection and poor market potential resulting from low purchasing power of domestic population. The most of identified obstacles through this qualitative research are of general nature, affecting the activities of all business entities, regardless the model of doing business applied. The existence of those obstacles in

Croatian business environment is strongly confirmed by the research results of all major international studies conducted in Croatia in the last decade (Doing Business, Global Competitiveness Report and Global Entrepreneurship Monitor). Based on the fact that franchising specific elements of the business environment are persistent in their existence (identified in 2006 research, still present in 2014) and make negative influence of franchising, the policy recommendations based on 2006 research results are still valid and relevant: creation of legislative framework based on the best practices of EU countries; organization of a promotional campaign aimed at informing the public about the benefits of franchising; cofinancing the costs of development of franchising networks for growing companies in Croatia; cofinancing education on franchising for startups and growing companies; strengthening infrastructural support for development of franchising through organizing and cofinancing education on franchising for lawyers, financial institutions, business advisors and representatives of business support institutions. The level of support for franchising activity in business environment in Croatia is highly dependent on successful implementation of policy recommendations for raising the level of entrepreneurial activity in general, identified by all major international studies. The most important and for the results of this research relevant policy recommendations in that field are: removing administrative obstacles and lengthy procedures for conducting entrepreneurial activities, increasing the efficiency of the judiciary system, a stronger focus on entrepreneurship education and developing informal forms of financing of business ventures. Without solving these problems it is unrealistic to expect high growth of entrepreneurial and franchising activities in Croatia in near future.

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COMPETITIVE INTELLIGENCE: IMPORTANCE AND APPLICATION IN PRACTICE

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ABSTRACT

Paper represents positive effects of competitive intelligence (CI) usage in the process of strategic decision making within the company. We analyze current state of CI awareness in Serbian businesses, and influence of CI on business performance of companies operating in Serbia. Study provides empirical comparative data on competitive intelligence implementation practices in developed countries and Serbia. Survey results, based on summarising and comparative analysis of field data, indicate that there are small differences in practical implementation of CI between companies in Serbia and those in EU. We indentified differences between the CI practices in Japan and USA on one side, and EU countries and Serbia on the other. Research aim is to make an assessment of competitive intelligence systems application in practice, and to provide necessary recommendations for companies based on the "best CI practices" in most developed countries, as well as basis for future studies.

Keywords:
Competitive intelligence, Competition information, Strategic decision-making, Competitive advantage, Serbian large companies

1. INTRODUCTION

In modern business environment, knowledge is the most important resource. Valid market positioning and development of corporative strategies are unthinkable without consideration of competition, both current and potential, related information.

By the end of the last century, information regarding competition mainly concerned their market share and offer, which at that time showed to be a satisfactory volume of information. However, the exceptional complexity and volatility of the modern business environment nowadays, requires much broader information about the competition, current and potential. These informations refer not only to competitors market share and their offer, but also to the level and structure of their expenses, products and services quality-price relations, sales volume, scope of activities, cash flows, liquidity, solvency and profitability.

Information about competition are nowadays critical component for both, tactical and strategic decision making of every company. Building information system that supports the management and decision-making, and that can be a source of competitive advantage, is not an easy task. Turbulent development of information technologies, hardware and software, tranformed activites such as collection, accumulation and broadcasting of information, into a very easy task, but only from the technical side. What remains problem is how to get quality and useful information. Such high-quality information about competition companies may have on its disposal only if they establish integrated and intelligent system for collecting and analyzing data about the competition. This system is known as "intelligent system for the notification of competition" (Competitive Intelligence-CI). CI provides critical informational support to both tactical and strategic decision-making, and is becaming irreplacable tool in the modern competitive struggle.

There is no single and universal definition of CI. The most commonly used and cited definition of CI was provided by the Society of Competitive Intelligence Professionals-SCIP[1] where CI is defined as: "the process of monitoring the competitive environment. CI enables managers in companies of all sizes to take decisions about everything - marketing, research and development, investments and long-term business strategies. CI is a continuous process, which includes legal and ethical collection of information, analysis that does not avoid unwanted conclusions, and controlled dissemination of knowledge and information to decision-makers.

CI process includes collecting, analyzing and providing timely and useful information and knowledge, which are essential for managers and all decision makers for improving competitive position of their companies - in the eyes of consumers. (Cobb, 2003: 81). Competitive intelligence provides tools for transforming raw in-

1 SCPI is a global non-profit organization that deals with issues of development and practical use of competitive intelligence. Today SCPI is an abbreviation for Strategic and Competitive Intelligence Professionals, previously known as the Society of Competitive Intelligence Professionals. More at - http://www.scip.org

formation regarding the competitive environment in the information and knowledge that is used to make strategic business decisions.

Companies that understand this concept, generate a lot more success in the market than their competitors who do not understand the relationship between environmental scanning and strategic decision-making.

2. COMPETITIVE INTELLIGENCE IMPACT ON THE PROCESS OF STRATEGIC MANAGEMENT

Basic task of modern strategic management is designing and implementation of winning strategies. Generally speaking, the "winning" strategy enables sucesfull market postitioning of companies. Superior market positioning, means delivering the highest value to customers, at the lowest cost. Achieving such leading market position has become increasingly difficult task in the modern global marketplace, due to the increasing pace and intensity of competition. Companies that fail to timely seize new market opportunities and to defend themselves from the threat of competitors, very soon realize that their competitive market position weakened. By losing a leading market position, companies lose their competitive advantage, and by time suffer deteriorating financial results.

Numerous studies and researches in the past, showed that process of strategic decision-making must not ignore the strategic actions of current and potential competitors, and that companies must make an extra effort to ensure these information, regardles in which branch they operate.

Competitors related information research and analyzing, has its roots in the scientific literature that stretches back to Aguilar, who claimed that the environment creates significant limitations and minimizes the possibility of managers to use and analyze information coming from the market. Companies that are able to adapt and adjust their business strategies, based on continuous inflow of information about their competitors, will enhance their competitive advantage over those companies that do not try or fail to adjust (Aguilar, 1967).

Porter argues that analysis of the competition is the central problem in the process of strategy defining. Without these information, companies will find it very difficult to position themselves within the market, in a way that sets them apart from competitors. Understanding current market positions and strategies of competitors, is the basis for designing future strategies. Without this information, it is almost impossible to assess the opportunities and competencies of its main competitors in the market (Porter, 1980).

Hovewer, until recently, only few researchers focused their research on identifying the relationship between strategic management process and activities that management undertake in order to understand their competitive environment. Competitive intelligence is the connection between these these two procesess. Lat-

est surveys confirmed that companies can apply CI in order to: understand how and where to find unique resources and capabilities which can improve their position on the market and struggle with competition; to estimate unique way of combining its resources for creating values for its customers; to appraise abilities of rivals to imitate their strategies; to comprehend the way their rival developed its unique capabilities; to create "knowledge storages" throughout organization by introducing skills managements systems and activities within the company; to prevent erosion of information and skills regarding the grounds on which company bases its competition advantages by applying counter-intelligence strategies which are used for the protection of key processes in operative activities of a company. (Kersi, Antia, Hesford, 2007; Stephanie, 2005; Marin, Poulter, 2004).

Development, integration and application of competitive intelligence serve in purpose to increase value for the customers. (Blenkhorn, Fleisher, 2001). Development of CI is an important process for every organization for several reasons: by gathering information about competition companies are able to analyze their skills and competences, enhance their own, as well as to predict future behavior and actions of competitors in order to preserve or improve its market position. More importantly, CI creates comparative knowledge that enables companies to highlight their strengths and improve the weaknesses of their competitors through product differentiation and/or services offered on the market (Cobb, 2003: 81). Companies which are increasingly implementing environmental scans, and invest in CI information systems for the processing and distribution of data, lunch their products on the market more successfully than their competitors (Kumar, Subramanian, Strandholm, 2001: 31).

Maybe the most important fact that needs to be emphasized, is that CI itself can be a source of sustainable competitive advantage, enabeling company to develop and implement strategies that improve business efficiency and effectiveness. (Daft, 1983: 136). The key of designing a successful strategy is the ability to identify, develop and maintain a competitive advantage over rivals. Resource or capability can be a source of sustainable competitive advantage, if it can produce profits for the company, in a manner which competitors on the market have difficulty to replicate or mimic.

CI activities arguably represent a source of sustainable competitive advantage, for all companies that successfully use it in three ways : first by making useful, timely and relevant information CI positively influence the process of forming strategy, providing key information on business environment and competitors during the critical phase of the strategic decision-making; secondly, specific and accumulated knowledge of CI employees can positively influence the process of implementation and development strategies, by ensuring that the accumulated knowledge and information are communicated to decision makers, and that information and knowledge are integrated into all discussions of management related to the process of strategic management, third - continuous use and development of CI activities within a single

company, creates increasing market barriers to competition, and can be a source of sustainable competitive advantage for those companies which are dedicated to developing and maintaining their CI activities.

3. APPLICATION OF COMPETITIVE INTELLIGENCE IN PRACTICE - LITERATURE REVIEW

As the need for an improved supply of information has become widely accepted in the last decade, many companies are considering on daily bases the possibility of developing and implementing CI activities. Companies worldwide are becoming more aware about the value and usefulness of investments in new, modern management concepts, such as investment in CI programs.

Hovewer, to fully understand the CI process, its contribution to the development of companies competitive strategies and sustainable competitive advantages, as well as exploring potencials for further development and implementation of these systems, it is very important to further analyse experiences regarding practical application of CI sistems, in order to be abble to more precisely define answers regarding :

- organization types and implementation methods of CI activities in practice,
- key users of CI informations,
- importance of CI for strategic business decision-making,
- contribution of CI systems for the improvement of business results of the company
- options to improve CI systems practical implementation and potencials exploring .

Surveys of practical use of CI throughout the world, show that basic CI activities (CI cycle) have been performing all over the world. Most of large companies in developed countries are using some types of CI techniques, while small companies are using CI techniques only on occasional basis. Companies based in countries in transition perform similar CI procesees as those practiced in developed countries, but with the use of less sophisticated software and techniques. Publicly available and easy accessible information are the primary source of data for CI analysis for all companies. In developed countries, CI professionals are obsessed with information and web tools for gathering information. On the other hand, companies in developing countries are using its employee's networks and intelligence as the main sources of information for the CI analysis.

There are different types of CI techniques (early warning, formulation of strategies, implementation of strategies), which are performed in different areas (sales, planning, research and development, production, corporate level etc.) within corporate companies. However, very little is known about the evolution of CI activities and programs. General conclusion is that managers and other users of CI worldwide still do not use knowledge and information offered by CI systems, at least not as much as

they should in order to be able to use this information to develop sustainable competition advantages on the market. (Ganesh, Miree, 2003: 2).

Erickson and Rothberg explored level of competitive intelligence activity in firms in business oriented vs. consumer-oriented industries. Main conclusion of their research is that the level of competitive intelligence is higher in consumer industries than business-to-business (Erickson, Rothberg, 2009: 163).

Regarding the literature on CI and hereby especially country-specific studies, CI as a company practice appears to be very popular in the United States, with most of the literature related to this topic stemming from US-based researchers and/or practitioners. Outside the USA only a few empirical studies have been published by European researchers. In text below we present country-specific empirical studies on CI from different parts of the EU and other developed world countries, in order to give an overview on previous studies objectives and conclusions.

In 1995, comprehensive study was carried out in North America, whose aim was to present CI practices in US, and to systematically describe and analyse them (Prescott and Bhardwaj, 1995). The survey instruments of this study were replicated trice, exploring the CI awareness and application in China (Tao and Prescott, 2000), Japan (Sugasawa, 2004) and Austria (Roitner, 2004).

Similar studies were conducted by Hannula and Pirttimaki (Hannula, Pirttimaki, 2003), who carried out survey targeting the top 50 Finnish companies in order to find out how popular CI practices are, and in which way CI is currently applied in Finland. Another research (De Pelsmacker, et all, 2005) investigated Belgian and South African exporters, and indicated that companies which were using CI improved its abilities to anticipate threats and opportunities in the marketplace.

In several EU countries, such as France (Smith and Kossou, 2008), Spain (Tena and Comai, 2004), Germany (Michaeli, 2004), Sweden (Hedin, 2004), Lithuania (Stankeviciute et al., 2004) and the UK (Wright et al., 2004) empirical studies on CI in general have also been carried out. General conclusion of these studies is that CI systems provide sophisticated information and intelligence, ensuring better management baseline for decision-making. However, authors concluded that there are great differences in the practical applications of CI between these EU countries.

Literature review has shown that CI practices in Serbia have never been explored so far.

4. RESEARCH METHODOLOGY, SAMPLE AND DATA COLLECTION

The hypothesis tested is the current level of awareness and competitive intelligence implementation success in Serbian largest companies. We analyze influence of CI on business performance of companies operating in Serbia. We additionally ex-

plored differences in CI awareness and implementation, by comparing summarized research data for Serbia companies and companies in other developed countries.

Hypothesis testing is based on summarizing and comparative analyzing of field data from a sample of 100 Serbian largest private companies by revenue, excluding banks and insurance companies. The sample pool consists of 100 companies listed in the 2013. Industry yearbook published by the Serbian Business Registry Agency.[2] The reason for this is that previous CI surveys conducted in other countries implied that CI first spreads within biggest corporations, before it gets widely accepted in small and medium sized enterprises. Other reasons why we chose 100 Serbian largest companies are: large companies are more likely to disclose more information, and large companies are likely to possess more competitive intelligence experience because they are more visible and have more resources at their disposal to sponsor new initiatives.

Companies CEOs were the key informants in this study. Each informant received a letter with an explanation of the purpose of the study and a questionnaire by mail or email. These efforts elicited 22 completed questionnaires - useable responses, creating a final useable response rate of 22%. Reasons for low response rate are: in several cases managers did not respond to the survey due to firm reorganization, some of managers involved did not consider appropriate to respond to the questionnaire. In other cases, the reason for not answering was a lack of time or interest in the research.

The questionnaire used in this study is based on two questionnaires used in other empirical CI surveys. Survey conducted by the SCIP (Society of Competitive Intelligence Professionals) targeting North American businesses, and survey done by Sugasawa investigating current state of CI activities and competitive awareness in Japanese Businesses 67 companies. With the exception of certain areas that have been deleted due to differences in industrial sectors between U.S. Japan and Serbia, for the purpose of this survey, nearly all the questions pertaining to competitive intelligence are the same.

For the purpose of this survey, the respondents were questioned about CI relevant information. Around 50 different answers were given to these questions. In order to guarantee a clear overview and to ease further analysis, similar responses were grouped into summarizing categories and in tables we highlight the summarized results.

The content analysis method involves codifying qualitative and quantitative information into pre-defined categories so that a pattern can be derived in presenting and reporting that information. This methodology allows the presentation of the information in a systematic, objective and reliable manner.

The presentation of the findings is structured in the same way as the research questions are. First, the structure of companies will be presented. Then, the data col-

2 Serbian Registry Agency - http://www.mc.rs/upload/documents/istrazivanje/2014/APR-STO-NAJ-privrednih-drustava-Srbija-2013.pdf - accessed on June 4th 2015.

lection practices of Serbian CI workers will be highlighted and analyzed. Furthermore, several aspects of the CI process in Serbian companies will be illustrated. The last subsection of the findings will focus on perceived benefits of CI. All summarized research data for Serbia will be compared with available corresponding data and experiences of companies in other developed countries.

5. RESEARCH RESULTS AND COMPARATIVE DATA

Analyzed sample represents a well-proportioned mix of major Serbian companies from different industries. Table 1. indicate that the largest percentage (41%) of respondent companies were involved in production business - manufacturing of industrial and consumer products. The second most significant type of business organization represented was from the trade sector (27%). These two sectors represented a significant percentage of the business types represented in the survey (68%).

Table 1.: Type of Business or OrganizationS Represented

Sector	Number	Percentage
Production	9	41%
Communication	2	9%
Finance	2	9%
Trade	6	27%
Others	3	14%
Total (% of total)	22	100%

Source: Research results.

CI information sources

There is a huge variety of competitors' information sources that can be used during the CI process. These sources can either be internal or external, personal or impersonal, formal or informal. Employees for example, especially those in direct contact with customers or clients, serve as a most valuable source of competitive intelligence. Competitors communicate extensively to their suppliers, customers, distributors, stockholders and government departments. Contact with any of these sources can provide information. Monitoring of trade magazines, trade shows, advertising, speeches, annual reports etc. can also be informative.

Careful selection of the data sources is very important. It is not really important which category of sources is used, the most important thing is that sources are trustworthy and reliable and that the information gathered is timely enough.

Respondents in this survey had to rank their three most important information sources Table 2. data show that internet, personal contacts and published in-

formation are the most common source of information for CI in Serbia. Sources of CI information are quite similar in Belgium and South Africa (De Pelsmacker, at all, 2005), where company staff, personal contacts outside the company, and external distribution channels rank among the most important ones. The internet and existing as well as prospective employees are by far the most important information sources for CI purposes within Austrian companies. Empirically observed popularity of the internet and existing employees, as a CI primary information sources we also find in a study done for the UK (Wright, and Calof, 2006).

Table 2.: Source of information

Items	Percentage	Rank
Internet	55%	1
Personal contacts (network)	45%	2
Published information	45%	2
Prospective employees	30%	3
Information from customers and suppliers	14%	4
Official authorities reports and statistics	10%	5
Press	5%	6

Source: Research results,

The internet category summary in this study consists of information collection possibilities on publicly available websites such as competitors´ websites as well as newsgroups, newsletters and online databases with viewing restrictions. As a competitive intelligence source, the Internet is both an additional source of information and a cost-effective means of sharing and disseminating information for decision makers. Company home pages often yield information about product lines, substitute products, complementary products and innovation. Companies also publicize press releases offering product information on their home pages (A.S.A., 2003: 115).

Technical aids used for CI purposes

Companies worldvide have great variety of tools and technologies on its disposal, that can be used for performing CI analyzes (Bouthillier, Jin, 2005: 43). Software providers offer special CI software, which improves competitor's data gathering process, simplify data mining and analysis procedures, and supports decision-making with a systematic CI information storage systems and databases. These software tools make entire CI process more efficient in providing useful and prompt information's for decision-makers.

However, the responses to the question whether the surveyed firms use technical aids (software) for reporting on competition (simplifying the CI process) yielded

a clear result - no special CI software or other technical tools are currently used by Serbian companies (Table 3.).

Table 3.: Do you have a special program / software for reporting on Competition

Software used for CI purposes	yes	no	Total (% of total)
Total nr. (% of total)	0 (0%)	19 (100%)	19 (100%)

Source: Research results.

In Austria, beside few companies using databases for information storage and dissemination purposes, none reported using specialized software for CI purposes (Andreas, 2008: 44). Similar results were recorded for majority companies in EU countries (Michaeli R, 2004; Smith and Kossou, 2008; Wright, Badr, Weiss and Pickton, 2004; Tena and Comai, 2004; Stankeviciute at all, 2004).

Practical use of various software packages for gathering and dissemination of CI information was confirmed in the responses of Japanese companies (Sugasawa, 2004: 17), and in research for USA based companies done by Marin and Poulter (2004). These companies mentioned various software products, and confirmed that technological tools and software used by CI professionals have helped in information gathering and analyzing.

Subject of CI analysis

Positive aspect of modern age and electronic era is information availability. Majority of the needed information can be accessed easily, often without any costs involved. Companies must focus only on certain information when analyzing competitors and the environment. That is of critical importance for the overall performance and efficiency of a company, because managers are not able to use "all information at any time".

Listed below (Table 4.) are several categories of information which may be monitored for specific competitors. We asked respondents to indicate (1) how frequently they monitor each category of information, and (2) the extent of performed data analyzes, i.e. which competitor companies are monitored for each data category they are analyzing. For consistency, all responses in this question were measured using a Likert-type scale (1-5). For frequency of data collection: 5="Monthly," 4="Quarterly", 3="Semiannually", 2="Annually," 1="Never". For extensiveness of analysis: 1="only market leader", 3="only current competitors," and 5="all competitors".

Table 4.: Categories of Information Which May be Monitored for Specific Competitors

Frequency of data collection	Information Monitored on Competitors	Extensiveness of analysis
3.8	Technological developments	3.75
2.8	Marketing	4
3.1	General industry trends	4
2.6	Customers	4.4
3.5	Financial reports	3.66
4.1	Products & services	4.5
3.4	Human resources	3.5
2.7	Manufacturing operations	3.75
3	Channels of distribution	3.95
3.8	Prices & conditions	4.1
1.1	Organizational goals and assumptions	2

Source: Research results.

Almost all of the respondents named the products and services of the competitors as the most important research object. Companies in Serbia monitor products and services of all known market competitors, usually on monthly basis. In general, it is understandable that the competitors´ products and services are the main focus for the majority of the researched companies because this is a company's most important property and this is where in most cases a unique selling proposition stems from. Furthermore, new trends can often be identified by the products of an industry and a company might directly derive the strengths and weaknesses of the competition as well as their own from the different product portfolios.

Collecting and analyzing data on the competitors´ customers and prices and conditions, for all competitors, are also important objectives for most of the surveyed companies in Serbia. These data are usually monitored on a semiannual basis. Studies for Austria and Belgium reached similar conclusions. In Austria almost all of the respondents named the products and services of the competitors as an important research object. Another important objective for most of the surveyed companies was the collection of data on the competitors´ prices and conditions (Andreas, 2008: 46). Another study finds that Belgium companies monitored following information: potential partners or agents, profiles of potential customers and opportunities in new markets. In South Africa opportunities in new markets are on the first place following with potential partners or agents and trade fairs (De Pelsmacker at all, 2005: 614).

However, we find very interesting that Serbian and EU based companies don't consider information's regarding technological development of its competitors to be a primary focus, regardless of the fact that technological innovations can be the most important source of market competitive advantage. Opposite to above, in USA and

Japan, two leading world economies, technological developments, marketing and sales and general industry trends are most frequently collected information (Marin and Poulter, 2004: 178; Sugasawa, 2004: 13-14).

Dissemination of Competitive Intelligence

Dissemination of CI outcomes is an important task for all CI practitioners because without this step, performed data analysis would be useless as the findings and intelligence would never be utilized. Looking at the ways of disseminating CI findings, and therefore summarizing the empirical as well as the theoretical findings (e.g. Marin and Poulter, 2004), it can be argued that overall, e-mails are the most popular means of CI distribution. The popularity of e-mails in this respect can be explained with the need for an immediate and fast communication of CI to numerous different recipients.

To investigate which methods of disseminating competitive intelligence findings Serbian companies usually practice, we point out these two questions: "Please indicate how extensively your unit uses each of the following methods of disseminating competitive intelligence. How effective is each method, in terms of providing useful information for decision-makers." All responses in this question were measured using a Likert-type scale (1-5). For extensiveness of use: 1="not used," 3="occasionally used," and 5="extensively used,", and for effectiveness in providing usable information to decision-makers: 1="ineffective" 3="effective" and 5="highly effective".

Table 5.: Methods of Disseminating Competitive Intelligence

Extensiveness of use	Methods of Disseminating CI	Effectiveness in providing usable information to users
3.3	Written or custom designed reports for end users	4.1
3.6	Regular meetings	3.8
4.6	Personal communications	4.6
4.8	E-mail	5
3.3	Intranet (computerized data bases)	3.75
2.3	Newsletters	2.5
1.1	SMS	2

Source: Research results.

Table 5., reveals that e-mails, personal communication and regular meetings are extensively used methods of CI disseminating in Serbian companies, which are at the same time considered as highly effective. In other words, it appears that there is core awareness of need for constant personal communicating CI using electronic and verbal methods.

Hence, Serbian companies provided the same insights, in compare with existing literature and studies of methods of CI information's disseminating. Empirical study of USA, UK, Austria and China CI practices identifies newsletters and the intranet as most frequently used tools for communicating CI intelligence (Prescott, Bhardwaj, 1995; Wright, Badr, Weiss, and Pickton, 2004; Andreas, 2008; Tao, Prescott J. 2000), while in Japan, Germany and France those methods are "written or custom designed reports for end users", "presentation to end users", "computerized databases" and "regular meeting", whereas "presentations to end users" and "personal communications" are most effective way of communications. (Sugasawa, 2004; Michaeli , 2004; Smith and Kossou, 2008).

CI information receivers within companies

Data presented in Table 6., indicate that sales departments (58%) are the primary users of competitive intelligence activities outputs, when it comes to Serbian business practices. The second largest users of CI information's support are marketing department.

Table 6.: Primary Users of the Outputs from Competitive Intelligence Activities

Department	Number	Percentage
Marketing	8	36%
R&D	1	4.5%
Sales	12	55%
Service	0	0%
Finance/Accounting	1	4.5%
Manufacturing	0	0%
Total (% of total)	22	100%

Source: Research results.

Presented results for Serbia companies are in line with the results reported for almost all EU countries. Majority of Belgian companies (62.9%) and South African companies (55.6%) reported that marketing and sales department is primary user of CI intelligence (De Pelsmacker at al, 2005). Similar results were reported for the USA based companies (Lackman et al (2000), and for companies operating in Austria (Andreas, 2008). Marin and Poulter (2004) study, further suggest that in terms of departments, the marketing department is the main user of CI.

On the contrary to Serbia and most EU companies, in Japan primary users of the CI outputs are "Manufacturing" (23%) and "R&D" (18%) departments, (Sugasawa, Y, 2004: 12) testifying overall commitment to technology development and innovation of companies based in Japan.

Table 7.: Hierarchy level of CI information receivers

Items	Number	Percentage
Upper management	11	50%
Middle management	4	18%
Equally by upper and middle	7	32%
Other management levels	0	0%
Total (% of total)	22	100%

Source: Research results.

Table 7. shows the results on management hierarchy levels that receives and use CI information's. Research revealed that the primary user of competitive intelligence activities in Serbia is "upper management" (50%). However, respondents also reported very high rate (32%) when information's provided by CI activities are used equally by both upper and middle managements level". This result confirms the value of CI for both strategic and tactical business decisions-making.

The Austrian respondents exclusively identified "upper management" (57%), as the persons within their companies to whom they distribute their CI analyses. In Japan the outputs from competitive intelligence activities are used primarily by upper management (57%), while on (43%) respondents answer "Used equally by both". Presented results are also in line with the findings of the study carried out by Marin and Poulter, in which over 50 per cent of the respondents in USA identified top managers as the main users of CI.

The extent of helpfulness of competitive intelligence

It is proven that both tactical and strategic decision-making can and is supported by CI processes.

Study participants in Serbia were asked to explain and to highlight the benefits they gained from practicing CI within their companies. In order to investigate the extent of helpfulness of competitive intelligence we point out following question: "To what extent has competitive intelligence aided in achieving following company's goals?" The respondents were instructed to indicate and to define helpfulness of CI systems for different sets of company's objectives, with (1-5) scale: 1= "doesn't help at all" to 5="helped considerably). The responses to this question are presented by following Table 8.

Table 8.: The Extent of Helpfulness of Competitive Intelligence

Items	Rank
Identification of new business opportunities	4.4
Improved market position	4.1
Improvement of managers' analytical capabilities	4
Increased revenues and/or profits	3.6
Sharing of ideas and knowledge in company	3.5

Source: Research results.

Research pointed that two most important benefits of competitive intelligence for companies based in Serbia are identification of new business opportunities and improving market position. These top two CI benefits were followed closely by improvement of managers' analytical capabilities. In Austria the most prominent reason for conducting CI, described as gaining better market knowledge regarding strengths and weaknesses of competitors and own market position, was put forward by more than 50% of the respondents which used CI for benchmarking purposes (Andreas, 2008: 98). Furthermore, benefits stemming from CI activities that are often brought forward in respective literature (e.g. Britt, 2006) and were also mentioned by the most respondents are "decisions making assistance" and "risk reduction". In Japan identification of new business opportunities and sharing of ideas, are top two CI benefits, followed closely with reported benefits regarding improved market position of companies operating in this country.

Research results for Serbia, as well as comparative results of mentioned studies for other developed world countries, indicate that companies do not use CI primarily to increase revenues or profits. These findings confirm that CI systems main purpose is to provide base for strategic decision-making and for long-terms goals achieving.

6. CONCLUSION

As a relatively young discipline, competitive intelligence has not yet imposed itself in the Serbian exploration scientific community. This empirical research enriches literature regarding CI, and provides basis for future studies.

Survey results indicate that there are small differences in practical applications of CI between companies in Serbia and those in EU. Companies in Serbia had a later start with less of a sense of urgency of using CI approach, but are moving in the same general direction as the developed EU countries.

Companies operating in EU and Serbia reported high level of CI importance awareness, and confirmed various benefits and positive effects of CI activities on their business performance. Internet and employees are proven to be CI primary information sources for all EU and Serbia companies. Most of these companies already formed their CI databases, and are using many different types of data mining

and analyzing procedures in order to create knowledge and informations that supports strategic decision-making and long-terms goals achieving. Their CI activities are mainly consumer-oriented. Competitors´ products and services, customers, and prices and conditions are the three most important CI research objects. However, none special CI software or other technical tools are currently used for the purposes of CI outputs generating and disseminating to final users by EU and Serbian companies.

We indentified differences between the CI practices in Japan and USA on one side, and EU countries and Serbia on the other. Generally speaking, companies in Japan and USA use CI primarily for monitoring and supporting production innovations and development of new technologies. Serbian and EU based companies don't consider information's regarding technological development of its competitors to be a primary focus, regardless of the fact that technological innovations can be the most important source of market competitive advantage. Since Japan and USA companies are world leaders in innovations, it can be argued that companies in Serbia and EU should more often use CI outputs in order to improve their technologies and innovation capacities. Opposite to EU and Serbia, companies in USA and Japan confirmed substantial practical use of various CI software packages and tools for gathering, analyzing and dissemination of CI information.

Research conclusions imply that companies in Serbia and in EU must further explore benefits emerging from CI activities, especially by investing in specialized CI software packages, in order to improve their business performances, and gain necessary competitive advantage for the successful strategic positioning on EU market.

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CURRENT CRISIS IN THE EU IN THE LIGHT OF THE CONTRADICTIONS OF THE CORE – PERIPHERY DEVELOPMENT MODEL

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ABSTRACT

This paper deals with the essential problems of the current economic crisis in the European Union analyzed from the aspect of the core - periphery development model. In the first part of the paper theoretical concepts are presented for explanation the reasons for divergence in the economic development among regions. In the second part of the paper special attention is given to the real convergence among the selected EU member countries. Regarding this, the paper arises the dilemma thus the stabilization programs, will be successful recipe for solving the problems of the current crisis.

Keywords:
regional policy, core and peryphery, territorial cohesion, monetary union, competitiveness

1. INTRODUCTION

The focus of this paper is the phenomenon of the imbalanced regional development as a theoretical and practical problem and as a policy issue too. A number of theoretical studies are focused on the explanation of the phenomenon of the economic domination which in a most outstanding way it is presented in the growth poles theory of F. Perroux. Also, Karl Marx has given the most comprehensive analysis of the causalities for the regional imbalances as a phenomenon of the market and prices. The analytical and methodological devices of Marx's theory have served as a basis for distinctive approach of explanation of the regional development process from the prism of the theory for relationship between the core and periphery countries (i.e. regions). In the current economic circumstances this theory has a special role in the demystification of the tendencies in the modern regional development within the globalization processes.

Therefore, in this paper the core - periphery model will be used as a theoretical framework, in order to offer an alternative observation of the causes of the current economic crisis in the European Union. Actually, the main aim of the paper is to see the roots of the current account imbalances of European economies not as a "bad behavior" of the deficit countries but from the perspective of the development tendencies in the global economy. This analytical approach is in accordance with the need to explain why in the European area have been developed two different development strategies which generate different macroeconomic performances in the core and in the periphery countries. In fact, the core countries with weak domestic demand follow an export - led growth strategy, while the growth strategy in the periphery countries is based on the expansion of their domestic demand which is financed by the growth of the public debt. Both development strategies have been implemented within the single monetary policy with the same nominal interest rate for all countries, which as a feedback reinforces the appearance of these two opposite development strategies.

2. THEORETICAL BACKGROUND: THE MARKET AND THE REGIONAL DISPARITIES

Tendencies in a regional development show that growth does not appear in all places at the same time, with the same intensity and in the same mode. This empirical fact stimulated a number of distinguished economists to determine the forms of development (i.e. development vs underdevelopment), their causalities and as well as the potentials and possibilities of a regional policy. The most remarkable economist of the 1960s who animated the interest for the regional development was F. Perroux. His 'growth poles' theory gained a universal value and became a key tool for understanding the processes of the dynamics of territory considering the sequences

of social and economic imbalances. Defining the analytical categories such as 'the dominant firm', 'the dominant market' and 'the dominant region', Perroux developed the concept of 'the domination effect in the economy'[1]. The effects of domination arise when some regions are not in a position to oppose to asymmetric activities and influences from the other regions. The phenomenon of domination is present not only in economic interaction among branches within a certain economic area but also in economic relations between regions within the state and among national states in the global system. Regarding the 'growth poles' theory, the hierarchical power of the dominant units in the system arises from three sources: economy of scale, externalities and economies of agglomeration. So, the positivism in the Perroux's theory is found in the conclusion that the 'growth pole' has a high market and competitive potential and as a magnet attracts the production resources, and in the same time it is capable to induce the growth in the neighboring (less developed) regions. But, confronting this theoretical concept one dilemma came up: 'Does the pole support the growth in the less developed regions or the accumulated propulsive economic structure of the pole is the ultimate determinant for exhaustion of the periphery?' Even today the answer of this question occupies the academic community.

The modern crises have multiplied confrontations among the developed and undeveloped parts at the all levels of the global system and in that context they have turned the attention to the regional imbalances. The question about the role of market in the income distribution and widening of the gap in development among different regions has become popular again. The current European economic crisis might be analyzed from this perspective. So, for more essential explanation of the processes we will consider the opinions about the role of market and regional development of the opposite groups of theoreticians.

The first group of theoreticians considers that the global market is sufficient mechanism for inducing development in undeveloped regions. Actually, this is a dominant stance in the official policies of the global institutions (International Monetary Fund and World Bank). These theoreticians as an empirical example show the experience of those countries which have overcome the poverty threshold by using of their traditional economic relations they increased the share in the global export of agricultural and raw products and realized high growth rates. Consequently, the export diversification is the next phase in the economic development of these countries. This theoretical optimism has roots in the classical economics which developed the concepts for absolute and comparative advantages to explain international exchange among countries. The modern neoclassical economics upgraded the concepts of absolute and comparative advantages into the Heckscher-Ohlin new trade theory. The principle of comparative costs is transformed into the general theory of

1 The thesis for 'domination effect in the economy' Perroux had explained in three separate articles published in 1948, 1949 and 1950. Then, these articles were republished in his remarkable book "L'economie du XXe siècle" Presses universitaires de France , Paris, 1961 (chapters 2, 3 and 12).

international value where the inverse demand is its substantial part. Ohlin used term 'region' (not the term 'state') with free movement of the production factors within the region. Due to the unequal factors endowments among the regions, there are differences in the level of their production costs. Production specialization of the regions in terms of their ample factors will equalize the prices of production factors and this will remove the differences in the level of production costs, and consequently will decrease the development gap among the regions.

Another group of theoreticians support the thesis that increasing the differences between the countries and regions is a cumulative process immanent for the market mechanism. Maybe the most consistent concept for analysis of the regional disparities is one offered by the Marxian political economy. The main hypotheses of the Marxian analysis are: (i) all destructive tendencies as a consequence of the competition process within one country are multiply on the world market (Marx,1946: 193-184); (ii) if one country has more developed capitalistic production, then its labour productivity is higher and it is above the level of average international productivity. Different quantities of the same type of goods, which are produced in different countries for the same time units, have different international value and different prices respectively (Marx,1947: 489-490); (iii) In the international trade, the more developed countries are selling their goods for prices which are higher than their internal value, besides the fact that they might be cheaper than the goods produced in the competitive countries. This is a mechanism for valuation of the labour of developed countries in the international trade (Marx , 1948): 190)).

The Marxian analysis gave strong theoretical basis for his adherents for studying the actual spatial contradictions in the global economy. The complex interdependence of the modern regional differences is an issue that is actualized by the core-periphery theory, which analysis is based on the Marxian methodology. The key principles of the core-periphery theory are based on the following conclusions (Nikolovska, 2000):

- Economic development and economic un-development are two sides of the same model. Both processes are product from the inner contradictions of the modern capitalistic development. It is not a question of variety in efficiency of different types of socio-economic systems or to the attained level of development of society, but it is a question of the 'contradictions in the economic structure of development of global capitalism'.
- Capitalism has developed into the dominant form of socio - economic system in the world. Monopoly position of the core countries gives possibilities to these countries for appropriation of the added value created in the periphery countries and to use it for their own economic development.
- The mechanism of appropriation of the new added value is based on the production prices, which are in favor of the branches of the economy that have higher substantial value of the production factors. Consequently, the unbal-

anced spatial distribution of the branches creates an uneven development of the regions (and countries). Hence, discriminatory practice toward undeveloped regions and states are created and it is a product of the monopoly position of the leaders countries in the field of technology and development. Elements of technological progress which are located in the core regions (countries) are the main factor for growth of their productivity above the average value. This will result in the internalization of the external costs in the global economy.

- Redistribution of financial resources through the financial markets in the favor of the developed (core) countries. In the era of domination of financial capital, modern economic reforms in the periphery countries are characterized as monetary schemes for stabilization and structural adjustment of their economies with finial outcome - contraction of domestic production and development of consumer markets as a part of the global market. The international institutional network (FED, World Bank, International Monetary Fund, European Central Bank) supports the monetary liquidity. Hence, the financial assets grow faster than the entrepreneurship (investment in production). This lead to cost inflation accompanied with the growth of unemployment. As a result of the financial alchemy (or creation of virtual wealth) there is a process of redistribution of the financial resources among the countries with deep and developed financial markets and the ones in the periphery countries. Precisely, the core countries extract the accumulation from periphery countries by the use of their capital and goods markets, and on that way deepening the gap in development among them.

Also, these inferences are in accordance with Krugman (1991) and his concept about 'new economic geography' which unambiguously suggests formation of core-periphery development model based on the principle of increasing returns and decreasing costs. Bearers of the 'new economic divide' are the transnational corporations (TNCs), which are almost not present in the economies of developing countries. However, considering Porter's findings, the absence of TNCs in one country is a strong barrier for formation of its national diamond for comparative advantages, and the country get stick in the position of 'factor driven economy' with imbalanced model of development. Horn et al. (2009) and Stockhammer (2010) and (2011) analyzed different models of development in the European economy from the perspective of the current crisis, and they pointed out on the relevance of the core -periphery development model. In a nutshell, the core-periphery theory demystifies the modern contradictions in the economic development regarding developed and undeveloped countries. It confronts with the thesis of western theoreticians who treat the center (the pole) of growth as a mode of growth dispersion. In this manner, the core-periphery theory offers an analytical explanation of the tendencies of polarization in the modern regional development.

3. EMPIRICAL ANALYSIS: THE CRISIS IN THE EU AS A REFLECTION OF THE CORE-PERIPHERY MODEL

The key idea of this paper is the crisis in the EU does not analyze from the perspective of mistakes of the endogenous economic policy of the countries affected by the crisis, but from the prism of the core-periphery development model. For this purpose it will be analyzed the group of countries EU-15[2]. Regarding their performances the countries are divided into two groups. First group is the group of core countries: Germany, Austria, Belgium, Denmark, Finland, France, Netherlands, Sweden, United Kingdom; and the second group are periphery countries: Greece, Ireland, Italy, Portugal and Spain.

Taking into consideration the premise of core-periphery model about uneven (imbalanced) economic development, deficits in the periphery countries and surpluses in the countries from the core are treated as a product of the same phenomenon. The core-periphery model is confronting with the strategic goal of the European Union. The real convergence, as a strategic goal of the EU, was defined since the beginning of the process of the union's formation. The European Union was striving for balanced development as an economic and social value and it was realizing through the convergence of the GDP per capita and the rate of employment. But this goal fell into the shadow on the latest trends and developments in the EU.

In practice, the monetary strategy and the liberal market have resulted in two different models of development and in that context there are two different development strategies for the countries on a different level of economic development (core countries vs periphery countries). However, the both strategies are mutually connected, i.e. the growth in the core countries is corresponding to the consumption in the periphery countries, while the latter ones have a necessity for the financial funds of the core in order to maintain their current account deficits (Uho, et al. 2011: 573).

The heterogeneity of the member countries of the EU is undeniable fact. The opportunity for realization of higher and sustainable rates of economic growth within the globalized European economy is directly depended from the ability of the member countries of the EU to mobilize their resources in the promotion of the export-oriented growth model by which the capital should be accumulated. However, the export orientation is an aim of the European development strategy as a whole, and within the "strategic navigation" (Maastricht criteria) it was transformed in the core - periphery development model in accordance to the previously acquired comparative advantages of the countries. History, again, confirmed the experience of accumulation on imbalances in the economic development by using this model as a basis for creation of the development strategy. In fact, development process of the European area was split on two developmental strategies which are two sides of the same phenomenon - "the con-

2 EU15: Austria, Belgium, Denmark, Finland, France, Germany, Netherlands, Sweden, United Kingdom, Greece, Ireland, Italy, Portugal and Spain.

tradiction of development in the economic structure in capitalistic society". Different strategies of development are product of restructuring of the Euroland in anticipation of the competition on the global market. Different levels of countries' development are consequence from the process of the real divergence between the performances of the core countries and the periphery ones in the EU. The real divergence is due to the fact that the capital is accumulating in the core countries, and the debt is accumulating in the countries from the periphery. A debt accumulation in the periphery countries is a result from the tendency of losing of the competitiveness of these economies and it became a factor for their unstable economic growth.

Performances of the model of development of core countries can be analyzed on the case of German economy as a representative of the export-oriented strategy. This strategy is used as a base for increasing of the economy's competitiveness on the global market. Actually, in the last decade the accent has been put on the restrictive income policy regarding the nominal inflation target and the productivity growth. Such policy has resulted into the low growth of the per unit labor costs. Changes in the income distribution towards the saving of labor costs have decreased the private consumption in the German economy. Higher profits did not increase the dynamics of investments in the capital stock, but they have turned money toward the nonfinancial institutions. These institutions invested free funds in the countries from the periphery where the increased demand met with the increased offer of the competitive goods from the European core. Competitiveness of the German economy is obvious. For instance, the value of the exported German goods in 2005 was 76% higher compared with their value in 2000. In 2007, at the outbreak of the crisis, the value of the exported goods was 240,03 percent of that of 2000. In the same period the value of the imported goods was increasing with slower dynamics due to the decreasing of domestic demand (see Table 1.).

Table 1.: Export value index and Import value index for EU-15; (2000=100)

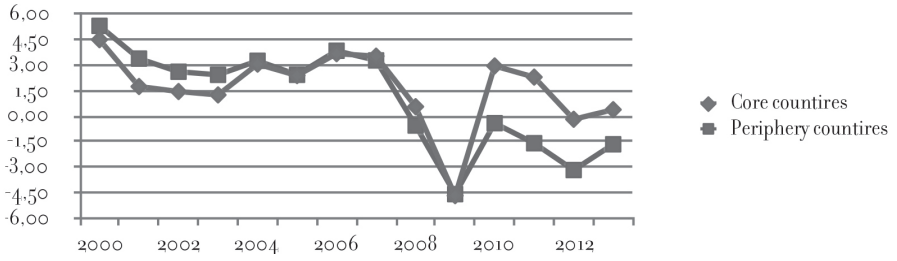
	2005		2007		2013	
	export index	import index	export index	import index	export index	import index
Core countries						
Austria	185,34	176,32	242,25	225,77	258,07	252,39
Belgium	177,96	179,98	229,34	232,42	249,50	254,30
Denmark	166,36	166,31	201,64	215,71	217,52	213,92
Finland	142,42	171,04	195,75	237,80	161,24	224,84
France	141,81	149,10	171,24	186,59	177,37	201,32
Germany	176,39	156,68	240,03	212,71	263,93	239,38
Luxemburg	224,92	194,60	267,92	245,02	232,86	239,68
Netherlands	174,74	167,10	236,83	226,25	285,32	271,11
Sweden	150,67	153,64	194,23	210,77	192,71	217,84

	2005		2007		2013	
United Kingdom	135,04	147,95	154,22	179,42	190,13	188,49
Periphery countries						
Greece	147,41	163,00	201,15	235,15	311,33	186,11
Ireland	142,00	134,67	157,39	164,63	147,87	127,88
Italy	155,14	161,16	207,84	214,30	215,23	199,91
Portugal	156,97	153,52	216,03	206,08	258,70	188,67
Spain	167,57	185,41	220,32	249,94	274,44	217,55

Source: World Bank database.

In the period from 2000 to 2013 in the most of the core countries the value of the export value index is higher than the value of the import value index. In the same period, in the most of the periphery countries the value of the import value index is higher than the value of the export value index, which indicates for less competitive power of their economies. At the outbreak of the crisis, almost all analyzed countries registered higher value of the import value index compared with the export value index.

Figure 1.: The annual average growth rate of GDP for the core countries and periphery COUNTRIES IN the period 2000 - 2013



Source: Authors' calculation based on the data from World Bank database.

Before the outbreak of the crisis, the growth rate of GDP of the periphery countries was higher than the one of core countries. However, after 2009 the core countries had modest positive growth rate of GDP and the counters from the periphery realized negative trends in their GDP growth rate (Figure 1). Besides these positive trends in the international trade German economy has realized anemic economic growth. In the period (2000-2006) the average annual growth rate of GDP was e (1.37%) and (0.98%) during the period 2007-2013. In the periphery countries the positive values of GDP growth rate has converted into negative rates (see Table 2.). These variations are due to different sources of economy development. Economic growth in the periphery countries is not based on the sound fundaments (i.e. own capital accumulation).

Table 2.: Average annual growth rate of GDP for the periods: 2000-2006 and 2007-2013

	2000-2006	2007-2013
Core cuntires:		
Austria	2,19	1,06
Belgium	2,13	0,83
Denmark	2,04	-0,48
Germany	1,37	0,98
France	2,08	0,64
Finland	3,24	0,06
Luxemburg	4,12	1,60
Netherlands	2,02	0,49
Sweden	3,23	1,04
United Kingdom	3,07	0,54
Periphery cuntires		
Greece	4,17	-3,73
Ireland	5,62	-0,24
Italy	1,49	-1,03
Spain	3,77	-0,37
Portugal	1,39	-0,84

Source: Authors' calculation based on the data from World Bank database.

For instance, it has been based on the inflow of external capital, increasing debts of private and public sectors, while the main source of the growth is consumption of these sectors. Private and public consumption might be realized in the form of investments in production, but in the latter phases this model is followed by decline of the growth of gross domestic product because the biggest part of the consumption is satisfied with the imported goods and increasing the debts of countries.

During the last decade, in the periphery countries the so called "investment in production" has been realized through the expansion of the construction sector. Demand in the construction sector had stimulated the increase in prices which was followed with less dynamic increasing in wages. Deficit in consumption was financed with credit expansion. Created preconditions with Maastricht criteria (decreasing of interest rates, eliminating the premium for foreign exchange risk and price stabilization) had developed favorable environment for credit expansion. In the context of the recovery of business cycle, the credit expansion through the construction sector stimulated formation of speculative bubble with the prices on real estate markets. So, the common monetary policy (which is focused on stable prices and low interest rates) had different consequences for heterogeneous countries regarding their level of economic development. In the core countries monetary policy has had a stabilizing effect and it was creating preconditions for export-oriented growth, whereas in the periphery countries this policy was an initiator for destabilization of their economies

and it has increased the divergence in the flows of real sectors through accumulating a numerous imbalances, especially the one in their current accounts (see Table 3.).

Table 3. : Current account as a percentage of GDP

	2001	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Core countries											
Austria	-0,8	2,1	2,1	2,7	3,3	4,7	2,6	3,3	1,6	1,8	2,6
Belgium	3,3	3,2	2	1,8	2	-1,1	-0,8	1,8	-1,2	-2	-1,9
Denmark	2,5	2,2	4,2	2,9	1,3	2,6	3,3	5,8	5,5	5,6	7,2
Finland	8,1	5,9	3,2	4	4,1	2,5	1,7	1,4	-1,4	-1,4	-1
France	1,7	0,5	-0,5	-0,6	-1	-1,7	-1,3	-1,3	-1,7	-2,1	-1,3
Germany	0	4,4	4,8	6	7,2	6	5,7	6	6,6	7,3	7,4
Luxembourg	8,4	12,1	11,8	10,4	10,4	5,3	6,8	7,8	6,7	6	5,5
Netherlands	2,4	7,2	7	8,7	6,3	4	4,8	6,8	8,5	8,9	10,1
Sweden	4,7	6,3	6,5	8,2	8,9	8,6	5,9	6	5,8	5,8	6,6
United Kingdom	-2,2	-1,9	-1,8	-2,7	-2,1	-0,9	-1,4	-2,6	-1,4	-3,6	-4,2
Periphery countries											
Greece	-6,8	-5,4	-7,3	-10,9	-14	-14,4	-10,8	-9,4	-10	-2,6	1,2
Ireland	-0,6	-0,6	-3,4	-3,5	-5,2	-5,4	-2,2	1,1	1,2	4,2	6,2
Italy	-0,1	-0,9	-1,6	-2,5	-2,3	-2,8	-1,8	-3,3	-2,9	-0,2	1
Portugal	-10,2	-8,1	-10	-10,1	-9,7	-12,2	-10,5	-10,2	-6,8	-2	0,5

Source: OECD database.

In addition, creation of the European Monetary Union, liberalization and financial deregulation supported an increase in deficit in the current accounts of the countries from the periphery. These processes created an environment for easy mobilization of free financial accumulation from the core countries. The most part of accumulated financial resources have been invested into periphery countries and they served as means of financing of their increased public and private consumption. Actually, from one side, these ways of the financial flows were a direct consequence from the structural imbalances among the economies from core and periphery of the Eurozone and from the other side these financial flows reflected the innate motives for circulation of financial innovations on markets where credits and credit risk were traded with higher earnings. In this context, markets in the periphery were used for placement of goods, services and credits portfolios of the core countries. The outcome of this situation was capital accumulation in the core countries and accumulation of deficit, debt and losses in the periphery counties. Increased private and public debts in the countries confirmed that in the new financial setting speculative financial activities were preferred than investment in the productive projects. For instance, in

Ireland in a very short period of time, debts of households and nonfinancial corporations increased from 171,2 % of GDP in 2005 to 281,5% of GDP in 2012, (see Table 5.). Corresponding with these trends the government debt increased too (see Table 4.). Process of speculative growth of indebted periphery economies was broken by the financial crisis in the USA, contraction of the boom-bust financial cycle and by the external shocks in the real sector (for example, rising oil prices). Transmission of the external shocks through the finance and trade has stressed out the conflict between the core and periphery countries of EU in the form of a financial crisis and a crisis of the public debt.

Table 4.: Central government debt (total) as a percentage of GDP

	2000	2005	2006	2007	2008	2009	2010	2011	2012
Core countries									
Austria	64,13	65,43	62,04	59,01	64,14	68,99	72,17	73,12	78,46
Belgium	104,53	87,03	83,21	80,21	82,70	87,00	86,24	88,57	89,44
Denmark	51,93	35,71	31,97	24,14	30,79	37,03	41,24	47,97	47,23
Finland	55,22	42,24	39,69	36,01	31,97	41,24	47,00	45,96	51,00
France	59,59	70,70	66,46	65,38	71,00	82,69	86,46	90,60	100,85
Germany	38,28	43,30	42,10	39,43	41,73	46,04	53,74	53,32	55,18
Luxemburg	n.a.	3,67	4,34	4,78	12,33	13,29	17,51	16,92	20,03
Netherlands	48,50	48,89	43,16	40,58	52,11	53,94	57,66	61,79	67,89
Sweden	64,91	50,57	44,25	38,64	39,74	39,72	36,68	36,66	35,29
United Kingdom	43,31	43,92	43,78	44,78	54,35	68,60	81,18	94,58	97,17
Periphery countries									
Greece	119,15	121,56	123,04	120,39	116,81	133,25	126,93	108,70	163,56
Ireland	39,34	31,78	28,19	27,63	46,84	66,94	83,70	97,80	120,46
Italy	114,70	108,71	105,13	100,62	103,40	117,12	115,85	108,90	126,16
Spain	53,28	37,69	33,37	29,44	33,53	45,56	47,10	54,59	65,92
Portugal	64,91	50,57	44,25	38,64	39,74	39,72	36,68	36,66	35,29

Source: EUROSTAT database.

Table 5.: Private sector debt, consolidated a percentage of GDP

	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013
Core countries										
Austria	121,7	124	122,9	124,6	127,5	132,8	133,1	130	128,3	126,9
Belgium	114,2	119,5	119,8	134,4	162,9	165,3	161,9	174,5	180,5	175,8
Denmark	158,1	187,7	199,9	208,4	222,8	233,3	222,1	222,6	226,6	224,1
Germany	123	117,1	114,1	111	109,3	113,4	107,7	103,9	103,7	103,5
France	99	109.2	112,6	115,6	122,2	130,5	131,8	135,3	138,2	137,3
Luxemburg	n.a.	n.a.	n.a.	n.a.	391,4	421,8	348,1	347,3	340,6	356,2
Netherlands	206,2	217,7	217,7	216,8	217,3	231,4	229.4	228	230,2	229,7
Finland	91,9	114,7	117,9	122,3	131,3	141,3	145,8	142,4	146,6	146,2
Sweden	141,7	159,2	161,2	177,6	200,1	212,6	200,8	200,4	202,4	200,1
United Kingdom	138,5	168,4	174,3	176,8	186,1	189,9	177	173,5	175,8	164,4
Periphery countries										
Ireland	n.a.	171,2	191,7	198,1	237,4	258,5	261,2	277,9	281,5	270,3
Greece	53,1	86,2	93	101,9	113,5	117,2	128,8	130,6	130,5	135,6
Spain	102,9	154,9	177,8	191,9	196,6	202,4	201,5	195,3	184,8	172,2
Portugal	137,1	171,4	176,5	185	196,2	204,2	201,5	204,1	209,6	202,6
Italy	75,8	95,9	102,2	109,6	113,7	120,1	121,2	120,4	121,7	119,5

Source: EUROSTAT database.

Hence, realization of the strategic goals of the European Union emphasizes the actual position of the core countries as a dynamic pole of growth. In that context, successful completion of the EU's development agenda 2020 is directly determined of the speed and effectiveness of the post crisis economic recovery in the periphery countries. Therefore, stabilization policy is becoming a priority, and it will determine the future perspectives of development and further integration of the European Union.

Current response to the crisis: stabilization vis a vi convergence

In a nutshell, we may note that the European integration is a process characterized with innate contradictions. A scientific and technological progress in the European Union is stimulated by the amplification of the competition on the global market. This process increases the role and significance of the core countries in the European Union as a main engine of its development. In this context, the regional policy should enable periphery countries to follow the dynamics of development of the core ones. But the current economic crisis in the EU has highlighted the contradictions in the integration process. The financial resources have become more and

more scarce input for development. The reformation of the regional policy with the Lisbon strategy has stresses the priority for the Union to develop the propulsive export strategies which are in accordance with the acquired competitive advantages of its core countries. In order the core counties to keep the pace of high developmental dynamics as soon as possible the periphery countries should overcome the negative effects from the economic crisis. Thus, in this moment the stabilization policies are in the priority lists of the EU's agenda. In the September 2012, European Stability Mechanism (ECM) was created. It is an international organization with main purpose to safeguard the eurozone and to provide instant access to financial programs for its member states with financial difficulties. The access to the financial programs is conditional with the implementation of the rigid programs for economic and financial adjustment and sustainability of the public debt of the financially distressed member state. The maximum lending capacity of the ECM is 500 billion Euro and it replaced the earlier temporary EU funding programs European Financial Stability Facility (EFSF) and European Financial Stabilization Mechanism (EFSM). At the beginning of 2015, The European Commission created the so called Juncker investment plan (of cca 315 billion EURO) to deal with 'the virtuous triangle: to mobilize investment finance without creating public debt; to support investments in key sectors (infrastructure, education and research and innovation); and to remove financial and non-financial barriers to investment. But actually, the main purpose of the financial injection is capitalization of banks and to support the real sector as a way to stabilize the banking system, to improve expectations regarding the region's stability and to increase the marginal efficiency of capital. All these activities should result in consolidation of the distressed European monetary system.

However, the creation of new mechanisms and financial programs for liquidity support of the periphery countries have emphasized more problems and dilemmas, such as:

- The new dynamics of injection of monetary liquidity will stimulate faster monetary growth regarding financial resources, while the growth rate of production will continually decrease. These conditions will intensify the inflation tendencies in the economies. The monetary schemes will be use to compress the cost inflation which will result in deflation tendencies in production, consumption and unemployment in the periphery countries;
- -Financial rescue packages is a mode for redistribution of the capital among financial markets (surplus-capital countries) and consumer markets (deficit-capital countries). So, the modern global capitalism creates money with which it revitalizes the speculative financial markets and increases the gap between the core and periphery countries.
- After the crisis, the gap in the economic performances between the core and periphery countries is increasing, which is due to the capital redistribution among the countries with capital surplus and deficit ones. As a result, the role

of the core countries has transformed from the position of the 'importer of the last resort' into the 'capital exporter of the first resort' (in order to finance the import of their goods in the periphery countries) on the one hand, and into 'capital exporter of the last resort' (for implementation of stabilization packages to save the periphery economies as a market for their goods) on the other hand.

- Consequently, the main dilemma is about the current rule of a European cohesion policy and thus this policy, still has the potential to be the main component of the development strategy of the EU.

4. CONCLUSION

In the public and professional debates, elaborations about the causes of the current crisis are situated between coordinates on the lack of fiscal discipline and the lack of structural reforms in terms of improvement of the competitiveness of an economy. However, the key idea of this paper is that the economic crisis in the European Union should be analyzed from the perspective of the persistent increasing macroeconomic imbalances (e.g. current account deficits and public debts) which are result from the different growth models that were developed within the process of creation of the euro currency. These processes were causal consequence from the increasing globalization of the European economy and they were amplifying the classical regional dichotomy of the core and periphery countries.

The main engine in the global race for transnationalization of the European economy is governed by the core countries (for instance German economy) while the periphery countries in this race are marginalized (they are losing their competitiveness and are accumulating debts). As our empirical analysis suggests, the positive growth performances of the core countries are realized through the markets and deficits of the periphery countries. In fact, this is the way for globalization and corporatization of European economy in order to strengthen its competitiveness for better performances in the competition race with other developed parts of the world economy.

Functional integration (i.e. market integration) of European economy makes less relevant the standard models of international trade theories concerning the development of international competitiveness, especially in surroundings where the processes of mergers and acquisitions among the big businesses is reinforced. The leaders of these processes in the EU are the core countries led by the German economy.

However, this model of development creates conflicts between the goal of managing the increasing gap in macroeconomic performances of the national economies and improving the functional market integration of the European economy. Creation of the European monetary union and financial integration has a key role in explain-

ing the rising of current account deficits to historically unknown level: the risk premium has disappeared and the easier access to funding was ensured.

The great recession has faced with the fact that financing the excess of demand through the borrowing of the periphery countries is not sustainable and it leads to destabilization of the European Union. Juncker investment plan is an attempt to establish an agent who will stimulate the aggregate demand within the framework of the established stabilization schemes for financial markets. Actually, these financial schemes are aimed to save the interests of creditors and to help them to consolidate the economic relations between export oriented and import oriented countries (i.e. between core and periphery economies).

However, to solve these problems it is necessary for faster growth of domestic demand in countries that have implemented the export based growth model. And thus, to make this possible it is necessary to change the pattern of income distribution and the wage restriction policy which are applied in core countries (like the case in Germany). So, consequently the Maastricht nominal criteria should be substituted with the new more complex development paradigms which implementation will result in more balanced macroeconomic performances within the European economy.

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CAUSES AND MEASURES FOR PREVENTING FUTURE CRISES IN EU

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ABSTRACT

Authors summarized major causes of current financial crisis in EU on global and regional (European) level. On a global level these are credit rating agencies and compensations of CEO directors in financial sector. On regional level these are structural imbalance, increasing debts of EU countries, foreign trade imbalance among EU countries and loss of confidence in debt of EU countries. Measures for preventing future crises in EU according to the authors are improved debt management, application of Keynesian ideas for overcoming the crisis, reform of the criteria for entering the Eurozone, creation of a fiscal union, exit of the PIIGS countries from the Eurozone, taxation of the financial sector and creation of a banking union.

Keywords:
Global financial crisis, financial crisis in EU, causes of crisis, prevention of crisis in EU

1. INTRODUCTION

In the years before the crisis economic movements in the European Union were favorable. According to the Eurostat, unemployment rate was declining while inflation rate measured by harmonized consumer indices was low and stable. Also, in political sphere certain successes were achieved. In 2004. European Union welcomed ten new member states which was the biggest enlargement in the history of EU (Mintas Hodak, 2010).

European Union was achieving moderate economic growth until the world financial crisis in 2008. Unemployment rate was declining in the years before the crisis, form 9.3% to 7%. The inflation rate measured by the harmonized index of consumer prices was low and stable. European Union was achieving moderate economic growth, which was stopped with the start of the world financial crisis of 2008. This data is shown in the following table.

Table 1.: Movement of economic indicators in eu in pre-crisis period

Economic indicator	2004.	2005.	2006.	2007.	2008.
Unemployment rate (in %)	9.3	9.0	8.2	7.2	7.0
HICP1 (change in %)	2.3	2.3	2.3	2.4	3.7
Long-therm interest rates (in %)	4.38	3.70	4.08	4.56	4.55
GDP growth rate (in %)	2.6	2.2	3.4	3.2	0.4

Source: Authors' own design according to data by Eurostat.

Global financial crisis hit PIIGS countries especially hard[1] (Sarangi, 2014). A major economic recession started in 2009. in European countries. The starting point of that economic crisis was the subprime crisis in the US (Weill, 2014).

However, causes that led to the crisis in the EU were various and numerous. The aim of this paper is to give an overview of causes which generated crisis in the EU and measures that can be applied for preventing future crises in the EU.

This paper has three parts. First part deals generally with crises while authors emphasize world financial crisis of 2008. It is an introduction to the core of the paper. Second part gives an overview of external and internal causes that generated crisis in the EU. Third part gives measures for overcoming and preventing future crises in the EU.

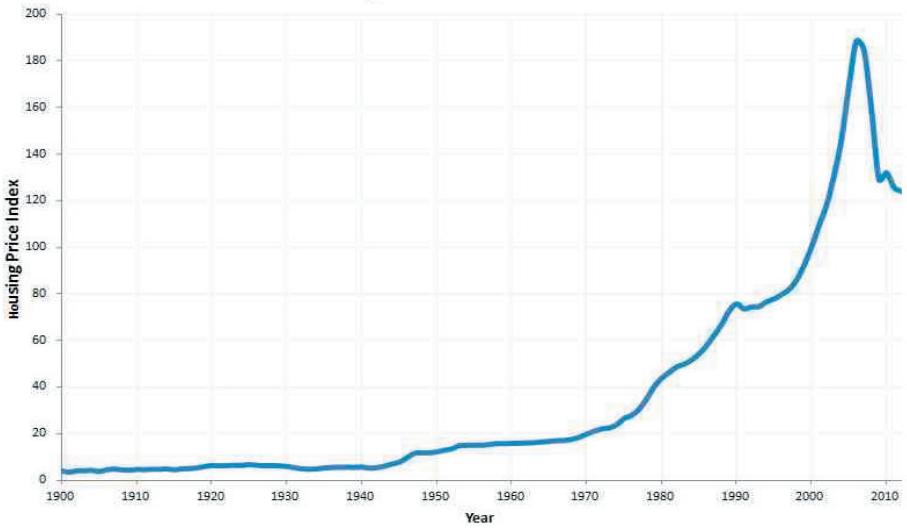
1 Due to the economic recession which started in 2008, several members of the European Union became known as PIIGS. These states include Portugal, Italy, Ireland, Greece and Spain and if combined together, they form the acronym PIIGS. The reason why these countries were grouped together is the substantial instability of their economies, which was an evident problem in 2009.

2. THE FINANCIAL CRISIS OF 2008

Financial crisis represents a disturbance in financial system that is accompanied by a decline in the value of assets and insolvency of many firms in financial and other sectors. Generally, it has negative impact on economy. There is no consensus among the economists for the crucial causes and methods for solving the crises. So, they continue to occur (Benić, 2012).

World financial crisis was generated by the crisis of the real estate market in the USA, popularly called "subprime crisis". During the period from 1997. to 2006. prices of the real estate were growing to unrealistic levels, until 2007. when started their sharp decline (Figure 1.).

Figure 1.: U.S. housing price index since 1900



Source: Observations, 2014.

During that period an increasing number of debtors weren't able to pay back their loans because of high interest rates and low incomes. Suddenly, high supply of houses appeared on the market and because of that came a sharp decline of prices. Insolvency of the debtors led banks to losses. Banks that had given the loans couldn't sell the houses so the consequence was the crash of the entire financial system. Crisis spread all over the banking system, insurance sector, stock exchanges and funds (Ribinak, 2011).

The hardest moment for the financial sector happened in the middle of 2008. when banks Lehman Brothers, Bearn Sterns and biggest real estate firms Fannie Mae and Freddie Mac went bankrupt (Steele, 2014). Bankruptcy of the Lehman Brothers was especially heavy shock for USA residents because of it's long tradition and be-

cause it was an icon of American banking system. The main cause of bankruptcy were very high managerial compensations that were given for short term successes. By giving loans for houses to debtors who weren't able to pay back their loans, managers generated the crisis which had grown to the economic crisis (Bebchuk et al., 2009).

Samuelson and Nordhaus (2007) state that the cause of financial crises is recession[2] whose features are:

- Reduced demand for products and services which leads to the increase of stock. It causes reduced production and consequently reduced GDP and investment.
- Reduced profit of the companies, stock prices, demand for credits and interest rates.
- Decrease in demand for labor and higher unemployment rate.
- Decrease of inflation rate because of reduced demand for products and services.

Financial crisis and recession that had officially finished in USA in 2009. just started in Europe. From USA crisis spread to the European Union through European banks which had bought financial products from American banks with AAA+ ratings (Kowalski, Shachmurove, 2014).

3. CAUSES OF FINANCIAL CRISIS IN EU

Authors summarized major causes of current financial crises in EU on global and regional (European) level. On a global level these are credit rating agencies and compensations of CEO directors in financial sector. On regional level these are structural imbalance, increasing debts of EU countries, foreign trade imbalance among EU countries and loss of confidence in debt of EU countries. Further in the text, authors give an overview of each cause.

Credit rating agencies

From their establishment, credit rating agencies became a very important factor in financial markets. Published ratings of companies and governments have long-term consequences because of the interconnection of national economies on macroeconomic and relationships between financial sector and real sector on microeconomic level.

Thus, credit rating agencies should inform the potential investors about the credit risk of the securities issuers. That kind of information should be based on objective and independent estimation about possibility of issuer to repay the debt.

2 Period of general economic decline; typically defined as a decline in GDP for two or more consecutive quarters.

Three largest agencies for credit ratings are Standard & Poor's, Moody's Investors and Fitch Rating (Host et al., 2012).

In the period before the crisis, credit rating agencies haven't given realistic ratings of EU countries which later faced the crisis. From 2003. to May 2010. Fitch Rating evaluated Spain with AAA[3] credit rating, in spite of Spain's problems with high unemployment and low economic growth in the observed period.

With it's ratings, the agencies haven't signalized the beginning of the Greek crisis and also crises in the rest of the European Union. Ratings for each countries haven't taken into account that, in spite of structural economic differences, the economies of the European countries are strongly interconnected.

Agencies haven't predicted that the crisis will spread from one country to the entire Eurozone. Only after 2009. have the agencies reduced credit ratings of countries affected by the financial crisis (Tichy, 2012). Negative impact of the credit rating agencies can be best seen on the example of Greece. Until 2009. Greece's credit rating was positive - agencies haven't taken into account the problems of Greece's public finances (Host et al., 2012).

Indications about Greek financial problems started to become obvious in January 2009. when Standard & Poor's reduced it's rating from A to A-. Then, in 2010. Moody's reduced Greece's rating by four levels, from A3 to Ba1 until 2011. when it reduced Greece's rating to Caa (Regional today, 2014).

Compensations of CEO directors in financial sector

Irresponsible corporative governance played a significant role in creation and development of contemporary financial crisis. Corporative governance of banks differs from other companies because they give higher incentives not only to executive directors but also to managers on lower corporative levels (Štefulić and Peša, 2012).

One of the major generators of the crisis were managerial compensations. Managers had been rewarded with high bonuses for their short-term performances without taking into account the risk that they can generate (Webinger, 2011). Hakenes and Schnabel (2014) state that if managers are rewarded with high bonuses for their short-term performances without imposing the limits to the risk they can create, that can be very dangerous for the long-term viability of the bank (Hakenes and Schnabel, 2014). Table 1. shows the amounts of bonuses that have been paid to managers in Wall Street and City of London.

3 The highest credit rating

Table 2.: Total bonus payouts in city of london and wall street from 2001. to 2009.

Year	Wall Street Bonuses $ billion	City of London Bonuses £ billion
2001	13	3.9
2002	9.8	3.3
2003	15.8	4.9
2004	18.6	5.7
2005	20.5	7.1
2006	23.9	10.1
2007	33.2	10.2
2008	18.4	4

Source: Mathews and Mathews (2010).

Level of bonuses before the crisis was raising constantly (except in 2002. in Wall Street). Bonuses should be paid on the basis of achieved success and not as a reward for bringing the bank to the brink of bankruptcy (Štefulić and Peša, 2012).

The financial crisis of 2007. has put the compensation structure of the banks at the forefront of many policy debates on the root causes of the banking crisis (Murphy, 2009). The positive relationship between bank CEO compensation and risk taking is a well established empirical fact. The global banking crisis has resulted in numerous demands to control banker's bonuses and thereby curtail their risk-taking activities in the hope that the world can avoid repeating the same mistakes in the future (Mathew and Mathew, 2009).

Structural imbalance in Eurozone

Macroeconomic difficulties in the EU are largely caused by structural imbalance in Eurozone which prevents macroeconomic stability. Prerequisite for the macroeconomic stability in Eurozone is a real cooperation among EU countries which currently doesn't exist (Razin, Rosefielde, 2012).

Good example for that is the lack of mobility of the workforce within the EU. EU members are fiercely protecting jobs in their country. Because of that, there is a huge problem with high number of unemployed persons in countries such as Greece, Ireland, Italy, Portugal and Spain that can't be eased by permanent or temporal migration of workforce to Germany or other developed countries of EU. Furthermore, there are no institutionalized requirements according to which the richer member countries should help poorer ones, as it exists in the USA (Kersan Škabić, 2012).

Eurozone countries faced restrictions and structural imbalance during the crisis. When it was useful to devalue their own national currency they weren't able to do that. Countries whose prices had become uncompetitive couldn't independently devalue the euro or get out of excessive debt by printing euros. Instead of that, they

had to rely on internal devaluation by reducing wages and prices, goodwill of domestic and foreign creditors and fiscal help from richer EU members (Razin, Rosefielde, 2012).

The problem that the Eurozone is facing is a consequence of "impossible trinity". Ideal currency would enable the achievement of all three goals: monetary independence, exchange rate stability and complete financial integration. Impossible trinity represents the fact that a country can achieve only two of the three goals due to the effects of economic forces (Kersan Škabić, 2012).

Increasing debts of EU countries

In 1992. members of the EU signed the Maastricht Treaty according to which they pledged to restrict budget deficit and public debt. Maastricht Treaty decreased credit risk and with the elimination of currency risk had an impact on reducing the borrowing costs for the state members. However, some countries in 1992. already had their public debt higher than 60 percent of GDP (Badurina et al., 2012:77).

Some member states, including Greece and Italy found ways to bypass these rules. That enabled these states to cover the level of their deficit and debt by combining techniques which include inconsistent accounting and the use of complex derivatives (Simković, 2009).

Adoption of euro as a currency by different member states has led to very low interest rates on government bonds in a period before the crisis, which encouraged personal and government spending. Table 2. shows the movement of public debt by selected EU member states.

Table 3.: Movement of the public debt for selected eu member states from 2005. to 2013. (in %)

State	2005.	2006.	2007.	2008.	2009.	2010.	2011.	2012.	2013.
Germany	66.8	66.3	63.5	64.9	72.4	80.3	77.6	79.0	76.9
France	67.0	64.2	64.2	67.8	78.8	81.5	85.0	89.2	92.2
Netherlands	49.4	44.9	42.7	54.8	56.5	59.0	61.3	66.5	68.6
Portugal	67.4	69.2	68.4	71.7	83.6	96.2	111.1	124.8	128.0
Ireland	26.2	23.8	24.0	42.6	62.2	87.4	111.1	121.7	123.3
Greece	:	103.4	103.1	109.3	126.8	146.0	171.3	156.9	174.9
Spain	42.3	38.9	35.5	39.4	52.7	50.1	69.2	84.4	92.1

Source: Authors' own design according to data by Eurostat.

It's obvious that observed countries have increased their public debt from 2005. to 2013.

Sovereign debt crises have been recurrent events over the past two centuries. More recently, sovereign debt crises have been increasingly linked to the banking sector (Reinhart, Rogoff, 2009).

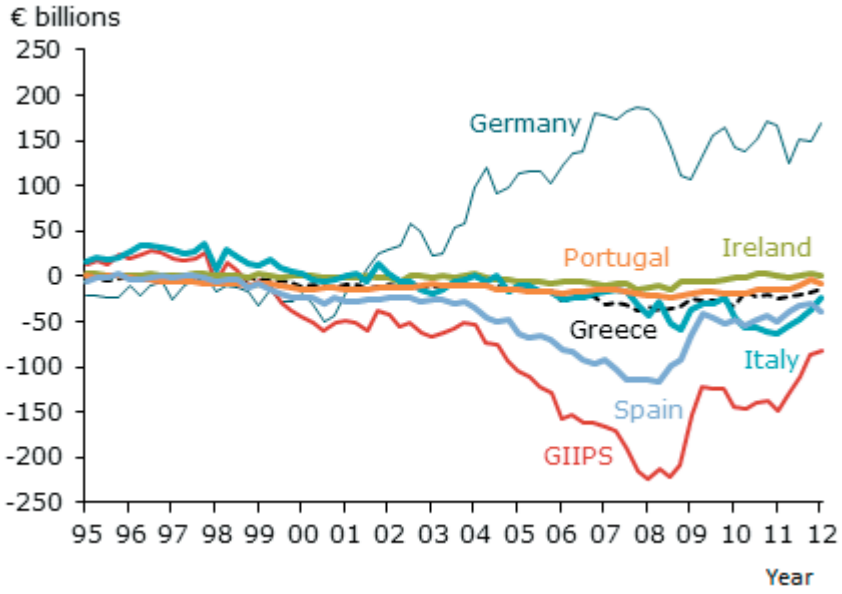
European sovereign debt crisis is a period of time in which several European countries faced the collapse of financial institutions, high government debt and rapidly rising bond yield spreads of government securities. The European sovereign debt crisis started in 2008, with the collapse of Iceland's banking system, and spread primarily to Greece, Ireland and Portugal during 2009. The debt crisis led to a crisis of confidence for European businesses and economies.

There are three ways in which the euro is connected to the European sovereign debt crisis. First, the initial institutional design of the Eurozone plausibly increased fiscal risks during the pre-crisis period. Second, once the crisis occurred, these design flaws amplified the fiscal impact of the crisis dynamics through multiple channels. Third, the restrictions imposed by monetary union also shape the duration and tempo of the anticipated post-crisis recovery period, along with Europe's chaotic political response and failure to have institutions in place for crisis management (Lane, 2012:50).

Foreign trade imbalance among EU countries

The foreign trade surplus of Germany grew in the period after 1999., while the deficits of Italy, Greece and Spain have worsened. That relationship is shown by Figure 2.

Figure 2.: Foreign trade balance of eu members from 1995. to 2012.



Source: Federal Reserve Bank of San Francisco, 2014.

Giday (2013) states that foreign trade deficit demands appropriate capital inflow for it's financing. Thus, in a period before the crisis, capital inflow created the illusion of wealth in these countries, as was the case in the United States. Asset prices were rising, currencies were strong but bubbles always burst sooner or later.

Foreign trade deficit can be caused by changes in the relative costs of labor. That led to the fact that the southern states have become less competitive and increased trade imbalances. From 2001. labor costs in Italy, Greece, Spain and Portugal were growing much faster than in Germany. The problem occurred in those countries that allowed labor costs to rise faster than productivity. Thus, these countries have lost their competitiveness (Nechio, 2011).

Eurozone countries that have a permanent foreign trade surplus, such as Germany, haven't had to deal with the appreciation of national currency in relation to other Eurozone countries. That allowed Germany stable exports, because their products remained cheaper. Thus, the value of German exports to Eurozone countries fell in 2012 compared to 2011 because its trading partners were no longer able to obtain funds to finance imports, while the value of exports to the rest of the world has grown due to the fall of euro against the dollar and other currencies.

Crisis was largely caused by foreign trade deficit. It has been shown that countries whose public debt exceeds 80% of GDP and have a permanent trade deficit are more vulnerable to the crisis.

Loss of confidence in debt of EU countries

Before the beginning of the crisis regulators and banks considered that the debts of Eurozone members are safe. Thus, banks held a significant amount of bonds of countries with weaker economies that offered low premiums and were equally valuable at first glance.

As the crisis evolved, it became obvious that Greek bonds and bonds of some other countries were significantly riskier. Loss of confidence is indicated by increase of the price of insurance against credit risk, which shows the market expectations about credit status of the country.

When investors on financial markets started losing their confidence that some countries can repay their debt, the first thing that happens is the increase of interest rates on loans granted to these countries. In line with the view that greater risk is associated with greater return, investors want a better return to cover the increase of potential losses. Thus, in the end no one is willing to grant loans to such countries. (Weill, 2014).

Also, considering the fact that countries which adopted the euro have a limited capacity for action in the field of monetary policy, impact of the crisis has become considerable, especially in peripheral countries.

4. MEASURES FOR PREVENTING FUTURE CRISES IN EU

Authors give an overview of following measures for preventing future crises in EU: improved debt management, application of Keynesian ideas for overcoming the crisis, reform of the criteria for entering the Eurozone, creation of a fiscal union, exit of the PIIGS countries from the Eurozone, taxation of the financial sector and creation of a banking union.

Improved debt management

In his paper Stancu (2013) states that there is a connection between debt management, financial instability and crises. Government debt portfolio is usually the largest financial portfolio in a country. It often contains complex and risky financial structures that can generate a significant risk for the financial stability of the country. Poorly structured debt, considering its maturity, currency or interest rate is an important factor in generating and expanding economic crises in many countries throughout history.

A preferred debt instrument according to Werner (2014) should have the following characteristics: can't be traded; is cheaper, with lower interest rates compared to the yields in the bond market during the crisis; available without rating of credit rating agencies; available on domestic market and therefore doesn't require external borrowing, resulting in lower total debt and increased fiscal and financial stability in the country and in the whole euro area; creates returns for the domestic banking sector, enabling growth of capital and reserves; stimulates domestic demand and overall economic growth; available without conditions such as austerity measures, sales of assets and deflationary structural reforms.

That kind of instrument would be the most attractive source of financing and it already exists. It's a bank loan - the oldest and simplest instrument.

According to improved debt management, governments of the crisis-affected countries should immediately stop issuing new government bonds and taking loans from International Monetary Fund or World Bank. Instead of that they should sign loan agreements with local banks which are able to provide all the necessary funding. Banks used to be involved in direct financing of government, which was common practice in developing economies. This practice was actively discouraged in the past twenty years (Werner, 2014).

The application of Keynesian ideas for overcoming the crisis

The European Union doesn't generally follow Keynesian ideas for overcoming the crisis. The political economy of austerity measures doesn't provide an adequate solution for the peripheral countries. Therefore, a new approach of managing EU economy is required (Maris, 2014).

In their paper Skilas et al. (2014) state that European leaders forgot they role as policy-makers. From the standpoint of Keynesian economics, European Union should implement the following measures to prevent further impoverishment of the European periphery:

- The creation of a common European tax system, through which the various regional asymmetries and risks could effectively be dispersed. This doesn't mean that state tax systems should be abolished, but that this should have a complementary role in achieving a redistribution of growth. The European Union should follow the example of the United States, where taxes are imposed at the level of federal states, individual states and local governments. European tax administration could be formed, similar to IRS[4] in USA, which would be in charge of collecting taxes.
- Creation of European unemployment benefits. This potential mechanism can serve as one of the major official mechanisms of growth redistribution in European social policy. The US unemployment benefits are essentially a federal program that is jointly funded by federal and individual states. This program could complement the programs of unemployment insurance in each member state.
- Implementation of joint investment projects in European peripheral countries for more uniform development. However, it doesn't mean that we should ignore the role of European Investment Bank and Social cohesion funds.
- Decentralization of EU institutions. There is no valid reason for current concentration of institutions mostly in Brussels and Luxemburg.
- Introduction of surcharges for internal European trade, especially for countries with large trade surpluses such as Germany. If a surplus of the member state exceeds agreed level, that country would have to pay a fee because their excessive surplus affects the stability of the European Union. The funds collected from taxes could be invested in member states with deficits.

The reform of the criteria for entering the Eurozone

Kersan Škabić (2012) in her paper points out that future members of the European Union must, according to the Maastricht Treaty meet certain criteria to be able to enter the Eurozone:

- Price stability - inflation rate measured by the harmonized index of consumer prices may vary up to 1.5% of the inflation in three countries with the most stable prices.
- The stability of long-term interest rates - long-term interest rates may vary up to 2% of the interest rates in the three countries with the most stable prices.

4 Internal Revenue Service.

- Fiscal discipline - the budget deficit must be less than 3% of GDP, and public debt less than 60% of GDP.
- Stability of currency exchange rates - currency fluctuations of EU countries and the euro must not be higher than 15%.

The criteria for entering the Eurozone were based on the economic situation of the early 1990s so it's applicability is questionable. Thus, possible reforms of criteria are given below:

One option is to replace the current limitation of the inflation rate with a new measure based on the inflation of Eurozone.

Another option is to replace the inflation rate measured by the harmonized index of consumer prices with unit labor costs.

Establishing criterion according to the combination of unit labor costs in euros and cumulative five-year changes in relation to the Eurozone average shifts focus on the main problem of many economies of the Eurozone which are in crisis.

Stability criterion of long-term interest rates currently has certain technical problems. The solution to this problem is to replace the current limit with a median interest rate of all Eurozone members.

Aside from the reform of existing criteria for entering the Eurozone, a new criterion could be introduced - criterion of optimum currency area. Adding a formal assessment for meeting the criterion of optimum currency area of the candidate countries would contribute to the assessment of their readiness for entering the Eurozone.

Creation of a fiscal union

Fiscal union represents the integration of member states' fiscal policies. In fiscal union, decisions related to tax collection and spending are made by joint institutions of the member states. For example, in the US fiscal policy is determined by the central government which has the right to increase taxes, borrow money and spend taxpayers' money.

Monetary union with strong relationships among banking systems, but without fiscal union can cause problems because the governments of member states are tempted to borrow too much. In the case of infection by the crisis, it can have serious consequences for other countries.

The Eurozone debt crisis is a consequence of the gap between the common monetary policy and national economic and fiscal policies of the member states.

Matheron et al. (2012) state that most decisions related to taxation and public spending are made at the state level, because fiscal policy is an expression of democratic sovereignty. Therefore, the European Union has limited fiscal power.

Fiscal union could be formed in two steps. First step would be the formation of the European Fiscal Institute, whose main task would be rescuing countries that are

in debt crises and creating conditions for the subsequent formation of a federal fiscal union and a European treasury. Fiscal Institute could play a role in the implementation of fiscal union much like the European Monetary Institute had in the implementation of monetary union.

In the second phase it would be necessary to start issuing Eurobonds that would contribute to obtaining the necessary funds to achieve the recovery plan of the European economy (Sabau Popa, 2012).

The exit of the PIIGS countries from the Eurozone

The biggest benefit for economically powerful countries from the exit of the PIIGS countries from Eurozone would be the fact that they would stop giving help to these countries - they wouldn't have to finance their excessive consumption any longer.

The biggest benefit from leaving the Eurozone for the PIIGS countries would be that they would be able to devaluate their currency and could increase the competitiveness of its products (Babić, 2008).

Without its own currency and monetary policy, they aren't able to increase their competitiveness by devaluation. On the other side, devaluation of the national currency may lead to an increase in inflation and loss of confidence in the currency. Further, this would lead to the transfer of deposits from banks in economically weaker countries to economically stronger countries.

Therefore, economically weaker countries should, at the same time with the introduction of its own currency, introduce measures to limit the movement of capital, such as limiting the withdrawal of deposits (Babić, 2008).

Taxation of the financial sector

Taxation of the financial sector is a current topic imposed by the financial crisis. In recent years, many EU countries are considering the introduction of taxes on financial capital for various reasons (Bernardi, 2012).

Potential tax in the financial sector could be an important source of government revenues. Apart from that, taxing the financial sector is justified because of the fact that the financial capital is taxed at a much lesser extent in relation to consumption, wages and property. Taxes in financial sector are lower than taxes in other industry segments because financial activities are often exempt from value added tax.

Eugenia Ramona (2012) states that an important reason which justifies the taxation of the financial sector is correcting negative externalities arising from the activity of the financial sector, including the effects of excessive risk-taking that can prevent future crises.

An important cause of the economic crisis was the lack of regulation and supervision of the financial sector. Taxing the financial sector can be used as a measure

to regulate this sector without direct intervention. Higher is a tax imposed on toxic financial instruments, stronger will be the effect.

Therefore, the taxation of the financial sector can be considered as a measure to address the negative externalities generated by the financial sector before, during and after the economic crisis.

Creation of a banking union

Banking union is a part of the deepening process of financial integration within the EU, and is necessary for finalizing the economic and monetary union.

Difficulties that the banks are facing during the crisis revealed a need for establishing financial stability and improving the management of the economy in the EU, and that includes the creation of a banking union (Howarth and Quaglia, 2013).

Financial stability can't be achieved at the national level because of the vicious circle that has been created between the banks and the government in which shocks are transmitted from the government to the banking sector and vice versa, so there is a need for stopping this vicious cycle by creating a banking union (Prisecaru, 2014).

Establishing a banking union should be a step in creating a fiscal union that would be characterized by high European budget, issuance of euro bonds, creation of a coordination mechanism for national budgets and harmonization of tax systems.

5. CONCLUSION

We can distinguish external and internal causes of the contemporary crisis in the EU. External causes are bad assessments of the credit rating agencies and high managerial compensations in financial sector which led indirectly to financial crisis in 2008. that has spread to the whole world.

Internal causes of the crisis in EU are structural imbalance, increasing debts of EU countries, foreign trade imbalance among EU countries and loss of confidence in debt of EU countries.

The main cause of the crisis in the EU is the way in which the European Union is structured. There is a monetary union without fiscal union that should be it's complement. This created an imbalance and huge differences between powerful member countries led by Germany and troubled PIIGS countries.

Therefore, authors summarize possible measures to overcome this and prevent future crises in the EU. The most important of them is formation of a fiscal and banking union.

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(Footnotes)

1 HICP is an acronym for harmonized index of consumer prices. HICP is an indicator of inflation and stability of prices used by European central bank. It is calculated using a methodology which is common to all EU member states.

DO FINANCIAL STATEMENTS PROVIDE ADEQUATE INFORMATION ABOUT THE CAPITALIZATION OF COSTS RELATED TO INTANGIBLE ASSETS?: AN EMPIRICAL RESEARCH ON ITALIAN LISTED COMPANIES

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ABSTRACT

The aim of our research is to verify if Italian listed companies financial statements provide adequate information about the capitalization of costs related to intangible assets and if the information provided are reliable.Moreover, we investigated if they merely comply with law or provide additional information on cost capitalization and reveal if internal control systems (especially managerial accounting systems) or other information systems are applied to support the measurement process and the cost control, thus guaranteeing the verifiability and representational faithfulness of the information disclosed. This paper is an empirical analysis and is concerned to investigate the financial statements of 250 Italian listed companies.

Keywords:
Managerial accounting systems, Intangibles, Capitalization, Measurement, IAS/IFRS

1. INTRODUCTION

The crisis of the listed companies is partially related to the poor information supplied within financial statements. Catturi (2001) says that the opportunity available by IFRSs/IASs requires communication and information[1] tools, that must have, in the former, the capacity to transmit a potential readable message by all stakeholders. The situation is also worst if we consider that International ratings agency sometimes provide rating without a deep and/or correct analysis of the financial and economic situation of the companies[2].

It is appropriate the work of André, Cazavan-Jeny, Dick, (2009) on the link between the fair value accounting and the Banking Crisis in 2008. Their paper sets out to analyze the effects of the financial crisis on the international standard-setter in 2008 and the attempts made to shoot messenger to blame IAS 39 for creating the crisis for reporting unrealised losses, rather than the cause being bankers making had investment decisions. The main part of their paper is a chronological presentation of the events of 2008 as they impact upon the international standard-setting institution. In particular, the Autors analyse the impact of the G20 requirements and the blunt intervention of the European Commission that led lo amendments to IAS 39. The final part of the paper looks at the consequences as they are so far discernible and the damage done to the IASB by shooting the messenger.

On the other hand Barth & Landsman claim, regardless of any role that fair value accounting played in the Financial Crisis: "it is the responsibility of bank regulators, not accounting standard setters, to determine how best to mitigate the effects of procyclicality on the stability of the banking system. To meet their objectives of prudential supervision, bank regulators have many tools at their disposal, including application of prudential filters (as illustrated by the filter for fair value losses on available-for-sale assets), relaxation of regulatory capital ratios during economic downturns, e.g., by altering risk-weighting of specific assets, and use of counter-cyclical measures in loan provisioning for regulatory purposes" (Barth, Landsman, 2010)[3].

1 See, among others:K. Chalmers, G. Clinch, J.M. Godfrey, Intangible assets IFRS and analysts' earning forecasts, in Accounting & Finance, 2012.

2 Among the others you can read: Baldarelli M.G., The globalization Phenomenon and the Pressure for Accounting Harmonization, in Baldarelli M.G., Demartini P., L. Mosnja-Skare, 2007, International Accounting Standards fro SMEs: Empirical evidences from SMEs in a Country in transition and a Developed Country Facing New Challenges,Department of Economics and Tourism "DR. MIJO Mirkovic'; Vignini S., "The enterprise's financial stability in times of crisis", *AMS ACTA* Bologna (2012), doi: 10.6092/unibo/amsacta/3452.

3 Barth & Landsman conclude: "Finally we conclude that because the objectives of bank regulation differ from the objective of financial reporting, changes in financial reporting requirements to improve transparency of information provided to the capital markets likely will not be identical to the changes in bank regulations needed to strengthen the stability of the banking sector. Moreover, bank regulators have the power to require whatever information is needed to meet the objective of prudential supervision. We conclude that it makes sense from the standpoint of efficiency for accounting standard

That being said we point out that budgets and business plans, to be reliable, should be checked with both financial accounting and managerial accounting systems, otherwise the quality of information supplied could be non sufficient and misleading. It is appropriate to say that the international accounting principles which follow Anglo-American accounting standards, among which are those issued by the IASC, are influenced by two elements which make them substantially different from traditional Italian accounting techniques and from the very characteristics of our economic system: the first one regards the fact that they are based on patrimonial accounting systems[4], which have, by now, been surpassed in Italy for many decades; the second one reflects the range of the subjects involved: such international principles are concerned almost exclusively with large-sized enterprises, which resort to the stock markets for their financing, whereas our economic system is dominated by small to medium-sized companies, with capital ownership which is concentrated in the hands of the reference partners. Having said this, there is no doubt that such principles represent a very important breaking-point in the history of national economic and business doctrine.

2. INTANGIBLE ASSETS: IAS AND IFRS

Adopting the international accounting principles leads to a budgetary model which is significantly different from that used up to now by national companies, both under the profile of information aims and the consequent conceptual layout, as well as with regards to drafting models and evaluation criteria of the single balance items. There is no doubt that the conceptual layout of the IFRS financial statement of accounts is very far away from that one which developed in Italy following the adoption of IV EEC Directive[5]. The financial-year statement of accounts, drafted following civil law parameters, seems to favour, at historical values, both a configuration of in-

setters and bank regulators to find some common ground. However, it is the responsibility of bank regulators, not accounting standard setters, to determine how best to ensure the stability of the financial system". It is also important: Barth M.E., Landsman W.R., Lang M.H., 2007.

4 For a close examination of the various accounting systems, please see, among other authors: Capodaglio G., Semprini L., Vignini S., (2011), I sistemi contabili, in Capodaglio G. (a cura di), Principi contabili e di bilancio, RIREA, Rome:17-61. In particular, as for a quick examination of the patrimonial system, cf.: Vignini S., Semprini L., Il sistema contabile patrimoniale nelle sue diverse evoluzioni, in Rivista Italiana di Ragioneria e di Economia Aziendale, 2010:644-655. We advise reading, among other authors: Sellhorn T., Gornik-Tomaszewski S., Implications of the IAS Regulation for Research into the International Differences in Accounting Systems, in European Accounting Review, vol.15, supplement 3, 2006:187-217; Schipper, K., The introduction of International Accounting Standards in Europe: implications for international convergence, European Accounting Review, 14 (1), 2005: 101-126.

5 This directive substantially attributes the qualification of aim of the statement of accounts to the principle of clarity and true and appropriate representation of the patrimonial, economic and financial situation of the enterprise. Such provision assumes the role of "general clause", meaning that the principles for the drafting of the statement of accounts and the criteria for evaluating its accounting items derive from it.

come produced and a notion of net capital which, *de facto*, privilege the informative expectations of the external financial backers.

In order to prepare financial statements, IAS-IFRS standards require a vast range of prospective data and information that must be subject to verification in the following financial years in order to monitor the reliability of the assessments and estimates made ex ante. Often to render this information implies an intense cooperation between the financial accounting and managerial accounting systems. As an example, IAS 36 provides rules for impairment test related to the assessment of the recoverable amount of goodwill arising from business combinations, as well as of other non-current tangible and intangible assets, particularly in relation to indefinite life intangible assets. To be tested for impairment, goodwill and indefinite life intangible assets arising from a business combination must be allocated to a so called "cash generating unit" of the acquiring entity, which is composed essentially by non-current tangible assets and intangible assets that generate cash inflows that are relatively independent from other assets or group of assets[6].

As far as tangible assets and intangible assets other than goodwill are concerned, a first relevant issue is represented by the identification of the elements that may be tested individually for impairment, because they generate independent cash inflows, in order for them to be separated from the other non-current assets that shall be grouped in CGUs. The managerial accounting system might assist accountants at this stage, and later on provide useful information about the allocation of goodwill and indefinite life intangible assets arising from business combinations to the acquiring entity's existing CGUs.[7] [8].

6 The carrying amount of a CGU which has been allocated with goodwill and indefinite life intangible assets must be compared every year with its recoverable amount, it being represented by the higher of its value in use and its fair value less cost to sell. "If it is not possible to determine the recoverable amount (fair value less costs of disposal and value in use) for the individual asset, then determine recoverable amount for the asset's cash-generating unit (CGU). [IAS 36.66] The CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets". [IAS 36.6]

7 At this stage it is particularly important to observe how the accounting items which make up the operations acquired (from which goodwill and intangible assets arise due to the allocation of the acquisition cost) are integrated in the acquirer's operations, in order to verify if, for impairment purposes, the acquired operations either maintain an accounting identity, for example as an independent CGU, or is dismembered, its items being allocated to the existing CGUs of the acquirer according to the methods recommended by IAS 36. Actually, IAS 36 requires to determine the size and shape of CGUs which have been allocated with goodwill and other indefinite life intangible assets between a minimum size, represented by the lowest level within the entity at which goodwill and intangible assets are monitored for internal management purposes, and a maximum size, which must not be greater than an operating segment as defined by paragraph 5 of IFRS 8 before aggregation. The determination of the size of each CGU is a very relevant issue, because IAS 36 requires the composition of CGU to be changed if and only if either a disposal of part of a CGU or a combination between two or more CGUs occurs, or as a consequence of the reorganization of the entity's reporting structure which results in more useful information as for goodwill impairment test purposes

8 In this perspective, a good managerial accounting control system can guarantee: the correct correlation between the carrying values of the items allocated to any individual CGU and cash inflows generated by that specific CGU, in order to prevent from comparing heterogeneous data (i.e. the carrying

It is apparent that a strong interaction between the information provided about the recoverability of the accounting value of CGUs and the managerial control system implemented by the entity, whereas it helps the ex-post verification of the results of forecasts made in previous financial statements, represents the basis for a continuous improvement of the entity's planning system and strengthens the confidence of users upon the degree of reliability of information disclosed in the entity's financial statement[9].

Finally it has to he observed that many IAS-IFRS require information or calculations derived from the entity's managerial accounting system to be used for measurement purposes (Warren, Reeve, Duchac, 2013), in preparing IFRS-compliant financial statements[10].

In general intangible investments have become the main value creators for many companies and economic sectors. However, these investments are rarely recognized as assets by current accounting standards. In particular, measurement process (Petty, Guthrie, 2000; Guthrie, Petty, Johanson, 2001; Eckstein, 2004) should be supported by an adequate and consistent information structure. If this is not

amount of CGU "A" is compared to values of cash inflows and/or net realizable value reciprocally over or underestimated in relation to the assets which make up the CGU); the control of the reliability of the forecast process used by the entity for impairment test purposes by means of a variance analysis between consumptive data and forecasts used in previous years' financial statements; the basis used for the allocation of goodwill arisen in business combinations to every CGU to which it is apportioned for impairment test purposes and the rationale underlying the choice; the consistency between the timing horizon of future cash flows forecast used for impairment test purposes and reasonable and supportable assumptions based upon a reliable managerial accounting system; the choice of discount rates consistent with those used by the entity in case of investment analysis; the correct allocation among the entity's CGUs of any common disposal cost in order to determine the fair value less cost to sell for each CGU.

9 In fact there are a lot of indications arising from internal reporting :
1) cash flows for acquiring the asset, or availability. It will make subsequent cash needs for operating or preserve the activity , significantly higher than those budgeted;
2) actual net cash flows or operating profit or loss following the exercise of which are revealed significantly worse than those budgeted ;
3) a significant decline in net cash flows or income Operating budgeted , or a significant increase in the loss budgeted , resulting from the asset ;
4) operating losses or net cash outflows activity , when the amounts of the current period are aggregated with budgeted amounts for the future.

10 For example:
- elements of cost to be measured at initial recognition of non-current tangible assets (IAS 16. §§ 16 and 17), investment properties (IAS 40, § $20-21), or assets held under a finance lease contract (IAS 17.24);
- elements of subsequent costs related to non-current tangible assets to be compared with the increase in inflows of future economic benefits related to the expenditure of those subsequent costs in order to make judgments about their capitalization (IAS 16, §12-13);
- component approach for amortization of non-current tangible assets which can be divided into elements, the useful lives of which are different (16.43);
- methods to be used for the determination of fair value of investment property and in order to avoid double-counting costs related to separate assets and liabilities (IAS 40, § 50);
- criteria used for the capitalization of borrowing costs in the value of a qualifying asset, with particular reference to the cost incurred for general financing activity (IAS 23, 13-14).

available, it is impossible to adopt measurement criteria that could be considered scientifically and technically correct, so that it is impossible to justify them towards subjects who are to express judgments about them.

This issue is particularly up to date in Italy, since listed companies are required to adopt IAS-IFRS for their financial statements: those standards require the adoption of evaluation criteria that are often strictly related to the implementation of the strategies and the management of the companies. As a consequence, it is more and more important to verify if managerial accounting systems are good enough to find useful information in order to evaluate assets and liabilities within financial statements, since historical cost is less and less adopted, living space to fair value measurements that are generally based on future estimates and projections.

3. INTANGIBLE ASSETS: A LITERATURE REVIEW

In this section we want to bring the not simple debate on classification of intangible assets and on their disclosure within the information system.

Amir and Lev (1996) argue that while intangible assets contribute to the market value of the firms, current accounting rules do not allow recording these assets. Consequently information provided in financial statements is not useful to investor when valuing the firms with large amounts of intangible assets. This is observable in general, regardless of the companies that even have a very significant presence of these values , because they belong to particular sectors (Accounting Information for Intangible-Intensive).

In order to classify something one has to have a purpose of the classification. Very useful work arrangement of the literature offered by Artsberg & Mehtiyeva (2010). Classification criteria can never be true or false, only more or less useful according to the suggested purpose of the classification (Rosing, 1978). In accounting, items have been classified for a number of reasons. The purpose of the categorization into current and non-current assets has been to help users to calculate measures like liquidity and solvency. Another purpose for classification in accounting has been to discuss measurement solutions since different measures are used for different categories of assets, i.e. historical cost used for non-current assets, fair value for financial items and so on.

Walker (2009) concludes that it is difficult to find any stated purpose for classification in many papers that do classify intangibles. However, one purpose seems to be for management purpose. In order to manage successfully one has to make visible and put labels on different resources; one way to do that is to put them into different categories (Kaufman, Schneider, 2004).

But even so, there are many proposals for intangible assets classification. Lev (2001) writing in the tradition of intellectual capital classifies intangibles into four groups:

- Discovery/learning; ex R&D
- Customer-related; ex brands, trademarks, distribution channels
- Human-resource; ex. Education, training and compensation systems
- Organization capital; structural organization design, business processes, unique corporate culture

One fashion concept much used and discussed is the concept of 'intellectual capital'. Some authors (Lev 2001, for example) do use this concept as synonymous with 'intangibles'. In a literature review conducted by Kaufmann & Schneider (2004) it was concluded that there is no well-established generally accepted definition or classification of intellectual capital. The pioneering work by Edvinson & Malone (1997) which classified into two categories: human capital and structural capital has strongly influenced other researchers. However, it seems like most researchers in this tradition now classify into three categories; one related to employees that is most often called human capital, a second related to internal processes and structures most often called structural capital or organizational capital, a third related to customers called external structure, relational capital or customer capital (Kaufmann, Schneider, 2004). However, as Kaufmann and Schneider (2004) concludes the literature in this line of research has generally not specified a clear purpose for writing about and classifying intangibles. They found the categorization to be very abstract and the categories quite broad.

Moreover Blair and Wallmann (2000) - directors of the Brooking's institution research project on intangible assets- distinguished three major categories of intangibles:

(1) Intangibles for which property rights are relatively clear and for which markets exist (generally can be bought and sold). Within this category, two types of intangibles can be distinguished:

(2) Assets such as patents, copyrights and trade names;

(3) Business agreements, licenses, enforceable contracts, and data bases.

(4) Intangibles that are controlled by the firm but for which well-defined and legally-protected property rights may not exist, and markets are weak or non-existent. Examples are R&D in process, business secrets, reputational capital, proprietary management systems, and business processes.

(5) Intangibles for which the firm has few, if any, control rights and markets do not exist, and which are tied to the people who work for the firm. Examples are human assets, structural (or organizational) assets, and relational assets, i.e. the components of intellectual capital.

According to Ashton (2005), the guiding principle for Blair and Wallman's (2000) classification scheme is related to the degree of difficulty of establishing ownership or control rights and more generally the difficulty of measurement. In this sense, the third category of intangibles raises more accounting problems than the second category and far more than the first category.

Finally other classifications, mainly developed by accounting standard-setters, were limited to two categories of intangible assets: internally generated intangibles and externally acquired ones. In this setting, externally acquired intangibles do not generally raise accounting problems as the price of these assets has been generally determined during the transaction in monetary form. Inversely, serious accounting problems could arise when the asset is internally generated by the company.

As regards the works on the disclosure[11], it is very important the study of Gelb (2002) that shows an empirical investigation on Intangible Assets.

Then provocative is the work of Penman where he concludes: "Accounting is often criticized for omitting intangible assets from the balance sheet. This paper points out that the omission is not necessarily a deficiency. There is also an income statement, and the value of intangible (and other) assets can be ascertained from the income statement. Thus, calls for the recognition of 'intangible assets' on the balance sheet may be misconceived. His paper lays out the properly whereby the income statement corrects for deficiencies in the balance sheet. Many commentators view the omission of intangible assets' from balance sheets as a glaring deficiency"[12]. The main point of the paper simply reminds us that accounting reports not only a balance sheet but also an income statement.

Amir and Lev (1996) find that earnings and book values for firms with significant levels of intangible assets tend to be excessively understated relative to their market values. They argue that because of the inadequacies inherent in traditional accounting reports, firms with significant intangible assets often utilize non accounting information to supplement their accounting disclosures.

11 In reference to the disclosure we want to remember, among the others: Bozzolan S., Favotto F., Ricceri F, Italian annula intellectual capital disclosure. An empirical analysis, in Journal of Intellectual Capital, (2003: 543-558); Botosan C.A., Disclosure and the cost of capital: what do we know?, in Accounting and Business Research, (2006: 31-40); Ling-Ching L.A.,Chan Jia-Lang Seng, Intellectual capital disclosure and accounting standards, in Industrial Management & Data Systems, vol.113, (2013: 1189-1205).

12 They (many commentators) ask:" How can accountants report a balance sheet that omits important assets like brands, distribution and supply chains, knowledge, human capital, and organization capital, particularly when value in modern firms comes more from these assets than from the tangible assets on the balance sheet? The complaint reached a crescendo during the 1990s as technology and internet firms identified with these types of 'assets' came to the market with high price-to-book ratios. While diminuendo followed as the perceived intangible assets for many of these firms seemingly evaporated, the accounting for intangible assets continues as a significant research area. Indeed, the current trend towards booking more value to the balance sheet with fair value accounting involves many of the same issues. This paper provides a perspective that I hope is not only helpful to researchers grappling with accounting issues, but also to analysts who use financial statements to value firms with so-called intangible assets".

Other ways to argue for not capitalizing intangibles is that disclosure is a better way to inform about intangibles. The debate then will be about whether or not such information will be disclosed voluntarily as a result of market incentives or if there is a need to make it mandatory by regulation. Skinner (2008) does not believe in mandatory rules because he claims that measures must be different in different industries (or even companies) and therefore difficult to standardize. If standards are written they must be on a high level of generality to cover the wide variation necessary and because of that we will have implementation problem with a risk that preparers circumscribe the standards and make vague, uninformative disclosures (Skinner 2008). At least in the U.S.A. there is evidence that when the FASB issues standards that are flexible enough to give the companies discretion there is a significant level of non-compliance (Marquardt, Wiédman, 2008).

Skinner (2008) believes that companies will oppose standardization because of proprietary costs. However, he claims that companies, if they find information relevant, will voluntarily disclose it.

Dedman et al seem first to agree with Skinners (2008) conclusion, with evidence from the USA, that there is weak evidence for the need to regulate disclosure of additional information on intangibles but, with the example of two scandal cases in the biotechnical sector in the UK, they claim that market incentives may not only have positive effects but adverse effects tempting some companies to make overly favorable disclosures or fail to disclose bad news leading to over-pricing. Therefore, even if voluntary disclosure seems to work in most cases these exceptional cases calls for the need for disclosure regulation, at least in the studied area of R&D (Dedman et al, 2009: 327). In an international setting argumentation for regulating disclosure can also be based on that voluntary disclosure is so unevenly spread. In some countries, like for example the Scandinavian countries, there is a long tradition of voluntary disclosure (Artsberg, Arvidsson, 2007) but in other countries, like for example Ireland (Brennan, 2001) there is little interest from the preparers to disclose voluntarily. Wyatt (2008) points toward the bewildering number of alternative measures and models as deterrent for not having the issue regulated and she would like to have more detail information on separate items than is provided voluntarily.

However, some do not believe that disclosure, either voluntary or mandatory, is the appropriate solution. Luft & Shields (2001) argue that it does matter whether information about intangibles are disclosed or capitalized. Barth (2003) and Wyatt (2008) claim that disclosure is not an alternative that can substitute for recognition since the two different ways to provide information have different effects on the share prices.

4. METHODOLOGY

With reference to Italian listed companies, this paper aims at answering the following questions: do financial statements provide adequate information about the capitalization of costs related to intangible assets? Is the information provided reliable?

The aim of the paper is to verify if listed companies merely comply with law or provide additional information on cost capitalization. The present research is part of a national project funded by the Italian Minister of University and Research (PRIN, 2009). It adopts a qualitative approach and focuses on 250 Italian listed companies (excluding banks and insurance firms) which have reported intangible assets in the period 2008-2010. The reporting period is derived from the reference to PRIN and uses deductive methodology; empirical- statistic methodology and participatory methodology. Then this paper is, merely, an empirical study, referring to other literature the analysis of managerial accounting system.

The work has been structured in these important steps:

(6) The first step is the identification of companies listed on the Italian Stock Exchange in 2008, 2009 and 2010; the second step is a collection of personal data of the company and information about their objects; defining the scope of research; extraction of quantitative information from the database: AIDA; acquisition of financial statements complete with notes; integration from the output data from AIDA with those contained in the notes.

(7) The second step is defining the scope of search by eliminating: the financial and insurance companies; companies based abroad; companies not on the stock exchange in 2010 and those failed in 2010; the doubles names.

(8) An other important phase is preparation of reports containing the changes in individual items of intangible assets; the definition of thresholds of significance (*soglie di significatività)*; analysis of the notes of the companies with significant changes.

In particular we have performed a document analysis of financial statements (i.e. Notes to the accounts) of those companies recording (in one or more years under investigation) an increase in value of at least 500.000 euro in any given intangible asset (the value increase should also be greater than or equal to 25%). Minimum values have been set in order to identify companies with significant assets to disclose where it makes more economic sense to adopt internal control systems and cost accounting to measure intangibles.

The reading of the notes has been a critical step in the search. Consultation of notes was carried out for different reasons:

- Search for causes (purchasing, internal increments);
- Only in the case of internal increases , searching for information on the calculation methods used.

- Then a relevant step is development of questionnaires sent to companies. More than 100 questionnaires have been sent by e-mail to companies whose intangible assets' growth was related to cost capitalization in order to check for management accounting system application. Questionnaires have been addressed to the Accounting Department, in particular CFOs.

5. RESULTS

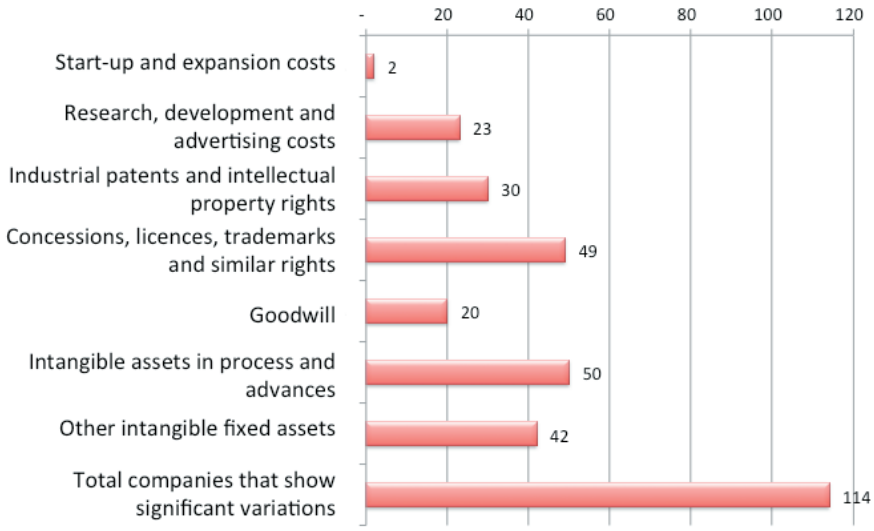
In the financial statements

In general it was possible to detect the following situation which is given experience from reading the following two charts. In particular, the two graphs show the consistency of intangible assets in the subject companies. The first is in reference to the financial statements. The second is in reference to the consolidated-financial - statements. Basically, looking to separate financial statements 114 companies show significant changes of intangible items. On the other hand, looking to consolidated financial statements 175 companies show significant changes of intangible assets.

In the financial statements the item that showed the highest variation is represented by: intangible assets in process and advances, followed, soon after, to: concessions , licenses, trademarks and similar rights .

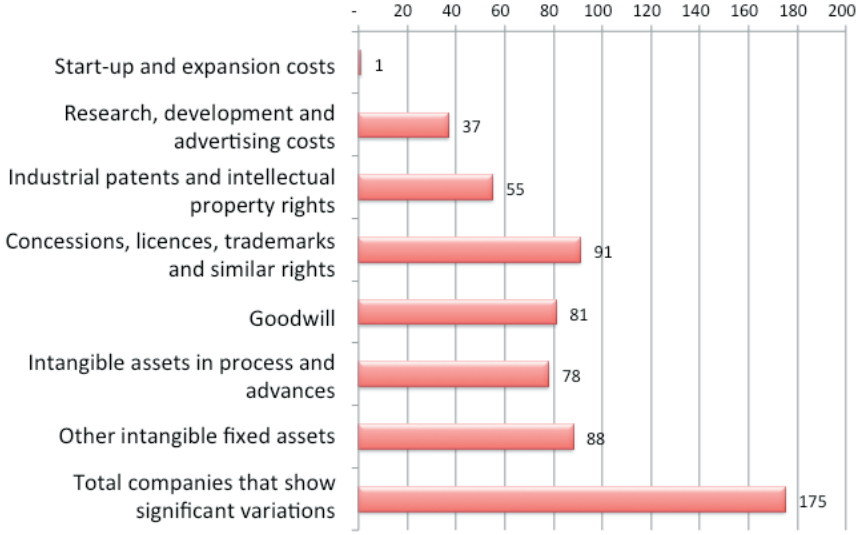
If we look at the consolidated financial statements, however, the first item is given by: concessions, licenses, trademarks and similar rights and was followed soon after by other intangible fixed assets and then intangible assets in process and advances.

Figure 1.: The data processing (in the financial statements)



Source: Authors' calculations.

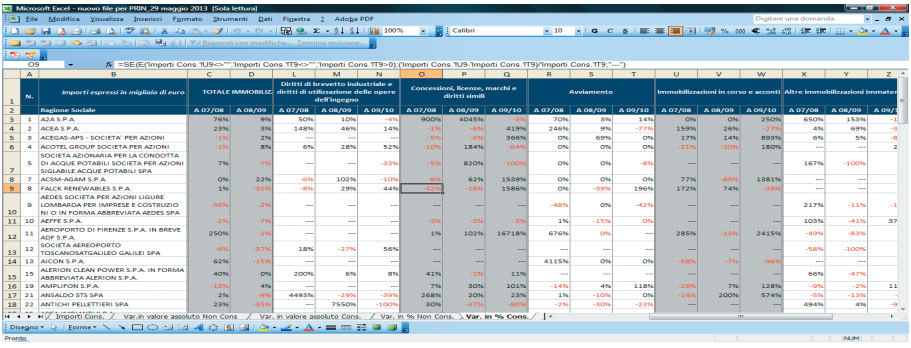
Figure 2.: The data processing (in the consolidated financial statements)



Source: Authors' calculations.

To identify situations in which it is assumed the use of cost accounting systems, we have been studied the absolute and percentage changes of each intangible asset for each year. The following chart shows what has been shown just above.

Figure 3.: The data processing



Source: Authors' calculations.

Table 1.: The following table lists some examples of excerpts of notes of companies with important variations in intangible items

Area "Plants"	2008-2009	R&D and Advertising
	Variation %	85%
	Variation in absolute	530.000
	Absolute value	1.153.000

Source: Authors'.

The increase of costs for R & D is due to four activities / projects of total value of 914,000 (exclusive of depreciation, amortization and the increase amounts of 530,000).

Figure 4.: Excerpts of Notes

(EUR thousand)	Development costs	Patents & similar rights	Concessions, licenses and trademarks	Other	Assets under development	Total
31 December 2009 broken-down as follows						
Cost	10,324	993	2,526	2,930	309	17,082
Grants	-	-	(9)	-	-	(9)
Amortisation and impairment	(10,324)	(620)	(1,591)	(2 556)	-	(15,091)
Book value	**-**	**372**	**926**	**404**	**309**	**2,512**
Investments	-	45	731	10	6,518	6,804
Sales	-	-	-	-	-	-
Amortisation	-	(210)	(522)	(244)	-	(976)
31 December 2010 broken-down as follows						
Cost	10,324	1,038	3,257	2,976	6,827	24,422
Grants	-	-	(9)	-	-	(9)
Amortisation and impairment	(10,324)	(830)	(2,113)	(2,800)	-	(16,067)
Book value	**-**	**208**	**1,135**	**176**	**6,827**	**8,346**

Source: Notes to the Financial Statements at 31 December, Ansaldo (2010).

Intangible assets showed a balance of EUR 8,346 thousand compared with EUR 2,512 thousand in 2009 with a net increase od EUR 5,834 thousand mainly referable to assets under development as described below.

The item "Development costs" relates to the "Stream" project" (Transportation Solutions Business Unit). This category was fully amortised in the previous years.

The item "Patents & similar rights" (EUR 208 thousand) showed an increase of EUR 45 thousand due to a tool of collection, management and analysis of test data on the web-based platform by the test engineering body (Tito).The item "Concessions, licenses and trademarks" (EUR 1,135 thousand) refers to software licenses; the investments made in the year (EUR 731 thousand) mainly referto the purchase of SAP unlimited licenses through the LULA agreement for EUR 390 thousand, SAP Treasury Platform licenses for EUR 75 thousand, Office Sharepoint (Standard & Enterprise) licenses for EUR 178 thousand finalised to the creation of a global intranet. The historical cost of this item showed a decrease due to the grants related to the financial facilities in accordance with the 2nd call for PIA Innovazione for an amount of EUR 9 thousand.

It should be noted that as a result of the said grants, the fixed assets covered by the facility cannot be sold for a period of five years. The historical cost for the concessions, licenses and trademarks subject to this obligation is equal to EUR 21 thousand.

The item "Other" (EUR 176 thousand), attributable to the Transportation Solutions Business Unit, refers primarily to software purchased

from third parties in support of the activities for designing and planning engineering lines and for the development of the internal process of planning, costs control and project management.

The investments for EUR 16 thousand refer to the capitalisations of the costs related to branches.

The item "Assets under development" (EUR 6,827 thousand) showed in the year an increase of EUR 6,018 thousand mainly ascribable to the projects started in the context of the widest reorganisation activities at world level *(Fast Forward Driven by Business)*.

Specifically, the increase is attributable to the following projects:

- Implementation of the Group "New Controlling Model" on the new transitional platform SAP ECC 6.0, started in the course of 2009, for EUR 3,705 thousand;
- Product Data Management (PDM), regarding the implementation of Team Center as the only product data management system, integrated with SAP for EUR 1,678 thousand;
- Life Cycle Management (LCM), relative to the implementation of the new project planning and control model made through SAP /Primavera integration for EUR 451 thousand;
- HCM regarding the implementation of the SABA tool in support of the process to assess the competencies and objectives of resources by the HR department for EUR 174 thousand;
- The remaining portion equal to EUR 10 thousand relates to the implementation of new functionalities for a data collection tool.

In the questionnaire

The questionnaire was structured to focus on some key issues. In particular we have asked the following questions:

The items: if the increases are related to the capitalization of direct labor costs, materials, or are related to other cases of capitalization; if the quantification of the costs mentioned above was carried out through the use of a system of analytical accounting, cost accounting, or other; if the accounting systems are integrated; alternatively, an indication of how the costs are recognized (single cards, spreadsheets or other tools).

Below you can find the questionnaire we used for our analysis.

A2A s.p.a.

We have examined the consolidated financial statements for the years 2008 , 2009 and 2010 and with reference to the following items , will be grateful if you provide us with the following information .

Items:

Item	year	Euro	Notes
Patents	2008	7.000	
Concessions	2008/2009	18.000/809.000	
Goodwill	2008	236.000	
Assets under construction	2010	15.000	
Other	2008/2009	13.000/23.000	
Differed taxes	2008/2009	149.000/162.000	

Requested information:

1) The increases reported are related to the capitalization of costs of labor , materials and others, or are related to other cases of capitalization (you can give more than one answer) ?

a) labor;

b) materials and others;

c) other……..

2) For quantification of capitalized costs have you used managerial accounting systems / cost accounting/industrial accounting ?

yes No

3) If question 2) you answered "yes" , these systems are integrated into the general ledger accounting system (that is, the input data feed general ledger accounting and cost accounting at the same time) ?

yes No

4) If question 3) you answered " no" , the surveys are carried out on the costs :

a) through a system of autonomous accounting ;

b) through cards , spreadsheets and other tools ;

c) other.

As seen above, the answer to the questionnaires was, unfortunately, very low. Also essentially, analyzing the results of the questionnaires we have collected emerged the same situation already highlighted by the consultation of Notes. Since the response rate has been very low, respondent companies have been further investigated recurring to direct interviews.

6. CONCLUSIONS

After these results we can try to conclude this paper with some observations.

In the last decades and especially after the 2008 financial crisis, there has been a huge debate about the transparency of companies' financial information (Alexander, Nobes, 2007; André, 2009; Barth, Landsman, 2010; T.J. Linsmeier, 2011). New regulations are constantly being issued, however, academic literature still highlights the scarcity of information regarding intangible assets disclosed in financial statements (Bozzolan et al., 2003; Liao et al., 2013) and the problems of their recognition and measurement (Cañibano et al., 2000; Eckstein, 2004; Sevin et al., 2007). This applies especially to internally created intangibles, whose reliability of measurement presents great difficulties and requires internal measurement metrics (Zéghal, Maaloul, 2011).

International accounting standards set the criteria for recognition and measurement of internally created intangibles (IAS 38) and list some costs that can be included in the calculation of the final value disclosed in the balance sheet (i.e. personnel, training, consultancy and raw materials consumption). These costs refer to all costs directly attributable to creating, producing, and preparing the asset for its intended use. However, no requirements are set with reference to the process of data collection and elaboration, leading to put into question the adequacy of the information structure and the consequent reliability of the information disclosed.

With reference to this paper first insights from document analysis reveal a lack of information on cost calculation of internally generated intangible assets. In general from the companies that report important increases of intangible assets we obtained that these increases are related to the capitalization of direct labor costs, materials, or are related to other cases of capitalization. The quantification of the costs mentioned above was carried out through the use of a system of analytical accounting, cost accounting, or other (i.e. S.A.P.) but in many other cases there are no integrated accounting system and these companies use additional documents like single cards, spreadsheets or other tools.

Companies' disclosure is compliant with international standard requirements while there is almost no additional information on metrics and on the information system(s) used to measure costs and the future economic benefits linked to intangibles. Only in few cases companies provide details on activities and projects whose costs have been capitalized. Voluntary information is mainly qualitative in nature. It regards names and types of research projects (for R&D) and the description of management tools, software and technical platforms under construction. However, no information is disclosed about the measurement process and methods applied. In particular Figure 4. and Figure 5. show the most detailed Notes that we have analyzed in our work. Most of the companies present a very synthetic description that do not help in understanding the accounting procedures inside.

However we are sure that disclosure can considered as a solution to the negative consequences of non-recognition of intangibles in financial statements. Under current accounting standards, most of the intangible investments are to be expensed when incurred. "The relative lack of accounting recognition of intangibles investments as assets led several researchers to wonder about the consequences of this inadequate accounting treatment on (1) the value-relevance of financial information, (2) the resource allocation in the capital market, (3) the growth in intangible investments, and (4) the market value of the firm"(Zéghal, Maaloul, 2011). In fact, recent studies show that voluntary disclosure of intangibles information is viewed by managers as a solution to compensate for the loss of relevance of financial information. The incorporation of this different information into equity valuation models, mitigates the omitted variables problem present in most current equity valuation models used by researchers.

Researchers studying the socio-economic consequences have generally agreed that inadequate accounting treatment of internally generated intangibles can lead to a misallocation of resources in the capital market. This problem could, nevertheless, be attenuated through greater disclosure of information about intangibles to investors (Zéghal, Maaoluol, 2011).

When it comes to research on market value, Authors are generally agreed that the inadequate accounting treatment of internally generated intangibles leads to systematic misvaluation of companies. However, there is no consensus as to whether these companies are undervalued or overvalued by investors in the capital market. These systematic misvaluations could, nevertheless, be attenuated through greater disclosure of information about intangibles to investors. Indeed, the recent studies on the subject show that intangibles disclosure can supplement the financial information, and that capital markets reward companies for increased disclosure.

As stated by the Authors the conclusions of the article have several practical implications. First, managers should provide more information about their intangible investments in order to attenuate different negative consequences resulting from their inadequate accounting treatment. Second, accounting standard setters should pursue more sophisticated accounting standards for intangibles. They should also provide more detailed guidance to constituents about useful information disclosures on intangibles which would be a particular benefit to intangible-intensive companies. Third, investors should be seeking greater transparency and more disclosure of information about intangibles.

Indeed, we think that future research could focus on the way in which managers and investors recognize the importance of disclosing information on intangibles. Then it is very important underline that future research should consider the disclosure of information about intangibles from a cost-benefit perspective. Finally, we can not forget that we have examined only the accounting results of intangible items. But these values have not only accounting impacts. All that comes from this statement is out of the aim of this paper and, for this, we refer to other specific studies.

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EMERGING TRENDS IN TOURISM: NEED FOR ALTERNATIVE FORMS IN MACEDONIAN TOURISM

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ABSTRACT

The purpose of this paper is to research the development of tourism, taking into consideration the growing competition and new consumer intentions. The aim of this research is to analyze the alternative forms of tourism as a crucial factor for long term sustainability. As a basic research method used is an interview with tourist providers in Macedonia (travel agencies - DMC companies and tourist guides), regarding their experience for alternative tourism forms. Results are showing growing trend of alternative forms of tourism considering different tourist nationalities. These results are valuable for further scientific research in consumer analyzes, and presents an input for the national tourism in this region.

Keywords:
tourism marketing, customer needs, alternative tourism, sustainable tourism

1. INTRODUCTION

The basic definition for tourism is that it incorporates the sun and sea model i.e. its basis lies in the possibility to offer the sun and sea package tour to tourists[1]. Sustainable tourism nowadays lies on the premises that it can only be achievable through development of alternative forms of tourism. This will allow future tourists to meet their purest needs and wants and to manage to meet their preferences. Alternative forms of tourism aim to preserve environmental, economic and socio-cultural impacts that tourists have on a certain destination[2]. By doing this, they allow sustainable growth of the destination in particular, and of the country in general. This will allow more sensitivity for local, social and economic demand and revenues from the tourism can be spent on future development of that particular destination.

The research objective of this paper is to determine which are the most attractive alternative forms of tourism, why do tourists like to be involved in those forms of tourism and which are the benefits of having a tourist offer with incorporated forms of alternative tourism. In the paper an empirical research is done followed by relevant sources (DMC companies and tourist guides) which are involved in this research area. From the research and the literature consulted, the results expected are that incorporating alternative forms of tourism in the tourist offer is more than needed and slowly, but surely becomes a trend in the tourist industry. This fact is based on the changing habits of tourists around the world and it becomes a world trend.

2. TOURISM SPECIFICS AND MARKETING TOURISM

Tourism represents a possibility for exploiting the protected areas on a sustainable way. At the same time, that is a way to use, preserve and to develop the living environment which is rich with extraordinary natural and human made elements and contents. The development of the alternative forms of tourism is of special significance in the areas in which there is authentic nature and cultural heritage connected to the possibility for recreation, fun and cultural experience.

The characteristics of the tourism market

In the development of the economic explanation of tourism, there are numerous attempts to give detailed and precise explanation of the service industry and to make clear distinction from other areas and industries. There are a lot of definitions of the term "service", but the most complete is the one that is given by P. Kotler

1 Naume Marinoski, Turisticka geografija na Republika Makedonija (Fakultet za turizam i ugostitelstvo, Ohrid, 2001: 111-117).

2 Dimitros Buhalis, Marketing the cooperative destination of the future (Tourism Management, 21, 2006: 97-116).

(2008: 71): "The service is each and every activity or usage that one side can offer to the other which in its basics is unacceptable and does not intend to establish ownership of a physical object".

The tourism 'product' is an experience achieved through the combination of a diverse array of products and services (Heath, Wall, 1994; Scott, Parfitt, Laws, 2000). For visitors, the product is the total experience, covering the entire amalgam of all aspects and components of the product, including attitudes and expectations. According to Middleton & Clarke (2001), the overall tourism product is a package, and might be defined in terms of five main components, namely: destination attractions; destination facilities and services; accessibility of the destination (including transport); images, brands and perceptions; price to the visitor. Hence, destination is a provider of experiences.

Tourism marketing approach

One of the biggest challenges faced by tourism marketers is that the product is largely intangible. What we are marketing, of course, are intangibles. The tangibles are essential and necessary but as soon as they reach a certain level of acceptance, they become secondary. Because they are so difficult to differentiate, to be competitive, the intangibles have to be marketed. Even as tangibles, mountains and beaches have a measure of intangibility because they are experienced rather than possessed (Ryan, 2005).

If tourism products are mostly intangible, they have to be marketed with tangible evidence. This is what is referred to as "tangibilizing the intangible." However, this is a complicated process. By emphasizing the concrete elements one may fail to differentiate oneself from the competition, and since the intangible elements are abstract, by emphasizing the abstract one compounds the intangibility.

The season concentration is a very important specification of the tourist market. According to this, involved parties should keep on mind the big costs for building and maintaining the capacities, but also not to forget the participation of human resources in most of the tourist branches.

Tourist demand, across tourist offer is very much elastic, determined with many factors, most of which are irrational (Ritchie, 2002). As a result of the different individual needs on the side of the demand and the different possibilities in their satisfaction, diversity floats on the surface, but also difference in behavior from the participants on the side of the demand.

Before the tourist product is created, there is a need to make a market research regarding which is the targeted segment, where that product will be offered and who will be the competition. Also, several products need to be combined and offered together. This is because tourism is complex and there is a need of enriching the existing products and a very creative policy has to be implemented. By combining the partial products, one complex product is being produced which can be offered to the market.

3. ALTERNATIVE FORMS OF TOURISM - THEORETICAL ASPECTS

Corporate travel, conventions and incentive tourism, are becoming increasingly significant. This segment is exceptionally lucrative, and primarily takes place out of the summer peak season, which is enough reason to intensively promote its development. This would attract an increasing number of foreign experts, scientists, professors and researchers. The necessary prerequisite for developing convention tourism is the construction of quality convention centres.

The tourist offer of one receptive country should be concentrated on all factors, especially the cultural, natural and historical ones. This is because tourists from abroad will not travel thousands of kilometers only for one partial tourist product, i.e. the well-known cuisine of the country. But, this also means that this factor has to be the carrier of the tourist offer, and the other factors have to be present as well. The table below explains the differences between mass tourism and alternative tourism.

Table 1.: Mass Tourism Vs Alternative Tourism

	Tourism Mass Tourism	Alternative Tourism
General Features	Rapid development	Slow development
	Maximizes	Optimizes
	Socially, environmentally, inconsiderate, aggressive	Socially, environmentally, considerate, cautions
	Short Term	Long Term
	Short Term	Long Term
	Remote control	Local control
	Unstable	Stable
	Price Consciousness	Value consciousness
	Quantitative	Qualitative
	Growth	Development
	Peak holiday periods, seasonal	Staggered holiday periods, no necessarily seasonal
	Capacity for high seasonal demand	Staggered holiday periods, no necessarily seasonal
	Tourism development everywhere	Development only in suitable places
Tourist Behavior	Large Groups	Singles, families, small groups
	Fixed program	Tourists directed
	Spontaneous Decisions	Spontaneous Decisions
	Comfortable and Passive	Tourist decide
	Demanding and active	Tourist decide

Source: Gartner, (1996: 339-340).

As presented above, the table shows the most important specifics of the alternative forms of tourism. The table also gives hints for possibilities for future development of sustainable forms of tourism. For example, mass tourism is all about maximizing profit on the short term, it is unstable, quantitative, and seasonal. Also, it characterizes with large groups with fixed program with spontaneous decisions. Au contraire, the alternative forms of tourism are into slow development, optimizing profit on the long term basis, it is stable, qualitative and not necessarily seasonal. These forms characterize with small groups, tourist directed with spontaneous decisions. It is clear that the alternative forms of tourism are more for sustainable tourism on the long run.

The alternative forms of tourism are the factor which allows incorporating different segments on the side of the tourist demand. In this way, different needs and wants on the side of the demand can or might find attractive contents. In that manner, they will be able to satisfy their needs. Throughout these alternative forms of tourism, an outstanding support is being given in the efforts to protect the exotic environment, the rare sceneries, untouched nature, tradition and culture and a possibility for their activation can be achieved (Marinoski, 2001).

In recent analysis of market demand preferences, a few types of tourism are mentioned as being present on the market: ecotourism, cultural tourism, adventure tourism, cruises and nautical tourism (Marinoski, 2001). The alternative forms of tourism are a crucial factor which helps towards incorporation of different segments of the tourist demand. In this way, different types of needs and wants on the side of the demand shall be satisfied. And, eventually, that will help in the preservation of the exotic areas, untouched nature, culture and tradition.

Since its base start as the "ecologically and socially responsible way of travelling", ecotourism has developed into an economically important product, "travelling with a natural element" (Bernadini, 1992). Thus far, ecotourism has created possibilities for development in inadequately developed tourism regions, as well as for the maintenance and funding of protected areas. In ecotourism we differentiate tourists according to two important segments: small groups with special interests in ecotourism who spend their whole vacation this way; and the large number of tourists who spend their vacation, for example, on the beach, but also take part in "short nature excursions" (Bernadini, 1992).

Middleton (2001) states that ecologically produced food is yet another component of tourism and ecology which has become an important factor in defining the tourism product and its differentiation in the market. Opportunities for the production of ecologically-grown food and its sale in catering facilities which offer their services to tourists must be further developed and used in light of the fact that the importance of this segment of the tourist supply is increasing.

When it comes to the social component of this way of travel, it should be noted that companies who offer these products take more care about the well-being of the

consumers. This is because of the combination of ecology and social way of doing business. The social side of these types is also seen by the investments that these companies do for the regions in which alternative forms of tourism are offered.

Cultural tourism is becoming more and more a significant part of the supply. In the area of cultural tourism, it is necessary to identify market niches with special cultural interests. It is very often the case that during vacation the guests will visit an event or cultural monument (Bernadini, 1992).

Adventure tourism is a small market niche with the potential to grow. Given that today's tourist has access to virtually every corner of the planet, this segment - as stated by the World Tourism Organization (2001) - would now like to explore the altitudes of mountains, the cosmos, the Antarctic, and depths of the seas.

Package tours expressly offer what no other way of travelling can offer and that is the possibility of seeing a great deal in a short period of time. This would explain the large growth rate related to package tours and the prospect of expansion in this segment (Buhalis, 2000).

Owing to the length of the coast and the richness of flora and fauna in the lake, the shore of different lakes and sea sides are the perfect setting for the intensive development of **nautical tourism**, as well as package tours. Fulfilling the needs of this demanding segment has the potential to become an important contribution to the whole of tourist traffic. (Marinoski, 2001).

4. COMPARATIVE STUDY WITH STAKEHOLDERS IN THE EUROPEAN COUNTRIES

Recent studies in Macedonia refer to the ongoing need of establishing mutual cooperation between several municipalities, serving as one of the crucial stakeholders in the development of these forms of tourism. This should be stated in order to start developing different alternative forms of tourism. This will be a great advantage for the economic development of the municipalities, which will bring further development in the field of tourism as well. Experts say that the tourism potentials that Macedonia possess are tremendous and that the alternative forms of tourism need to be in the focus of the policymakers in the field of tourism.

Several other studies show that even the most developed countries in terms of tourism have included the alternative forms of tourism in their offer. That is the case with Spain, Greece, Slovenia and others (Christou, 2012). Spain has developed certain programs in order to ensure the development of these forms of tourism. Some of the programs include: i) Quality in tourist destinations, ii) Quality in tourist products; iii) Quality in tourist services; iv) Quality training; v) Technological innovation and development; vi) Globalization of Spanish tourist industry; vii) International cooperation; viii) Statistical information and economic analysis, viiii) Promotion, and, x) Support in marketing (Porras, 2000).

In the case with Greece, the Hellenic Tourism Organization, an institution of Greek National Tourism Organization is responsible in creating and implementing research and providing information to potential investors regarding possibilities for investments in alternative forms of tourism in the country. All this was supported by a national strategic plan, the "National Plan for Regional Development 2000-2006" (Greek National Tourism Organization).

As for the situation in Slovenia, the authorities have developed a strategy to identify and to create directions for further development of these forms of tourism. According to Ministry of Economy, Government of Republic of Slovenia (2001), its main advantages were: i) Variety and attractiveness of natural environment; ii) Undamaged nature; iii) Remarkableness; and iv) Disperse and relative smallness of tourist centers instead of mass tourism, but tourism development according to tourist trends. According to Ministry of Economy, Government of Republic of Slovenia (2001), the weaknesses were: i) Little attractiveness of products and services; ii) Few tourist attractions; iii) Low quality of services; iv) Weak development in infrastructure; and, v) Unsuitable offer in winter tourism.

These studies show that the importance of the alternative forms of tourism is increasing and the predictions are that they will be the foundations of the future tourism development. That means that most of the European countries have identified the main stakeholders for development and also the benefits of the alternative forms of tourism and they are putting great effort in their establishment and development.

This can be of great importance for the case with Macedonia. All stakeholders (i.e. the Agency for promotion and support of the tourism, the Ministry of Economy, DMC companies etc.) which are included in the establishment and development of the alternative forms of tourism should work together and learn from the experience of the more developed countries (in tourism sense) and by that to establish the foundations of a sustainable development of the alternative forms of tourism.

5. METHODOLOGY

The research methodology for this paper was based on a developed questionnaire, which was distributed to parties involved in tourism (i.e. tourist agencies, tourist guides). The questions involved simple answers, meaning that several key factors in the field of tourism were researched. Part of the questions was analyzing the tourist operators' specifics, their customers' demographics, profile and behavior regarding tourism and special set of questions were asked regarding the customers' preferences and attitudes towards alternative forms of tourism. The research was conducted during a period of one month, before the main tourist season in Macedonia in 2014. The field research included several cities in Macedonia: Ohrid, Skopje and Bitola. Around 20% of the questionnaires were distributed in Bitola, and 80% were delivered in Ohrid and Skopje successively, getting answer from total 83 agencies from which 54% national/local and 46% foreign tourist operators.

Table 2.: The descriptive statiscs of the sample

	Bitola	Ohrid	Skopje	Total
(% of total)				
National	9	18	18	45 (54%)
International	3	15	20	38 (46%)
Total (% of total)	12 (14%)	33 (40%)	38 (46%)	83 (100%)
Chi-square test	p = 0.00166156			

Source: Research results.

6. RESULTS

All DMC companies, travel agencies and tourist guides which have offered alternative forms of tourism have better results than those which don't offer alternative forms of tourism. It is also obvious that the target group for these forms of tourism is between the ages of 35-65. Those are the people who want to experience the destination from a different point of view. Almost all of the interviewed answered that tourists are into experiencing eco-tourism, rural tourism and adventure form of tourism. And, last but not least, the average percentage of profit growth is 25%, which in today's turbulent business environment is an excellent result. Unfortunately, the scientific data regarding this issue is limited in Macedonia and there are no other similar research projects done whatsoever. But, what is more important is that further research in this area will show other benefits for all parties included in the alternative forms of tourism. The most obvious is the economic growth and development, as well as the benefits for development for the local community and its population. Lastly, this will improve the educational situation in the areas which offer these forms of tourism, which eventually will improve the situation in the country in general. It should be also noted that the role of the DMC companies, travel agencies, tourist guides and all other involved on the side of the tourist offer have tremendous role in further development of these types of tourism, by the fact that they promote this types of tourism and that are directly involved into the creation of the final tourist product on a national or a regional level. Also, their role can be seen by the contribution that they have both in the local and the national economy.

7. CONCLUSION

In recent years, on the demand side of the market, there has been a growing trend of tourists seeking specific types of tourism. Historical heritage, natural beauty and pleasant climate make up the framework which, together with the development of high quality accommodation, the rich supply of activities and entertainment, and particularly good service, shall enable the destination i.e. Macedonia to

attract the modern-day tourist. The tourism development needs to be based on the preservation of exceptionally diverse natural and cultural wealth; on principles of sustainable development in the planning of a quality tourism offering; on adequate market positioning and promotion, as well as the cooperation of all individuals and professional institutions that directly and indirectly participate in tourism.

There are several important benefits to undertaking a strategic approach to marketing. These advantages include: establishing the overall objectives and strategies, providing a rational basis for decision-making on marketing and laying the foundation for effective implementation of the marketing plan. However managers must be aware of the planning model's pitfalls and limitations. The marketing strategy for both international and domestic tourism must be derived directly from the development strategy and the need to project a focused and positive image. A key principle applied in formulating the marketing strategy is the maintenance of a close relationship to the development strategy, which emphasizes product improvements and diversification

As seen by this initial research, the need and demand of alternative forms of tourism is growing and becoming more and more an important factor in the future development of tourism in overall. Because tourists are more informed than ever before, they want to have the experience of their lifetime by consuming a complex tourist product in which one or several forms of alternative tourism are incorporated. The research also shows that profits grow more if the tourist agencies offer alternative forms of tourism. By this initial research we have shown that alternative forms of tourism must be taken into serious consideration not just by the direct parties involved in tourism, but by the government as well. National strategy for development of these forms of tourism has to be implemented so that these forms of tourism will be sustainable in the future.

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VARIATIONS BETWEEN FINANCIAL RATIOS FOR EVALUATING FINANCIAL POSITION RELATED TO THE SIZE OF A COMPANY

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ABSTRACT

The paper includes analysis of financial ratios for evaluating a financial position. It is possible to assess the financial position of a certain company by using and combining liquidity, solvency and activity ratios. Preferable values of financial ratios should be related to the different factors, including industry, geographical position, size of a company. For research purposes appropriate parametric and non-parametric statistics is used. The research includes analyzing differences between financial ratios related to the size of companies in Croatia. Obtained results of the conducted research shows existance of statistically significant differences between financial ratios for evaluating financial postition for different companies sizes.

Keywords:
financial ratios, financial position, size of a company, analysis of variance, statistical differences

1. INTRODUCTION

Shareholders, creditors and other stakeholders evaluate financial position of companies in order to assess its ability to efficiently perform its operations. Related to that, important part of business operations represents capability of companies to collect sufficient amount of cash to settle its current and long-term liabilities. Companies' operations greatly depend on environment conditions and geographical area, competitive advantages, industry affiliation, and the size of a company. Stated above is determined by business cycle, structure of assets and financing sources, which results with various business strategies and goals of companies. Consequently, analysts should take into account specifics and characteristics of business operations of different companies. Important differentiation segment is the size of a company.

This paper includes an analysis whether the size of a company has impact on a value of financial ratios used for the financial position evaluation. From accounting point of view the financial position evaluation usually include liquidity, solvency and activity evaluation. A sample used within the research includes Croatian companies, from all business activities of *non-financial business economy* sector, divided into three size sectors.

2. THEORETICAL OVERVIEW

In order to obtain comprehensive evaluation of the financial position, various specificities and characteristics of a company should be taken into account. Generally, analysis of business operations should include: analysis of economic environment conditions and geographical area, analysis of the industry affiliation, analysis of specific features of analysed company, competitive advantages of a company, applied accounting concepts, methods and standards, and the size of a company (Huff, Harper, 1999: 96).

"The ratio analysis must be understood in terms of accounting principles used and the business practices and the culture of the country" (Gibson, Financial Statement Analysis 2011: 182). Those guidelines give to the analyst opportunity to compare business operations, of a certain company, with the industry and a business environment. Determining market position and defining competitive advantages of a certain company is facilitated if annual financial statements of companies are uniformed and prepared by using the same rules and procedures. In addition to that, it is necessary to define key factors of differentiation between companies to obtain comprehensive conclusions by using technics and procedures of the financial statements analysis. *Horrigan (1968)* in his paper concludes that the most often factors which are expected to increase the dispersion of financial ratios are: "industry classification, size of firm, cyclical conditions, seasonal conditions, geographical location, and accounting methods" (Horrigan 1965: 563).

The most important factor, next to industry classification, which determines value of individual financial ratios, is the size of a company. "One of the basic functions of financial ratios is to deflate accounting data by size of firm; and therefore, most of the size-of-firm effect should be washed out by the ratios themselves" (Horrigan 1965: 565). "A single ratio by itself is not very meaningful. Accordingly, various comparisons to shed light on company performance can be used: intra-company comparisons covering two years for the same company, industry-average comparisons based on average ratios for particular industries, intercompany comparisons based on comparisons with a competitor in the same industry" (Kimmel, Weygandt i Kieso 2011: 55). Structure of assets and sources of assets, can be differentiated with regard to the size of a company. Considering that fact, it is reasonable to research differences of chosen individual financial ratios related to the size of companies. Value of certain financial ratio in one company can represent stable financial position, and within other company can represent some difficulties within a business operations. Taking into account all stated, research objective includes determining existence of statistically significant differences of individual financial ratios of financial position related to the size of a company. Related to that the research hypothesis is designed:

Hypothesis: Average values of the most important financial ratios for evaluating financial position differ related to the size of a company.

"Financial analysis is the use of financial statements to analyse a company's financial position and performance, and to assess future financial performance" (Subramanyam, Wild, 2009: 13). Financial statements analysis includes methods of using different items available in the annual financial statements for creating information for decision-making purposes. Financial statement analysis usually includes combining various instruments as vertical (common-size) and trend analysis of financial statements, cross-sectional analysis of chosen financial items, regression analysis which is used to identify relationships between variables, and using individual and synthetic financial ratios.

Interpreting obtained results represents the most important and inevitable step of the financial statements analysis. *Wahlen, Baginski & Bradshaw (2011)* effective financial statement analysis shows as a three-legged stool based on identifying the economic characteristics of the industries in which a firm participates, describing the strategies that a firm pursues to differentiate itself from competitors as a basis for evaluating a firm's competitive advantages and evaluating the financial statements, including the accounting concepts and methods that underlie them and the quality of the information they provide (Wahlen, Baginski, Bradshaw, 2011,: 2-3). From economic point of view, financial position, next to business efficiency, represents essential factor of corporate management, which ensures existence of the company on the market. It represents safety of invested equity and financial stability of a company (Žager, 2009: 21,31).

Financial stability of the company can be evaluated by using liquidity, solvency and activity financial ratios. Important part of the financial position assessment rep-

resents evaluation of company's ability to settle its current liabilities. For that purposes, liquidity and activity ratios can be used. On the other side, it is not possible to bypass importance of a company's capability to manage and settle its long-term liabilities. Evaluating company's ability to settle is debt is conducted by using solvency ratios. To obtain comprehensive information about indebtedness quality, solvency ratios should be combined with profitability ratios.

Short-term and daily business operations require ability of the company to generate sufficient cash amount to settle due liabilities. In that context it is necessary to assess competence of the company to convert adequate amount of non-cash assets to cash needed for settling due liabilities on time. Related to that, **liquidity** can be evaluated using several degrees of liquidity including cash ratio, quick ratio, and current ratio. To achieve more extensive results of evaluation, it is necessary to assess how efficiently company uses its assets within business operations, i.e. activity of the company should be evaluated. Commonly used activity ratios for evaluating the financial position of the company are total asset turnover, current asset turnover and accounts receivable turnover ratio. Adequate financial position assumes lower liquidity risk and greater financial stability of the company.

Cash ratio represents relationship of cash and current liabilities, indicating part of current liabilities that can be settle immediately. "The analyst seldom gives the cash ratio much weight when evaluating the liquidity of a firm because it is not realistic to expect a firm to have enough cash equivalents and marketable securities to cover current liabilities" (Gibson, Financial Statement Analysis, 2011: 226). Besides, it is important to emphasize that cash often has a high volatility. "There exists suggestion that cash ratio has to be higher than current liabilities which due within a month" (Žager L., Sever Mališ, Financijski pokazatelji kao podloga za ocjenu kvalitete poslovanja, 2012: 65). It is important to notice that "a high cash ratio indicates that the firm is not using its cash to its best advantage; cash should be put to work in operations of the company" (Gibson, Financial Statement Analysis, 2011: 226). Conceptually, standard value of stated financial radio is between 0,1 and 0,3 (Tintor, 2009: 532), i.e. the company has to be capable to settle from 10% to 30% of total current liabilities in a moment of the balance sheet preparation. Comparing to cash ratio, longer-term liquidity is measured by using quick ratio. **Quick ratio** shows ability of the company to settle its current liabilities by using available quick cashable current assets. "It is common to emphasize that its value have to 1 or above, including conclusion that the company which wants to maintain normal liquidity have to have at least amount of quick cashable current assets in the amount of current liabilities" (Žager K., et al 2009: 249). According to numerous authors numerator of quick ratio includes amount of total current assets less inventory value (Wahlen, Baginski, Bradshaw, 2011; Gibson, Financial Statement Analysis, 2011; Orsag, 1997). Company's inventory due to its characteristics, represents the least liquid form of current assets. Opposite to that, accounts receivable, by definition, represents as-

sets that should be cashable in short time period, but the practice shows that is not always so. Fact that accounts receivable are not collected on time brings into question validity of inclusion those receivables into calculation of quick ratio. It is important to point out that quick ratio assumes "including in the numerator only those current assets the firm could convert quickly into cash, often interpreted as within 90 days" (Wahlen, Baginski, Bradshaw, 2011, 364). Activity ratios can be used to evaluate capability of the company to collect receivables on time, and by that it should be combined with liquidity ratios within the financial position evaluation. **Current ratio** is the most comprehensive liquidity ratio representing relationship of total current assets and total current liabilities. "The current ratio is a broad indicator of a company's short-term financial position: a ratio of more than one indicates a surplus of current assets over current liabilities" (Holmes, Sugden, Gee, 2005: 109). "Ratio shows possibility to maintain certain level of solvency" (Orsag,1997: 209). "Current ratio normally should be greater than 2" (Žager, et al 2009: 249). Higher value of current assets represents lower liquidity risk and higher amount of liquidity reserves. Existence of liquidity reserves "represents additional guarantee that greater value of working capital will generate cash sufficient for debt settlement. This helps maintain capability to establish long-term debtor to creditor relationship and a business activity continuity" (Tintor, 2009: 536). Determining adequate value of current ratio should include several factors as: "the nature of the company's business, the quality of the current assets, the imminence of current liabilities, the volatility of working capital requirements" (Holmes, Sugden, Gee, 2005: 109). Current assets structure is determined by industry of a company and quality of its business operations. "In general, the shorter the operating cycle, the lower the current ratio. The longer the operating cycle, the higher the current ratio" (Gibson, Financial Statement Analysis, 2011: 224).

Evaluating how efficient company uses its assets could be determined by **activity ratios** analysis. "Activity ratios are known as turnover ratios calculated as a relationship between revenues and average assets. They indicate the speed of assets circulation within a business" (Žager K., et al 2009: 251). "Activity ratios are also known as asset utilization ratios or operating efficiency ratios. This category is intended to measure how well a company manages various activities, particularly how efficiently it manages its various assets. Activity ratios are analysed as indicators of ongoing operational performance — how effectively assets are used by a company. Efficiency has a direct impact on liquidity, so some activity ratios are also useful in assessing liquidity" (Robinson, et al 2009: 278). There exists a whole set of activity ratios that can be used to evaluate the financial position of a company. **Total turnover ratio** includes total assets that company has available for its main business activities. According to that, total assets turnover ratio is calculated as a relationship of total revenues and total assets of the company. "The total assets turnover ratio measures the company's overall ability to generate revenues with a given level of assets" (Robinson, et al 2009:

283). Activity ratios should be as high as possible, although its value is mainly based on assets structure and business activity of a company. Usually companies with a high proportion of fixed assets has low value total assets turnover ratio which is considerably below 1, and opposite companies with greater proportion of current assets has higher total assets turnover ratio.

Solvency is defined as an ability of the company to settle its all liabilities by available cash, i.e. situation in which company's assets exceeds total debt. (Anić, Goldstein n.d.). "Solvency refers to a company's ability to fulfill its long-term debt obligations. Assessment of a company's ability to pay its long- term obligations (i.e., to make interest and principal payments) generally includes an in-depth analysis of the components of its financial structure" (Robinson, et al 2009: 288). Solvency ratios measure proportion between internal and external sources of financing. Structure of sources of financing is analysed by using static indebtedness ratios: debt-to-assets ratio, equity-to-assets ratio, debt-to-equity ratio. Higher proportion of external sources of financing represents higher static indebtedness of a company. Conservative rule of indebtedness margin is that debt value (external sources of financing) should not exceed value of owners' equity (internal sources of financing) (Orsag, 1997: 208). It is fragmentaly to make conclusion on adequte sources of financing structure without taking into account additional information, as interest expenses and profitability ratios. **Debt-to-assets ratio** which represents indebtedness degree is calculated as relationship of total debt and total assets of a company. "It shows proportion of total assets of a company financed by using external sources of financing" (Orsag, 1997: 208). "Generally, higher debt means higher fi nancial risk and thus weaker solvency" (Robinson, et al 2009: 289). "The debt ratio should be compared with competitors and industry averages. Industries that have stable earnings can handle more debt than industries that have cyclical earnings" (Gibson, Financial Statement Analysis, 2011: 260). Solvency financial ratio derived from debt-to-assets ratio is **equity-to-assets ratio** which shows proportion of total assets financed by internal sources of financing (owner's equity). The most important ratio of static indebtedness is **debt-to-equity ratio** which is calculated as relationship of total external and total internal sources of financing. In case where debt and equity are the same, value of debt-to-equity ratio is at preferred level of 1. Debt-to-equity ratio represents an excellent proxy in assessment of indebtedness quality. Dynamic indebtedness assumes evaluating ability of the company to cover its interest expenses by using interest coverage ratio, and on the other side, ability to repay its total debt by using indebtedness factor. **Interest coverage ratio** can be considered as one of the most important indebtedness ratio. "Interest coverage ratios indicate the number of times a firm's income or cash flows could cover interest charges. For example, one common approach to the interest coverage ratio divides net income before interest expense and income taxes by interest expense" (Wahlen, Baginski, Bradshaw, 2011: 372). "Higher coverage, lower indebtedness" (Žager, et

al 2009: 250). "A higher interest coverage ratio indicates stronger solvency, offering greater assurance that the company can service its debt (i.e., bank debt, bonds, notes) from operating earnings" (Robinson, et al 2009: 290). High interest coverage shows ability of the company to use exteranl sources of financing more efficiently. **Indebtedness factor** "indicates the number of years necessary to repay total debt by using retained earnings and amortization and depreciation costs" (Žager, et al 2009: 250-251). Solvency ratios related to financial stability are coverage degree I and coverage degree II. **Coverage degree I** shows share of fixed assets financed by equity, and **coverage degree II** shows share of fixed assets financed by long-term sources of financing, either equity or long-term liabilities.

3. LITERATURE REVIEW

Wall (1919) found that "great ratio variation seemed to exist when samples from different geographical areas and samples from different industries were compared" (Lee Huff, Harper, Jr., Eikner, 1999: 96).

Gupta (1969) conducted the research about the effect of size, growth, and industry of the financial structure of manufacturing companies. The paper does not include explicit examination of existance of differences on financial ratios related to the size of a company but examines patterns and variations of financial ratios related to the size, growth, and industry of companies. For that purposes, author used indicators as asset utilization, leverage ratios, liquidity ratios, and profitability ratios. The part of the research related to the size of a companies shows following results. Generally observing, activity and leverage ratios has tendency to decrase as the size of company increases. Opposite to that, liquidity and profitability ratios increases with the incrase of the size of a company (Gupta, The Effect of Size, Growth, and Industry on the Financial Structure of Manufacturing Companies, 1969: 519). "The total debt to total asset ratio is found to be negatively related to size of the corporation" (Gupta, The Effect of Size, Growth, and Industry on the Financial Structure of Manufacturing Companies, 1969: 526). Smaller sized companies have lower current ratio and higher inventory turnover ratio. "Smaller-sized corporations invariably tend to show a lower sales margin than the larger-sized corporations, (...) but smaller-sized corporations tend to have greater total asset turnover" (Gupta, The Effect of Size, Growth, and Industry on the Financial Structure of Manufacturing Companies, 1969: 527).

Gupta & Huefner (1972) provided a study of financial ratios at macro level for broad industry classes in order to find correspondence between similar industries by using cluster analysis appling hierarchical clustering method. The research includes companies from 20 manufacturing industries according to *Standard Industrial Classification* (SIC) coding system. The conducted analysis is based on six financial ratios (two liquidity ratios and four activity ratios). Authors decided to terminate the cluster analysis when three clusters were formed. Goal of the research was to "demonstrate

that financial ratios can represent underlying industry characteristics, at least on a group-ordinal basis of measurement. They found that cluster analysis groupings of the ratio data correspond highly with both the judgmental classifications of economists and with numerous qualitatively expressed economic characteristics of the industries involved" (Gupta i Huefner, A Cluster Analysis Study of Financial Ratios and Industry Characteristics, 1972: 90).

Pinches and Mingo (1973) "examine the relationship between firm size and the ratings on outstanding debt issues of public firms and report a significant inverse relationship between bond ratings and size. Based on their results, they argue that larger firms have lower levels of risks and lower borrowing costs; consequently, they tend to rely more heavily on long-term debt financing than do smaller firms" (Osteryoung, Constand, Nast, 1992: 35-36).

Walker and Petty (1979) conducted a research about the existence of differences between large and small public firms related to its liquidity, profitability, leverage, risk, and dividend policy. "Using a multiple discriminant analysis, they find that proxies for dividend policy, liquidity position, and profitability are the most powerful discriminators between large and small public firms. Their results indicate that larger firms have greater liquidity and lower profitability than smaller firms" (Osteryoung, Constand, Nast 1992: 37).

Marsh (1982) "addresses the size issue and argues that larger firms face lower issuance cost for long-term debt, and will thus rely more heavily on long-term debt" (Osteryoung, Constand , Nast,1992: 36).

McLeay & Fieldsend (1987) used the ordinary least squares as a more appropriate description that simple ratio model (McLeay, Fieldsend, 1987: 133). They analyzed 15 financial ratios using sample of French companies groupt into three sectors and four size classes. The research results shown "that size and sector effects can vary considerably from one financial ratio to another" (McLeay, Fieldsend, 1987: 139). The research results shows "differences in the relationship of ratios as the size of the company changed. They also found evidence of differences in the ratios as the sample was subdivided into sectors (e.g., spinning, weaving, and knitted goods)" (Huff, Harper, 1999: 96).

Osteryoung, Constand, & Nast (1992) examine the differences between financial ratios of small private firms and large public firms which operates within large number of industry groups defined by authors. Main limitation of their research is the fact that data available for small private firms included precalculated financial ratios, which significantly narrows statistical analysis possibilities. The size proxy used within the research to classify companies was value added. Research includes examining 13 different financial ratios including liquidity ratios, leverage ratios, activity ratios, profitability ratios, and miscellaneous expense ratios. "The results associated with the liquidity ratios (CR and QR) indicate that there is no difference between the average small firm liquidity and average large firm liquidity across the wide range

of industries examined. (…)The results indicate that small firms have higher total leverage ratios and rely more heavily on short-term debt financing than large firms. (…) When the results associated with the activity ratios are considered, the total asset turnover (ATO) is significantly greater for small firms. (…) The comparison of the profitability ratios also suggests differences between large and small firms. Return on assets (ROA) ratio is greater for small firms than for large firms" (Osteryoung, Constand, Nast, 1992: 40-45).

Lee Huff, Harper, Jr., & Eikner (1999) had conducted a study of a comparison of liquidity and slovency measures for Small Companies versus Large Companies. To keep the analysis simple they used only two financial indicators, current ratio as a liquidity indicator, and debt ratio as a solvency indicator. The sample of 12.305 companies they devided into seven industry groups in accordance with the *Standard Industrial Classification* (SIC) code, and into four size categories based on amount of total assets. "To determine whether systematic differences existed, the extreme categories (Small Companies versus Large Companies) were examined" (Lee Huff, Harper, Jr., Eikner 1999: 98). To test existance of difference of means authors used t-test, and in order to compare variances they used F-test. "The research findings strongly support the contention that systematic differences exist among liquidity and solvency measures for Small Companies versus Large Companies" (Huff, Harper, 1999: 104).

Philips, Volker, & Anderson (2009) was conducted the analysis of the cross-sectional variation of financial ratios related to different sizes of the company within retail and service sector. The research includes liquidity, activity, leverage and profitability ratios. A proxy used to determine the size of a company was total sales, according to which companies are devided into four size categories. To assess differences in the means, t-test is used. "The largest and smallest firms exhibit significant differences in their respective liquidity, activity, leverage, and profitability ratios for firms in the retail sector. Service firms exhibited the strongest differences in their respective activity, debt and profitability ratios. Furthermore, an examination of the behavior of the metrics between retail and service firms of similar size showed significant differences. An important implication og these results is that size and sector need to be considered when using this data as a benchmarking tool" (Philips, Volker, Anderson, 2009: 6).

4. METHODOLOGY

Identifying average values of categories for certain variable provide opportunity to test if they significantly differ. Although those differences are easy to observe, it is important to determine if they are statistically significant. Important step in determining statistically significant differences between variables includes determining which statistical method to use in order to test existence of those differences.

In case when tested variable have more than two groups (categories), it is not possible to use *t-test*. For that purposes, analysis of variance should be used. "The univariate techniques for analysing group differences are the t-test (two groups) and analysis of variance (ANOVA) for two or more groups" (Hair, Black, et al., Multivariate Data Analysis, A Global Perspective, 2010: 443). It is parametric test that imposes achieving numerous assumptions as variables independency, homogeneity of variances, and the most prominent, the normality of distribution. In case when assumptions are not meet, non-parametric statistics should be used (Larson-Hall 2010: 58). "The non-parametric alternative to a one-way ANOVA is the Kruskall-Wallis test" (Larson-Hall, 2010: 140). Although, *Kruskall-Wallis test* do not require existence of normal distribution, and it's not as sensitive to extremes values of data, nevertheless it includes meeting the assumption of homogeneity of variance. The most important disadvantage of nonparametric tests against parameter is the quality of the obtained results. "The traditional trade-off in choosing a nonparametric test is a loss of power" (Kemp, Kemp, 2004: 301).

5. RESULTS

The research population includes companies from all business activities of *non-financial business economy* sector in Croatia divided by the size of a company according to *Accounting law* which includes *small*, *medium-sized* and *large* companies (Narodne novine br. 109/2007, Čl. 3). Total number of companies from specified segment, which prepared and disclosed their annual financial statements, for year 2011 is 84.421 (Croatian Chamber of Economy n.d.). Those companies represent population for forming sample size needed for the research. The sample includes secondary data available from public database *Registry of annual financial statements* managed by *Financial agency*. Obtained data refers to year 2012. Sample size is specified by a significance level of 5% and a confidence interval of 10% (Table 1.).

Table 1.: Determining sample size for the research

Analysed business activities	Total			Total
	Small	Medium-sized	Large	
Industry	95	81	57	233
Construction	95	55	24	174
Trade	96	74	44	214
Non-financial services	96	68	43	207
TOTAL				828

Source: Author's calculation by using http://www.macorr.com/sample-size-calculator.htm.

Required size of the sample is determined separately for every sub-sample of random stratified sample. Total planned number of companies included in the ini-

tial sample was 828. By excluding extreme values from the sample, higher level of data homogeneity has been achieved. Table 2. shows descriptive statistics for calculated individual financial ratios, and final number of companies included into further analysis per variable.

Table 2.: Descriptive statistics of the financial ratios

Variable	n	%n	Mean	Median	Variance	Standard deviation
Cash ratio	527	63,11	0,03	0,01	0,00	0,03
Quick ratio	702	84,07	0,60	0,52	0,22	0,47
Current ratio	690	82,63	1,03	0,97	0,48	0,69
Financial stability coefficient	753	90,18	0,62	0,65	0,40	0,63
Debt-to-assets ratio	757	90,66	0,69	0,71	0,13	0,36
Equity-to-assets ratio	764	91,50	0,30	0,29	0,13	0,37
Debt-to-equity ratio	528	63,23	1,00	0,85	1,90	1,38
Interest Coverage Ratio	424	50,78	1,17	1,20	3,23	1,80
Indebtedness Factor	573	68,62	1,40	0,99	17,94	4,24
Degree of Coverage I	555	66,47	0,61	0,60	0,43	0,66
Degree of Coverage II	481	57,60	1,02	0,99	0,28	0,53
Total assets turnover	758	90,78	0,88	0,79	0,55	0,74
Current assets turnover	726	86,95	1,71	1,62	1,47	1,21
Receivables turnover	646	77,37	3,33	3,13	5,71	2,39
Accounts Receivable turnover	522	62,51	4,54	4,13	8,74	2,96
Inventory turnover	425	50,90	6,14	4,95	21,97	4,69
Accounts Payable turnover	547	65,51	5,07	4,48	12,01	3,47

Source: Author's calculation by using StatSoft Statistica 12.

According to obtained results Croatian companies are able to pay on average 2,5% of their current liabilities in cash. There are no evident differences between the values of cash ratio related to different sizes of companies. Evaluating liquidity by cash ratio represents extremely conservative point of view (Gibson, 2011: 226).

Table 3.: Descriptive statistics of the financial ratios taking into account the size of a company

Financial ratio		The size of a company			
		Small	Medium-sized	Large	TOTAL
Cash ratio	AS	0,024	0,026	0,026	0,025
	N	229	284	114	527
Quick ratio	AS	0,519	0,672	0,639	0,598
	N	308	243	151	702
Current ratio	AS	0,912	1,151	1,074	1,029
	N	304	235	151	690
Financial stability coefficient	AS	0,363	0,792	0,902	0,619
	N	344	255	154	753
Debt-to-assets ratio	AS	0,730	0,667	0,647	0,690
	N	326	266	165	757
Equity-to-assets ratio	AS	0,267	0,313	0,346	0,301
	N	327	271	166	764
Debt-to-equity ratio	AS	0,583	1,325	1,314	1,001
	N	229	184	115	528
Interest Coverage Ratio	AS	1,085	1,190	1,233	1,172
	N	118	199	107	424
Indebtedness Factor	AS	0,487	2,370	1,834	1,404
	N	262	198	113	573
Degree of Coverage I	AS	0,508	0,654	0,673	0,613
	N	176	230	149	555
Degree of Coverage II	AS	0,915	1,057	1,060	1,016
	N	143	192	146	481
Total assets turnover	AS	0,806	0,960	0,913	0,883
	N	332	268	158	758
Current assets turnover	AS	1,292	2,031	2,068	1,706
	N	327	256	143	726
Receivables turnover	AS	2,580	3,925	3,909	3,331
	N	284	239	123	646
Accounts Receivable turnover	AS	3,635	5,153	5,154	4,542
	N	210	210	102	522
Inventory turnover	AS	4,493	6,358	8,019	6,135
	N	146	172	107	425
Accounts Payable turnover	AS	4,280	5,175	6,400	5,073
	N	221	210	116	547

Source: Author's calculation by using StatSoft Statistica 12.

A more inclusive liquidity ratio is quick ratio which includes the most liquid assets as cash, current financial assets and receivables. Preferable value of quick ratio

is one, which represents a situation in which companies are able to settle all current liabilities by the most liquid current assets. On average Croatian companies are able to settle 59,8% of their current liabilities by quick-cashable assets. According to average value of the quick ratio, the most liquid companies are medium-sized, which are able to pay on average 67,2% of their current liabilities, and the least liquid are small companies, able to settle only 51,9% of current liabilities with the most liquid assets (Table 3.). Current ratio "determines short-term debt-paying ability" (Gibson 2011: 224) representing relationship of the current assets and current liabilities. A company should maintain current ratio at level of two, i.e. current assets should be twice the size of current liabilities. On average Croatian companies does not reaches preferable level of the current ratio. According to value of the current ratios companies on average has equal value of current assets and current liabilities, i.e. average value of the ratio is 1,029. Medium-sized companies have the best liquidity position according to the current ratio (1,151), and the small companies have the lowest average value of the current ratio (0,912). Small companies are not able to cover all its current liabilities by available current assets, which represents serious liquidity problem. That is situation in which companies' uses current liabilities to finance its long-term assets, i.e. situation in which a company does not have a working capital (part of current assets financed by long-term sources of financing). Financial stability coefficient, which indicates existence of working capital, shows that all sizes of companies have some amount of working capital.

The solvency of the company can be evaluated by using static and dynamic solvency ratios. Evaluating static solvency includes analysing sources of financing structure. Debt-to-assets ratio shows that Croatian companies on average their assets finance by using external sources of financing, i.e. over 60% of assets is finance by external sources of financing. In correlation with that on average 30% of total assets is financed by using equity. On average small companies have the highest proportion of external sources of financing (73%), and the large companies uses the highest proportion of equity for financing total assets (35%). Preferable proportion of debt-to-equity relationship should be 1:1, i.e. at least 50% of total assets should be financed by equity. According to those results, static solvency of analysed companies should be improved. Interest coverage ratio shows that companies are on average able to cover its interest expenses by earnings before income and taxes, but average value of that ratio is marginal. The worst average value of interest coverage ratio have small companies, showing that companies operates only to cover its interest during one accounting period (1,085). Large companies shows the best coverage ability where they managed to cover its interest expenses 1,233 times, i.e. one unit they earn for owners of external sources of financing, and 0,23 units they earn for equity owners. Coverage ratio should be as high as possible. On average it can be concluded that companies in Croatia have low coverage ability. According to average value of indebtedness factor companies are able to settle its total liabilities in less than one year and five months

by using retained earnings, depreciation and amortization. In addition to that, small companies are able to repay its total liabilities on average within half year, and medium-sized companies within two years and four months. Croatian companies covers on average 61,3% of their fixed assets by equity, and the highest share of internal sources of financing used for fixed assets has large companies (67,3%). Adding long-term debt equity, on average companies finance their all fixed assets by long-term sources of financing, implying existence of working capital. The most unfavourable value of degree of Coverage II has small companies. On average only 91,5% of fixed assets is finances by long-term sources of financing, which means that almost 10% of fixed assets is financed by current liabilities, implying existence of financial stability problems. Next to liquidity and solvency ratios, for financial position assessment, activity ratios should be used. Activity ratio can be used for evaluation of efficiency of using available sources of financing, with the objective to assess essential level of liquidity. The highest efficiency of total assets has medium-sized companies which turnover 96% of their total assets within one accounting period. The less efficient in using its total assets are small companies which turnovers 80,6% of their total assets. Current assets turnover gives valuable information in evaluating overall liquidity of the company. On average companies turnover 1,7 times its current assets within one accounting period. Comparing current assets turnover with current ratio, it can be concluded that on average companies in Croatia have liquidity problems, due to low level of working capital and very slow operating cycle. Essential problem is visible with small companies where current liabilities are not covered with current assets, and they turnover only 1,29 times its current assets within one accounting period. Analysing receivables and account receivables turnover it can be seen that companies on average turnover its receivables 3,33 times, and account receivables 4,54 times. According to those results, on average companies are able to collect its account receivables for less than 90 days, implying that its value can be included in evaluating quick liquidity. Companies manage to turnover its inventories 6,14 times per accounting period, where the most efficient are large companies which turnover its inventory over 8 times. Companies on average pay its account payables 5 times per accounting period. By using account receivables turnover, inventory turnover and account payable turnover, cash gap can be calculated. On average companies in Croatia has cash gap of 68 days. The most effective are medium-sized companies with 58 days, and the less effective are small companies with 96 days of cash gap. That means that small companies have to ensure additional sources of financing for 96 day due to existing gap.

Table 4.: Levene's Test for Homogeneity of Variances according to the size of a company

	MS EFFECT	MS ERROR	F-ratio	p-value	Degrees of freedom	Observed power (Alpha = 0,05)
Cash ratio	0,000324	0,000256	1,264436	0,283259	2, 524	0,057608
Quick ratio	0,024136	0,072125	0,334637	0,715713	2, 699	0,940237
Current ratio	0,412813	0,167657	2,462241	0,085996	2, 687	0,955998
Financial stability coefficient	**0,792256**	**0,142076**	**5,576284**	**0,003945**	**2, 750**	**1,000000**
Debt-to-assets ratio	**0,776719**	**0,041821**	**18,57263**	**0,000000**	**2, 754**	**0,546761**
Equity-to-assets ratio	**0,638090**	**0,047097**	**13,54841**	**0,000002**	**2, 761**	**0,407024**
Debt-to-equity ratio	**3,174578**	**0,669734**	**4,740058**	**0,009116**	**2, 525**	**0,999977**
Interest Coverage Ratio	1,823538	1,383975	1,317609	0,268877	2, 421	0,078352
Indebtedness Factor	20,59270	6,885914	2,990555	0,051049	2, 570	0,996845
Degree of Coverage I	**0,906702**	**0,149537**	**6,063412**	**0,002484**	**2, 552**	**0,608294**
Degree of Coverage II	**0,648097**	**0,108999**	**5,945900**	**0,002814**	**2, 478**	**0,631447**
Total assets turnover	**2,914545**	**0,168917**	**17,25426**	**0,000000**	**2, 755**	**0,604090**
Current assets turnover	**4,342687**	**0,436277**	**9,953978**	**0,000054**	**2, 723**	**1,000000**
Receivables turnover	**15,46542**	**1,672321**	**9,247875**	**0,000110**	**2, 643**	**0,999999**
Accounts Receivable turnover	1,216599	2,700736	0,450469	0,637578	2, 519	0,999749
Inventory turnover	7,089873	6,702394	1,057812	0,348133	2, 422	0,999910
Accounts Payable turnover	**44,11200**	**3,880282**	**11,36825**	**0,000015**	**2, 544**	**0,999013**

Source: Author's calculation by using StatSoft Statistica 12.

The analysis of statistical power, which shows "the probability that a statistical test will identify a treatment's effect if it actually exists" (Hair, Black, et al., Multivariate Data Analysis, A Global Perspective, 2010: 463), shows that majority of variables has adequate, or near adequate statistical power, except for the cash ratio for which statistical power is only sufficient (Table 4.). The statistical power is considered as sufficient if its value is above 0,50 or it is adequate in case when its value is over 0,80.

From the aspect of the size of a company a total of seven analysed variables meet the assumption of homogeneity of variance, including: cash ratio, quick ratio, current ratio, interest coverage ratio, indebtedness factor, accounts receivable turnover ratio, inventory turnover ratio. Seven individual financial ratios, taking into account the size of a company, for which homogeneity of variances has been met, has *p-value* greater than given significance level. Nevertheless, two of seven analysed variables where the assumption of homogeneity of variance is met, doesn't have sufficient statistical power of 0,50 (cash ratio and interest coverage ratio). Considering the fact that statistical power is not condition for using parametric tests, conclusions will take into account that factor. For the remaining variables, statistical power is adequate and its over 0,80. To ensure and verify results of the research obtained by using parametric statistics, non-parametric statistics is also used. Analysis of variances is used for seven variables that have met assumption of homogeneity of variances. For the same variables, non-parametric *Kruskal-Wallis* test is used, in order to expand results and compare conclusions.

For variables with high statistical power, statistically significant differences related to the size of a company are found. In case where statistical power is low, statistically significant differences are not identified. It is important to emphasise that parametric and non-parametric statistics results give the same conclusions, except for cash ratio where differences are not found.

The greatest number of ratios used for evaluating financial position revealed statistically significant differences in relation to the size of a company. These statistically significant differences were not found for the cash ratio and the interest coverage ratio.

Table 5.: Existance of statisticaly significant differences of financial ratios for evaluating financial position in relation to the size of a company

Financial ratios	Degrees of freedom	Observed power (Alpha=0,05)	A-NOVA	Kruskal-Wallis ANOVA
Cash ratio	2, 524	0,057608	no differences	differences
Quick ratio	2, 699	0,940237	differences	differences
Current ratio	2, 687	0,955998	differences	differences
Interest Coverage Ratio	2, 421	0,078352	no differences	no differences
Indebtedness Factor	2, 570	0,996845	differences	differences
Accounts Receivable turnover	2, 519	0,999749	differences	differences
Inventory turnover	2, 422	0,999910	differences	differences

Source: Author's calculation by using StatSoft Statistica 12.

Financial ratios where differences are not found are those for which the observed statistical power is 0,058 and 0,078 according to what likelihood to detect existence of potential statistically significant differences related to the size of a company, is at the level of 5,8% and 7,8%, which is very low (Table 5.). Remaining financial ratios, with detected statistically significant differences (quick ratio, current ratio, indebtedness factor, account receivables turnover ratio and inventory turnover ratio), have statistical power in range of 0,94 and 0,99, what is more than adequate, respecting what, it can be concluded that obtained results are representative. Considering all stated, it can be concluded that individual financial ratios for evaluating financial position, for Croatian companies that prepared and enclosed their annual financial statements for year 2012, are statistically significant different taking into account the size of a company, and by that, the research hypothesis can be accepted.

6. CONCLUSION

Financial statements analysis includes methods of using different items from annual financial statements for creating information for decision-making purposes. For evaluating business quality by using financial statements analysis it is important to take into account factors that have influence to the values of the financial ratios. Some of those factors are environment conditions and geographical area, competitive advantages, industry affiliation, and the size of a company. The conducted research isolates the size of a company as differentiation factor for evaluating financial position by using liquidity, solvency and activity financial ratios. Results obtained by the research shows existence of statistically significant differences of financial ratios for evaluating financial position related to the size of a company. As a result of the research, stakeholder should respect specifics of companies, like the size, within financial position evaluation and decision-making process.

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APPENDIX1: Individual financial ratios used in the research

Financial ratio	Numerator	Denominator
Cash Ratio	Cash	Current Liabilities
Quick ratio	Current Assets - Inventory	Current Liabilities
Current ratio	Current Assets	Current Liabilities
Financial stability coefficient	Fixed Assets	Shareholders' Equity + Long Term Liabilities
Debt-to-assets ratio	Total Liabilities	Total Assets
Debt-to-equity ratio	Shareholders' Equity	Total Assets
Debt-to-capital ratio	Total Liabilities	Shareholders' Equity
Interest Coverage Ratio	Gross income + Financial Expenses	Financial Expenses
Indebtedness Factor	Total Liabilities	Retained earnings + Depreciation and Amortization
Degree of Coverage I	Shareholders' Equity	Fixed Assets
Degree of Coverage II	Shareholders' Equity + Long Term Liabilities	Fixed Assets
Total assets turnover	Total revenues	Total Assets
Current assets turnover	Total revenues	Current Assets
Receivables turnover	Sales (revenue)	Receivables
Accounts Receivable turnover	Sales (revenue)	Accounts Receivable
Inventory turnover	Expenses from Operations	Inventory
Accounts Payable turnover	Expenses from Operations	Accounts Payable

Source: (Žager L., Sever, Analiza financijskih izvještaja pomoću financijskih pokazatelja 2009).

IMPACT OF FOREIGN DIRECT INVESTMENT (FDI) ON DOMESTIC INVESTMENT IN REPUBLIC OF CROATIA

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ABSTRACT

The aim of this paper is to investigate how foreign direct investment (FDI) affects domestic investment in the Republic of Croatia. More precisely, the general purpose of this study is to determine the impact of net inflow of foreign capital on domestic investment in order to gain a clearer picture about the sensitivity and efficiency of domestic investment. After parsing domestic investment and FDI in Croatia, according to Croatian Bureau of Statistics and the Croatian National Bank, a historical overview of their movement from 1995 to 2014 was analyzed. In the following an overview and comparison of studies from around the world which deal with similar topic was made. In the empirical part; domestic gross fixed capital formation, changes in domestic stocks, net FDI and GDP growth rate was used as variables. Quarterly time series data ranging from the Q1 2001 to Q4 2014 were processed with the subset VAR (vector autoregressive) econometric model. The results shows that FDI have negative influence on domestic investment in the Republic of Croatia with time lag.

Keywords:
foreign direct investment; gross investment; crowding out/in effect; subset VAR; investment efficiency

1. INTRODUCTION

As present times are marked by the aftermaths of the global economic crisis from 2007/08, affected countries are seeking to find way out recession. In order neutralize the negative effects that crisis has caused they look for the most appropriate and the most optimal economic growth policy. To achieve this goal these countries (including Republic of Croatia) should focus on the determinants of economic growth that could be affected in relatively short time period. Todaro and Smith (2012)[1] state that the components of economic growth of primary importance in a country are:

- capital accumulation (which include all new investments),
- population growth and
- technological progress.

Population growth and technological progress can not be affected in a relatively short time period while accumulation of capital and investments can. Taking it into consideration it is evident that investments could be the key to the way out of country's recession. Furthermore, investments in one country may be domestic and foreign. Due to existence of multinational companies together with the effects of globalization, investments that cross the boundaries of countries are increasingly common case (e.g. according to Hecksher-Ohlin theory and corresponding theorems of international exchange, the difference in price of production factors can cause the off shoring of production factors from one country to another (Babić, Pufnik, Stručka, 2001)[2]). Size and importance of such investments cannot be overlooked because they can reach significant percentages of GDP in some countries. Investments coming from abroad in a particular country can be grouped into three main groups, namely: portfolio investments, foreign direct investments (FDI) and other investments, which include loans and borrowings (Sisek, 2005)[3]. The share of portfolio investments is less than 10% of the total value of companies in which is invested, and they are used mainly for profit to investors with no aspirations for management of companies. Next two, FDI and other investments suggest investing in new facilities/activities (such as greenfield investment) or taking over and connecting foreign with local companies (among them are brownfield investment). Motives of foreign companies for FDI in a country may be different like exploitation of natural resources, concurring new markets, improving production efficiency and strategically motivated investments (Sisek, 2005).

1 Michael P. Todaro and Stephen C. Smith, Economic development, 11th edition, (United States of America, Addison Wesley, 2012: 140).

2 Ante Babić, Andreja Pufnik and Tihomir Stučka, "The theory and reality of FDI in the world and in transition countries with special reference to Croatia," Review of Croatian national bank 9 (2001: 2).

3 Boris Sisek, "Foreign direct investment in Croatia - Causes of failure," Proceedings of the Faculty of Economics in Zagreb 3 (2005: 90).

Accordingly, the analysis and understanding how internal and external factors affects the investments are extremely valuable in shaping policies of economic growth in any country. Since Republic of Croatia is a small, open and export-oriented economy with a long-term external imbalances with high sensitivity to external influences, studying the impact of FDI as external factor on domestic investment as a factor of economic growth can have several benefits. Correspondingly, focus of this study will be the impact of foreign direct investments (FDI) on domestic investment in the Republic of Croatia. The impact of FDI on investment can be positive, neutral or negative. Positive impact will occur if invested FDI increases total investment for sum is greater than FDI themselves. If invested FDI increases total investment exactly for the height of its amount neutral effect will occur. Finally, if the domestic investment decreases regardless the FDI inflow a negative effect will occur. With the advent of negative effect of FDI on domestic investment Crowding out effect occurs. Conversely, with the advent of positive effect of FDI on domestic investment Crowding in effect occurs.

There are numerous studies that deal with the relationship of FDI and investment, and these articles often analyze more countries or regions together and perform comparison, classification, panel analysis etc. Accordingly, there are studies that analyze the situation in Croatia comparing it with other countries, mostly from the region (countries in southeast Europe, countries in transiton or Balkan countries). A part of aforementioned referent studies is analyzed in the third chapter of this Article. Also, there are several studies that study or FDI or investments in Croatia, but there are few studies dealing with the influence of FDI on domestic investment in Croatia. In the next chapter historical analysis of FDI and domestic investment in Croatia can be found.

2. DOMESTIC INVESTMENT AND FOREIGN DIRECT INVESTMENT (FDI) IN CROATIA

In Croatia according to the methodology of Croatian bureau of statistics (CBS) gross investment as part of GDP i.e. domestic investment[4] consists of gross fixed capital formation and changes in stocks[5] as shown in equation (1). Gross fixed capital formation consists of investments into new fixed capital formation, costs of transactions of existing fixed assets and additions to the value of non-produced assets. Changes in stocks are calculated for working-progress and finished goods, stocks of commercial goods in stores, and stocks of raw material, spare parts, etc.

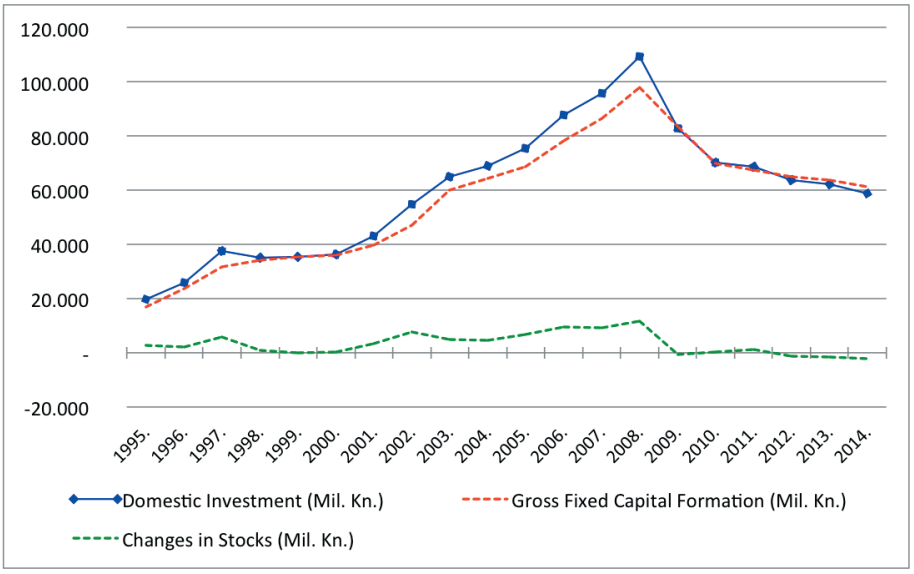
$$Domestic\ investment = Gross\ fixed\ capital\ formation + Changes\ in\ stocks \quad (1)$$

4 Different authors domestic investment appoint as Gross capital formation, Private investment, Gross investment, Gross domestic investment etc. In further writing domestic investment term will be used.

5 Croatian bureau of statistics, Statistical Yearbook of the Republic of Croatia (2014: 210).

On Figure 1. annual movement of domestic investment in Croatia from 1995 to 2014 is shown. The graph shows how Gross fixed capital formation makes the most of domestic investment (over 90%). It is also evident that domestic investment have a constant trend of growth from 1995 to 2008 and that during those 13 years domestic investment grew about 5 times. After the global economic crisis in 2007 domestic investment have downward trend during the six years from 2008 to 2014 and they have fallen about 40%.

Figure 1.: Domestic investment in Croatia



Source: Author's calculation from Croatian bureau of statistics (CBS).

As already mentioned above in theory, investment is one important component of economic growth. In order to assess whether the investments precisely should be encouraged to achieve desired economic growth, it is good to further analyze existing investments in the country to get more clearer picture of them and their "behavior". One common method of measuring Investment efficiency in the is variable known as ICOR (Incremental Capital-Output Ratio) that came from Harrod-Domar's growth model (Lovrinčević, Mikulić, Marić, 2004)[6]. According to the Harrod-Domar's model, growth rate of each economy is the relationship between savings rate and capital coefficient where ICOR is equal to the capital coefficient. ICOR is by definition, the relationship between investment rate (the share of investment in GDP) and growth rate of real GDP (Lovrinčević, Mikulić, Marić, 2004), as shown in equation (2).

6 Željko Lovrinčević, Davor Mikulić and Zdravko Marić, "Investment efficiency and FDI - Old story, new circumstances," Economic Review, 55 (2004: 5).

$$ICOR = \frac{\text{Gross fixed capital formation as percentage of GDP}}{Growth\ rate\ of\ real\ GDP} \quad (2)$$

It should be noted that an important flaw of ICOR concept is that it does not allow interpretation of investment efficiency in the case of negative real GDP growth rates. For the analysis of investment efficiency in countries with negative real GDP growth rates the average value of ICOR for a longer time period is defined. In the research from 2004 Lovrinčević et.al have calculated for Croatia among other countries in the period from 1994 to 2002 that the average ICOR value was 4.9. Since this paper examines the impact of FDI on domestic investment in Croatia from 2001 to 2014 the average ICOR value of 14.2 for the same period is calculated. ICOR values for Croatia are shown in Table 1. Since lower ICOR value means that the investments are more efficient and vice versa, and taking into account only ICOR indicator it can be concluded that investment in Croatia were more efficient from 1994 to 2002 than from 2001 to 2014.

Table 1: Average real GDP growth rates, average share of investment as percentage of GDP and ICOR in Croatia

Republic of Croatia	1994 - 2002	2001 - 2014
Average real GDP growth rates	4.3	1.6
Average share of of investment as percentage of GDP	21.2	22.2
ICOR	4.9	14.2

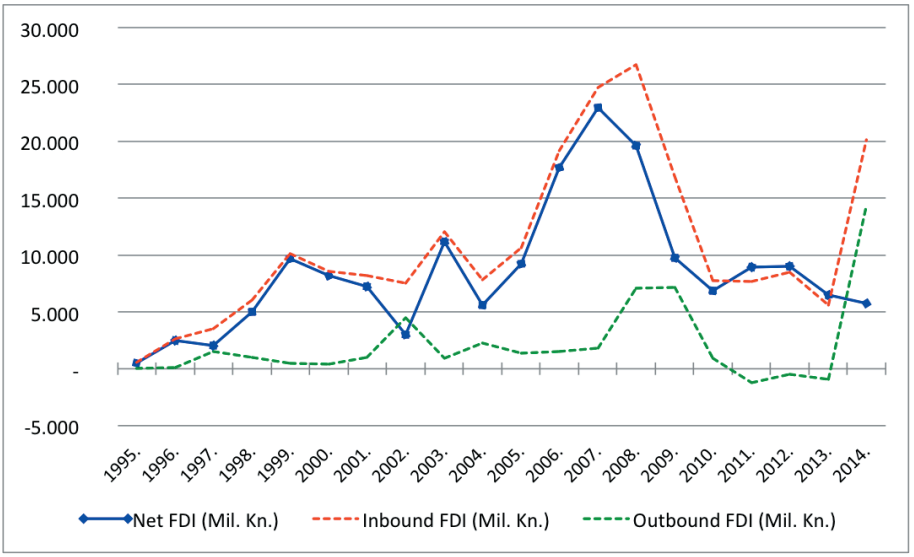
Source: Lovrinčević et.al (2004): 8, and author's calculation.

Foreign direct investment (FDI) were often used in the theoretical and empirical work of economists after World War II, and especially after the large growth of international financial flows occurred between the 1980's and 1990's (Babić, Pufnik, Stručka, 2001). When residents of foreign countries are investing in domestic country such investments are known as inbound FDI. In cases where domestic residents are investing in foreign countries such investments are known as outbound FDI. Finally, difference of inbound and outbound FDI gives net FDI as shown in equation (3). Net FDI shows exactly how much net capital has entered in the country.

$$Net\ FDI = \text{Inbound } FDI - \text{Outbound } FDI \quad (3)$$

Croatia after its independence in 1991 was affected by the civil war that ended in 1995 and it is logical that in this period was not attractive to foreign investors due to high risk. Evidence for this fact is visible in Figure 2. where FDI in Croatia are shown in the period from 1995 to 2014. The graph shows that FDI grew with fluctuations from 1995 to 2008 and after the global crisis they have sharply dropped by over 60%. In 2014 a significant increase of inbound and outbound FDI is evident.

Figure 2.: Foreign direct investment (FDI) in Croatia

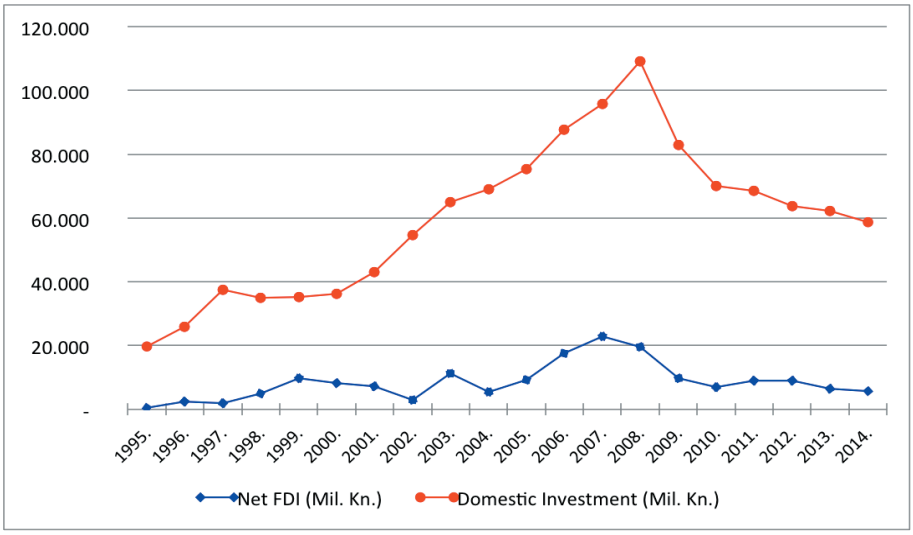


Source: Author's calculation from Croatian national bank (CNB).

Since FDI in global economy are the most important form of international business activity (Derado, 2013)[7] and investment is a key factor of economic development, analysis of the impact of FDI on domestic investment is theoretically justified. If we compare the net FDI and domestic investment from 1995 to 2014 in Croatia as shown in the Figure 3. it can be seen that FDI amounted to an average of 13.6% of domestic investment in that period and that their trends are going in similar directions. Since the size of FDI reaches just over a tenth of domestic investment, it is expected that FDI do not have strong and significant impact on domestic investment in Croatia. In order to gain a clearer insight into the relation of FDI and investment a comparative analysis of studies that deal with similar topics is made in the next chapter.

7 Dražen Derado, "Determinants of Foreign direct investment in transition economies and evaluation of their potential in Croatia," Institute for Public Finance, Selected translations ISSN 1847-7445 No. 17/13 (2013: 1).

Figure 3.: Net FDI and domestic investment in Croatia



Source: Author's calculation from Croatian national bank (CNB) and Croatian bureau of statistics (CBS).

3. COMPARATIVE ANALYSIS OF STUDIES THAT DEAL WITH THE SAME TOPIC

In third section of this paper comparative analysis of papers from around the world that deal with the influence of FDI on domestic investment are presented. The review will begin with a paper of Agosin and Mayer[8] from 2000 where they assesses the extent to which foreign direct investment in developing countries crowds in or crowds out domestic investment. They have developed a theoretical model of investment which is run for three developing regions (Africa, Asia and Latin America) and they have test it with panel data for the period 1970-1996 and the two subperiods 1976-1985 and 1986-1996. They have included variables such as FDI to GDP ratio, investment to GDP ratio and growth of GDP in this model. The results indicate that in Asia - but less so in Africa - there has been strong crowding in of domestic investment by FDI; by contrast, strong crowding out has been the norm in Latin America. They have generally concluded that the effects of FDI on domestic investment are by no means always favourable and that simplistic policies toward FDI are unlikely to be optimal. The main conclusion that emerges from this analysis is that the positive impacts of FDI on domestic investment are not assured.

For group of 25 transition countries in Central and eastern Europe excluding Bosnia and Herzegovina and FR Yugoslavia in 2001 Krkoska[9] was looking for rela-

8 Manuel R. Agosin and Ricardo Mayer, "FOREIGN INVESTMENT IN DEVELOPING COUNTRIES, Does it Crowd in Domestic Investment?" UNCTAD/OSG/DP/146 (2000: 1-20).

9 Krkoska Libor, Foreign direct investment financing of capital formation in central and eastern Europe. (London: European Bank for Reconstruction and Development, Working paper No. 67, 2001: 1-19).

tion between Foreign direct investment (FDI) and Gross fixed capital formation with other sources of capital formation as well. In his research he applied Zellner's Seemingly Unrelated Regression (SUR) method as a system of two simultaneous equations for 1989 - 2000 period using annual data. Variables he used were Gross fixed capital formation, Retained earnings, Domestic credit, State subsidies, Capital market financing, Foreign credit, Foreign direct investment (FDI), Privatisation revenues, Real interest rate, Stock market liquidity, Accession dummy, Natural resources dummy and EBRD transition indicator. The results showed that FDI, domestic credit and local capital markets are all important financing sources for capital formation, with FDI having a greater impact than domestic credit and capital market financing.

In 2005 Lovrinčević et.al[10] investigated how foreign capital inflow affect national savings, domestic investments and balance of payments of countries in transition in central and eastern Europe. They made analysis of panel data for 11 countries in transition. Annual data were included in the panel from 1993 to 2002. The variables used in analysis where domestic investment, national savings, total gross inflow of foreign capital, gross FDI inflows, gross inflow of foreign portfolio investment, gross inflow of other foreign investment (foreign loans) and real GDP growth. Taken as a whole, inflow of foreign capital in the transition countries have had the effect of encouraging ("crowding-in effect") of domestic investment. FDI proved to be also significant in explaining domestic investment activity in transition countries, but lower intensity and less significance than others.

Within the Working paper of the European Central Bank Mileva[11] in 2008 published its research that studies the effect of FDI, foreign loans and portfolio flows on domestic investment in Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia (FYR), Poland, Slovak Republic, Romania, Albania, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Ukraine and Uzbekiistan. For the period 1995 - 2005 annual data were incorporated in static and dynamic panel techniques to assess mentioned relation. Empirical results have shown that FDI flows have caused small investment spillover effect in economies which have completed the transition process or are in final stages. In ten CIS countries and Albania FDI have crowded in domestic investment.

Selvanathan and Tang[12] have investigated the causal link between FDI, Domestic Investment, and Economic Growth in China. In 2008 they have included quarterly time-series data for above mentioned variables in the period from 1988 to 2003

10 Željko Lovrinčević, Davor Mikulić and Zdravko Marić, "Foreign capital inflow - Influence on national savings, domestic investments and balance of payments of countries in transition in central and eastern Europe," Ekonomski pregled, 56 (3-4) (2005: 163-184).

11 Mileva Elitza. THE IMPACT OF CAPITAL FLOWS ON DOMESTIC INVESTMENT IN TRANSITION ECONOMIES. (Frankfurt am Main, European Central bank, Working paper No. 871, 2008: 1-32).

12 Tang Sumei, E.A.Selvanathan, S. Selvanathan, "Foreign Direct Investment, Domestic Investment, and Economic Growth in China," United Nations - WIDER Research paper No. 2008/19 (2008: 1-15).

in multivariate VAR system with error correction model (ECM). The results show that there is a single-directional causality from FDI to domestic investment and to economic growth. Rather than crowding out domestic investment, FDI is found to be complementary with domestic investment. Thus, FDI has not only assisted in overcoming shortage of capital, it has also stimulated economic growth through complementing domestic investment in China.

Linkages between FDI, Domestic investment and Economic growth have been examined in Malaysia by Lean and Tan[13] in 2010. These three variables are cointegrated in the long-run in this study. Annual time series data over a forty year period from 1970 to 2009 were used and Vector autoregressive (VAR) model is estimated. The empirical results of this study are showing that an increase of FDI will bring positive impact to the domestic investment. In other words, FDI crowds in domestic investment and there appears complementary effect from FDI to domestic investment.

Direct and indirect impact of FDI on domestic investment in India are studied in 2010 by Prasanna[14]. Prasanna covered 16 year period from 1991-92 to 2006-07 and he included variables inflow of FDI, real GDP, real GDP growth rate, and gross domestic investment into UNCTAD (1999a) multiple determination model with lags. This study finds that the direct impact of FDI inflows on domestic investment in India is positive but the indirect impact is 'neutral' on the domestic investment in the long run. The study finds no evidence that the increase in domestic investment due to FDI inflows is greater than the amount of the FDI inflows in India.

Bayraktar and Yalta[15] in 2011 sought to provide evidence on the dynamic interactions among FDI, private domestic investment and public domestic investment in Turkey. They investigated period from 1970 to 2009 using annual data incorporated into multivariate VAR framework. Their findings indicate that there is no long-run relationship between FDI, public investment and private investment, indicating the poor contribution of FDI to the Turkish investment path. The lack of interaction between FDI and domestic investment, which impedes the contribution of FDI to economic growth from capital accumulation channel, questions the benefits of FDI.

Possible effects of FDI on a recipient economy are studied in 2011 by Jurcic[16] et.al. The paper analyzes FDI inflows and effects in three selected countries, namely Croa-

13 Hooi Hooi Lean and Bee Wah Tan. "Linkages between Foreign direct investment, Domestic investment and Economic growth in Malaysia," Persidangan Kebangsaan Ekonomi Malaysia ke V (PERKEM V) (2010: 48-57).

14 N. Prasanna, "Direct and Indirect Impact of Foreign Direct Investment (FDI) on Domestic Investment (DI) in India," J Economics, 1(2) (2010: 77-83).

15 Saglam B. Bayraktar, Yalta A. Yasemin, "Dynamic linkages among Foreign direct investment, Public investment and Private investment: Evidence from Turkey," Applied Econometrics and International Development Vol. 11-2 (2011: 71-82).

16 Ljubo Jurčić, Vlatka Bilas and Sanja Franc, "The effects of FDI on the recipient country," The 5th International Scientific Conference "Entrepreneurship and Macroeconomic Management: Reflections on the World in Turmoil" (2011: 1).

tia, Hungary and Ireland. The starting hypothesis is that initially positive FDI effects in fact turn into negative effects in the long run. Annual data from 1992 to 2009 are used and the FDI effects are analyzed in three phases: (1) the inflow of FDI, (2) the use of reinvested earnings, which both have positive effects, and (3) transferring earnings and sometimes even capital from the recipient country which has negative effect on the balance of payment and lowers gross national product. The common feature of all three economies is that they have received large amounts of FDI at certain periods of time and experienced positive effects from those inflows in the short term. In the long run, large inflows of FDI were not sustained and positive effects failed to materialize.

Next study from 2012 which was made by Hider[17] tries to find out the relationship of FDI and domestic investment in Pakistan. FDI, financial market development and GDP growth rate are taken as independent variables and domestic investment as independent variable in the ARDL model. ARDL cointegration technique and its error correction model are applied to check the long run and short run relationships. Annual data has been taken in the period from 1972 to 2010. The results show that the long run and short run relationships exist in the model. FDI, financial market development and economic growth have the positive and significant impact on the domestic investment. So, results prove that FDI has complementary effect on the domestic investment in Pakistan. Financial market development and economic growth play a positive role in enhancing the domestic investment.

Business Start-up Regulations and the complementarity between Foreign and Domestic Investment have been investigated by Munemo[18] in 2014. He took data about domestic investment, FDI, foreign ownership, cost of business start up, days to start a business, rule of law, inflation rate, GDP growth, price of investment, real GDP per capita and total population in 138 world countries. The model he used is estimated with the Arellano-Bond dynamic Generalized Method of Moments (GMM) two-step panel estimator using annual data over the full sample period (2000 to 2010). Results obtained from different model specifications show that lowering the cost of entry regulation increases the positive impact of FDI on total domestic investment. The results also indicate that FDI crowds out domestic investment in countries with entry regulation above a certain level (mostly poor countries). The central contribution of this paper is its examination of business entry regulations and how they impact the relationship between FDI and domestic investment.

The answer to the question does FDI crowd in or out domestic investment sought Kamaly[19] in 2014. He studied 16 emerging countries over a 30-year period from 1978 to 2010, taking the FDI and domestic investment as variables. He

17 Mahmood Haider, "Foreign Direct Investment-Domestic Investment Nexus in Pakistan," Middle-East Journal of Scientific Research 11 (2012: 1500-1507).

18 Jonathan Munemo, "Business Start-up Regulations and the Complementarity between Foreign and Domestic Investment," Perdue School of Business, Salisbury University (2014: 1-25).

19 Ahmed Kamaly, "Does FDI Crowd in or out Domestic Investment? New Evidence from Emerging Economies," Modern Economy, 5, Published Online in SciRes (2014: 391-400).

grouped all individual country regression in one system of equations as well. This system of equations is estimated using 2SLS panel data models. Estimation results have shown that the effect of FDI on domestic investment is country specific. In most countries, on impact, FDI has a positive and significant effect on domestic investment. Taking the total or the long-term effect of FDI on domestic investment, there is evidence that in most of the countries included in the sample, FDI has a neutral effect on domestic investment where there is a one-to-one relationship between FDI and total investment. Crowding in or crowding out effect of FDI on domestic investment is only found in few countries. This indicates that the rule is the neutrality of FDI on domestic investment and the exception is otherwise (whether crowding in or out).

(1) Positive impact of FDI on domestic investment can be found in research of Krkoska for 25 transition countries in Central and eastern Europe; in Lovrinčević et.al research for 11 European countries; in Mileva's research for 25 European an CIS countries; Tang's research for China; Lean and Tan's research for Malaysia; Bayraktar research for Turkey; and Hider's research for Pakistan.

(2) Neutral impact of FDI on domestic investment can be found in research of Prasanna for India; and in reseach of Kamaly for 16 emerging countries.

(3) Negative impact of FDI on domestic investment can be found in Agosin and Mayer's research for three developing regions; Jurčić et.al research for Croatia, Hungary and Ireland; and in Munem's research for 138 world countries.

4. DATA, MODEL SPECIFICATIONS AND METHODS

This paper primarily analyzes the possible effects of net FDI on the domestic investment in Croatia. Accordingly, the main goal of this section is to investigate the effects of real net FDI as percentage of real GDP changes on real domestic gross fixed capital formation as percentage of real GDP and real domestic changes in stocks as percentage of real GDP. For this purpose a subset VAR (vector autoregressive) model is estimated. Before defining the subset VAR model, a brief analysis of the time series included in the model was made. Data of four variables are observed on a quarterly basis from March 2001 till December 2014. Time series data span from 2001 because the Croatian national bank has no published quarterly data for the FDI in previous years. All data are seasonally adjusted using Arima - X12 method. Data are retrieved from the Croatian Bureau of Statistics (CBS)[20] official website and the Croatian National Bank's (CNB)[21] official website. Variables used in subset

20 "Regular Publications," Republic of Croatia - Croatian Bureau of Statistics (CBS), accesed March 15, 2015, http://www.dzs.hr.

21 "Statistical survey," Croatian national bank, accesed March 15, 2015, http://www.hnb.hr/statistika/statisticki_pregled/h17.xlsx.

VAR model are:

(1) Real domestic Gross fixed capital formation as percentage of real GDP, (RINV_FK)

(2) Real domestic changes in Stocks as percentage of real GDP, (RINV_ZAL)

(3) Real GDP Growth Rate, (RGDPGR) and

(4) Real (net) FDI as percentage of real GDP, (RFDI_RGDP).

Before defining the subset VAR model it is necessary to examine the degree of integration of time series since it is known that models with non-stationary series can lead to wrong conclusions and problems. To do so, the Augmented Dickey-Fuller (ADF) test, Phillips-Perron (PP) test and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) stationarity test are performed. In Table (2., 3. and 4.) results of all three unit root tests are presented.

Table 2.: Augmented Dickey-Fuller (ADF) stationarity test results

In level				
	Constant		Constant and trend	
Variable	Test statistic	p-value	Test statistic	p-value
RINV_FK	-1.80797	0.3771	-2.35976	0.4009
RINV_ZAL	-0.71562	0.8411	-2.24908	0.4615
RGDPGR	-1.66382	0.4498	-2.39252	0.3834
RFDI_RGDP	-1.54305	0.5118	-1.75029	0.7288
First difference				
	Constant		Constant and trend	
Variable	Test statistic	p-value	Test statistic	p-value
RINV_FK	-2.03046	0.2738	-2.43037	0.3636
RINV_ZAL	-8.37524	0.00000	-8.315	0.00000
RGDPGR	-4.74185	0.00006	-4.69192	0.00067
RFDI_RGDP	-2.85608	0.05067	-2.87595	0.1704

Source: Author's calculation.

Table 3.: Phillips-Perron (PP) stationarity test results

In level				
	Constant		Constant and trend	
Variable	Test statistic	p-value	Test statistic	p-value
RINV_FK	-1.75658	0.3977	-1.72944	0.7244
RINV_ZAL	-4.1506	0.0018	-5.71753	0.0001
RGDPGR	-1.79597	0.3786	-2.6996	0.241
RFDI_RGDP	-1.57855	0.4865	-1.69997	0.7377
First difference				
	Constant		Constant and trend	
Variable	Test statistic	p-value	Test statistic	p-value
RINV_FK	-5.56941	0.00000	-6.07366	0.00000
RINV_ZAL	-12.4336	0.00000	-12.2338	0.00000
RGDPGR	-7.61099	0.00000	-7.53531	0.00000
RFDI_RGDP	-5.30169	0.00000	-5.30288	0.0003

Source: Author's calculation.

Table 4.: Kwiatkowski-Phillips-Schmidt-Shin (KPSS) stationarity test results

In level								
	Constant				Constant and trend			
Variable	Test statistic	1%	5%	10%	Test statistic	1%	5%	10%
RINV_FK	0.234443	0.726	0.470	0.351	0.232843	0.213	0.149	0.121
RINV_ZAL	0.83928	0.726	0.470	0.351	0.205964	0.213	0.149	0.121
RGDPGR	0.636102	0.726	0.470	0.351	0.086905	0.213	0.149	0.121
RFDI_RGDP	0.655509	0.726	0.470	0.351	0.176249	0.213	0.149	0.121
First difference								
	Constant				Constant and trend			
Variable	Test statistic	1%	5%	10%	Test statistic	1%	5%	10%
RINV_FK	0.454867	0.726	0.470	0.351	0.0834316	0.213	0.149	0.121
RINV_ZAL	0.10182	0.726	0.470	0.351	0.0688409	0.213	0.149	0.121
RGDPGR	0.0701622	0.726	0.470	0.351	0.0686311	0.213	0.149	0.121
RFDI_RGDP	0.11417	0.726	0.470	0.351	0.0554165	0.213	0.149	0.121

Source: Author's calculation.

Given the results two conclusions arise:

(1) the series of (RINV_FK), (RGDPGR) and (RFDI_RGDP) are integrated of order I(1), i.e. their first differences are stationary;

(2) the (RINV_ZAL) is integrated of order I(0), i.e. it is stationary in levels. Variable (RINV_ZAL) was questionable since ADF test using Schwartz criteria has shown that RINV_ZAL is not stationary using constant and constant with trend. PP test has shown that RINV_ZAL is stationary using constant and constant with trend. Furthermore KPSS test has shown that generally RINV_ZAL is not stationary. Visual inspection of variable has shown that RINV_ZAL might be stationary but with a structural brake. Therefore, Perron unit root test for a variable with structural brake is performed. The test indicates that if constant is used variable is stationary while if trend is included then test results shows that RINV_ZAL is not stationary. However, using the constant and trend together the results indicate that RINV_ZAL is stationary. According to all so far mentioned and based on the results of all tests together with visual inspection of variable, it can be concluded that RINV_ZAL is stationary in level which leads to use of the stationary subset VAR model. Therefore, all other variables are differenced once in order to become stationary.

Based on these assumptions a stationary subset VAR model is estimated shown in equation (4):

$$y_t = A_1 y_{t-1} + \cdots + A_p y_{t-p} + \cdots + CD_t + u_t \quad (4)$$

where $y_t = (y_{1t},\ldots,y_{Kt})$ is vector of K exogenous variables, Dt is a vector of deterministic terms (including constant and specified dummy variables), u_t is K-dimensional vector of residuals while A and C are matrices of parameters of the model[22].

The vector of endogenous variables includes differenced variable of real domestic Gross fixed capital formation as percentage of real GDP, real domestic changes in stocks as percentage of real GDP, differenced variable of real GDP Growth Rate, (RGDPGR) and differenced variable of real (net) FDI as percentage of real GDP, while the vector of deterministic variables includes constant and several impulse dummy variables due to structural brakes[23].

Using Top-Down (TD) sequential elimination algorithm which starts from the last regressor in the equation a subset VAR model is estimated. This algorithm checks if deleting the last regressor in the equation improves the criterion value. For this purposes the SC (Schwarz Criteria) criterion is used. If deleted regressor improves the criterion value it is eliminated, otherwise it is maintained. After that step, the second last regressor is checked and so forth. The sequence of this procedure depends on the order of the variables in the model and thereby in the equation. After that, diagnostic tests of the estimated subset VAR model were conducted such as: LM test for autocorrelation, Doornik and Hansen test for non-normality, Lutkepohl test for non-normality, Jarkue-Bera test for non-normality, Arch test and Multivariate Arch test for volatility in the residuals. The results of performed tests suggest that a subset VAR model is evaluated appropriately. All the results of diagnostic tests are

22 The Gretl and JMulTi econometric softwares are used for the multiple time series analysis

23 D1 for Q1/2008, D2 for Q1/2009, D3 for Q3/2002 and D4 for Q2/2005

presented in the Appendix 1. The following is a display of Variance decomposition of forecast errors and impulse response functions.

Variance decomposition of forecast errors

variance decomposition shows the relative share of individual variables in explaining the variation of other variables in future periods (Bahovec, Erjavec, 2009)[24]. In the following text the forecast error variance decomposition is done from estimated subset VAR model (Table 5.).

Table 5.: Orthogonal variance decomposition of forecast errors

Variance decomposition of RINV_FK				
Horizon (quarters)	RINV_FK	RINV_ZAL	RGDP_GR	RFDI_RGDP
2	0.90	0.10	0.00	0.00
4	0.90	0.10	0.00	0.00
6	0.70	0.09	0.04	0.16
8	0.67	0.10	0.04	0.19
10	0.66	0.11	0.05	0.19
Variance decomposition of RINV_ZAL				
Horizon (quarters)	RINV_FK	RINV_ZAL	RGDP_GR	RFDI_RGDP
2	0.00	1.00	0.00	0.00
4	0.00	0.98	0.00	0.02
6	0.00	0.97	0.00	0.03
8	0.00	0.96	0.00	0.04
10	0.00	0.95	0.00	0.05
Variance decomposition of RGDPGR				
Horizon (quarters)	RINV_FK	RINV_ZAL	RGDP_GR	RFDI_RGDP
2	0.00	0.03	0.97	0.00
4	0.14	0.03	0.84	0.00
6	0.14	0.03	0.83	0.00
8	0.14	0.03	0.80	0.03
10	0.14	0.03	0.78	0.05
Variance decomposition of RFDI_RGDP				
Horizon (quarters)	RINV_FK	RINV_ZAL	RGDP_GR	RFDI_RGDP
2	0.05	0.01	0.01	0.94
4	0.07	0.04	0.04	0.85
6	0.08	0.08	0.04	0.80
8	0.08	0.09	0.04	0.79
10	0.08	0.12	0.04	0.76

Source: Author's calculation.

24 Vlasta, Bahovec and Nataša, Erjavec (2009) Introduction to econometric analysis, l. edition (Zagreb: Element 2009: 346 - 351).

Note: Cholesky ordering: dRINV_FK, RINV_ZAL, dRGDP_GR, dRFDI_RGDP, "d" indicates first difference.

The results indicate that FDI has affected the variability of gross fixed capital formation with 0% after first 4 quarters, 16% after 6 quarters, and finally 19% after 10 quarters. GDP growth rate had no significant impact on the variability of Gross fixed capital formation. Changes in stocks have affected the variability of gross fixed capital formation on average 10% through the whole period of 10 quarters.

Gross fixed capital formation, GDP growth rate and FDI had no significant impact on the variability of changes in stocks.

Gross fixed capital formation has affected the variability of GDP growth rate with 0% after 2 quarters and later 14% after 10 quarters. Changes in stocks and FDI had no significant impact on the variability of GDP growth rate.

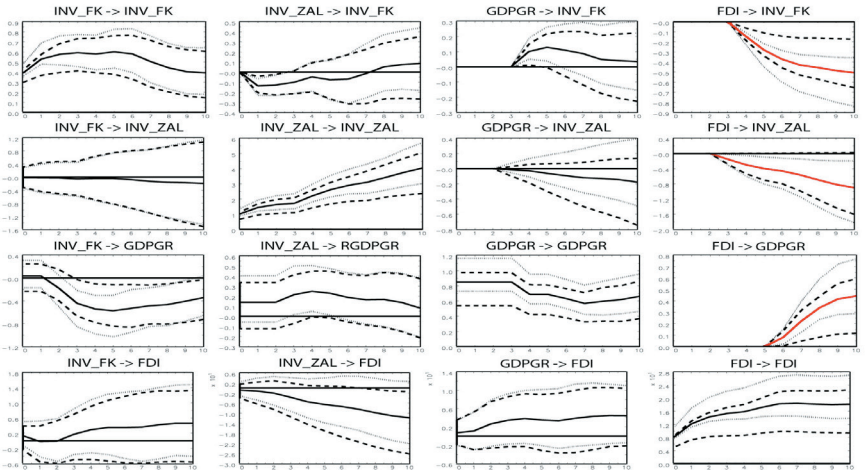
Gross fixed capital formation and GDP growth rate had no significant impact on the variability of FDI. Changes in stocks had no significant impact on the variability of FDI after 8 quarters but after 10 quarters they have affected the variability of FDI with 12%.

Impulse response functions

impulse response test shows the reactions of individual variables to changes in other variables of one standard deviation in the short and long term (Bahovec, Erjavec, 2009)[25]. In the following text the orthogonal impulse responses decomposition are shown (Figure 4.).

Figure 4.: Accumulated subset VAR orthogonal impulse responses with

efron (- - -) and hall (•••) with 95% confidence intervals



Source: Author's calculation

25 Bahovec and Erjavec, Introduction to econometric analysis, (2009: 346 - 351).

Third graph in first row suggests that shock in GDP growth rate will cumulatively affect the increase in gross fixed capital formation where in the first three quarters will have no effect. Fourth graph in first row shows that shock in FDI will cumulatively affect by reducing the gross fixed capital formation where in the first three quarters will have no effect. Third graph in second row shows that shock in GDP growth rate will cumulatively affect by reducing the changes in stocks where in the first two quarters will have no effect. Fourth graph in second row shows that shock in FDI will cumulatively affect by reducing changes in stocks where in the first two quarters will have no effect. Fourth graph in third row shows that shock in FDI will cumulatively affect the increase in GDP growth rate where in the first five quarters will have no effect.

If we look at the impulse responses of shocks of domestic investment (gross fixed capital formation and changes in stocks) on the FDI we obtain the following results. First graph in the fourth row shows that shock in gross fixed capital formation will cumulatively affect the increase in FDI. Second graph in the fourth row shows that shock in changes in stocks will cumulatively affect by reducing the FDI.

Generally the results of impulse responses correspond to the results of variance decomposition.

It is necessary to emphasize the fact that this analysis does not take into account all the variables that may affect domestic investment, so this model and these conclusion should be taken carefully.

5. CONCLUSION

Croatia is a small, open and export-oriented economy with a long-term external imbalances with high sensitivity to external influences and every major impact of foreign/external factors can have a significant effect on its macroeconomic variables. The objective of this paper is to empirically investigate influence of foreign capital inflow known as net foreign direct investment (FDI) on domestic investment in Republic of Croatia. The analysis showed that FDI size were in average 13.6% of domestic investment from 1995 to 2014. After the performed tests on time series of four variables (FDI, gross fixed capital formation, changes in stocks and GDP growth rate) stationary subset VAR (vector autoregressive) model is selected as the most appropriate for influence assessment. The tests results generally show that the FDI has affected the reduction of domestic investment in the Croatia with time lag, but on the other hand the FDI has affected increase in GDP growth rate with time lag. This study is a good starting point for further and more detailed studies in the future which will over time be more relevant and more precise as time series data will be extended. Taking all into consideration; ICOR coefficient and the results of subset VAR model, we can conclude that the efficiency of domestic investment fell compared to previous years and that FDI leads to a decrease in domestic investment i.e. Crowding-out

effect occurs. Results of this study are consistent with a Agosin and Mayer's; Jurcic et.al; and Munem's studies. This study, as well as most other studies has limitations such as short period of time being studied, a relatively small number of variables and the fact thatVAR model does not include the exogenous variables.

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APPENDIX 1: Model statistics and the results of diagnostic tests

VAR MODEL STATISTICS

Endogenous variables:	d_RINV_FK_d11, RINV_ZAL_d11, d_RGDP_GR_d11, d_RFDI_RGD_d11.
Exogenous variables:	-
Deterministic variables:	d1, d2, d3, d4, CONST
Endogenous lags:	4
Exogenous lags:	0
Sample range:	[2002 Q2, 2014 Q3], T = 50
Log Likelihood:	-3.335847e+02
Determinant (Cov):	7.329306e+00
AIC:	2.991881e+00
FPE:	2.002815e+01
SC:	3.947892e+00
HQ:	3.355936e+00

LM-TYPE TEST FOR AUTOCORRELATION with 4 lags
Reference: Doornik (1996), LM test and LMF test (with F-approximation)

LM statistic:	71.5852
p-value:	0.2407
df:	64.0000

LMF statistic not computed for subset model.

TESTS FOR NONNORMALITY
Reference: Doornik & Hansen (1994)

joint test statistic:	11.8804
p-value:	0.1566
degrees of freedom:	8.0000
skewness only:	10.3198
p-value:	0.0354
kurtosis only:	1.5605
p-value:	0.8159

Reference: Lütkepohl (1993), Introduction to Multiple Time Series Analysis, 2ed, p. 153

joint test statistic:	10.7731
p-value:	0.2149
degrees of freedom:	8.0000
skewness only:	9.2899
p-value:	0.0542

kurtosis only:	1.4832
p-value:	0.8296

JARQUE-BERA TEST

variable	teststat	p-Value(Chi^2)	skewness	kurtosis
u1	3.7395	0.1542	0.6075	2.4354
u2	1.6615	0.4357	0.4398	3.1539
u3	0.5785	0.7488	0.1348	3.4527
u4	5.9501	0.0510	-0.8212	3.3978

ARCH-LM TEST with 4 lags

variable	teststat	p-Value(Chi^2)	F stat	p-Value(F)
u1	4.8248	0.3057	1.3475	0.2688
u2	4.4002	0.3545	1.2164	0.3186
u3	0.6793	0.9539	0.1724	0.9513
u4	1.9726	0.7408	0.5152	0.7249

MULTIVARIATE ARCH-LM TEST with 4 lags

VARCHLM test statistic:	426.4672
p-value(chi^2):	0.1738
Degrees of freedom:	400.0000

THE ROLE OF TECHNOLOGY AND CITIZENS' INVOLVEMENT IN SMART, INCLUSIVE AND SUSTAINABLE URBAN DEVELOPMENT

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ABSTRACT

Human participation and the use of technology are considered as key factors for smart and sustainable urban development. Over the past decade, governments, academic community and organized civil society have been turning their attention to solving urban problems with the new tools of advanced technology. Based on three years of R&D, this paper aims to identify crucial factors for citizens' involvement in development and adoption of smart city services. It will bring out the results of citizens' involvement in the i-SCOPE project and explore why some European communities have succeeded in involving their citizens, and the others have not.

Keywords:
smart city, urban development, technology ,citizen involvement

1. INTRODUCTION

Cities have always been considered as places of socio-economic development and urban culture. Nowadays, more than half of the world's population lives in cities. The world continues to urbanize and by United Nations projections, it is expected that more than 66% of the world's population will live in urban areas by 2050 (United Nations, 2014: 2).

At the present, there are more than 3 billion Internet users in the world, two-thirds of them coming from the developing countries, and the number of mobile-broadband subscribers has already reached 2.3 billion globally (Internet World Stats 2015, International Telecommunication Union 2015). Thanks to mobile devices, citizens have become the real and best sensors for collecting real useful data.

The rapid growth of world's population and continuous advancements in technology indicate to a great potential of ICT to ensure smart, inclusive and sustainable urban development.

In 1990s, the concept of *smart cities* was introduced to signify how urban development was turning towards technology and innovation (Schaffers et al, 2011: 433). Special attention is given to the use of information technology and participatory government to meet the challenges of cities within a global knowledge economy. Cities have to face many challenges, such as growing population, poverty, environment pollution, lack of infrastructure, traffic congestion, increased energy consumption to name but a few. Therefore, there is a great need for sustainable and inclusive development, different understanding of prosperity that goes beyond GDP, and holistic multidisciplinary approach that connects natural and social sciences, as well as science and policy making.

Smart cities are all about collaboration, sharing and transparency. They bring together technology, society and government to enable smart governance, smart economy, smart mobility, smart environment, smart people and smart living (Manville et al, 2014: 28). The crucial roles play ICT infrastructure, open data and technological devices that enable the exchange of millions of messages on a daily basis. But just the ICT solutions and technology advancements cannot make the expected impact on smart and sustainable urban development. The key role plays human capital and the adoption of new, complex technologies. The ageing population, lack of information and social responsibility of local administrations and companies to pave the way towards the better future can lead to a poor citizens' adoption of new technologies and therefore their poor participation in shaping local policies and building smart, inclusive and sustainable urban communities.

This paper consists of six main sections. After the introduction, the second section gives the overview of related work. The third section describes the research framework. It is followed by the explanation of the methodology that has been used in the research and data collection. The fifth section presents the results achieved

during the three years of data collection and identifies crucial factors for citizens' involvement in development and adoption of smart city services. In the last section are presented concluding remarks.

2. RELATED WORK

In the last decade, a number of studies have shown that the use of information technology can enhance the management and functioning of cities. E-government has become widely applied with proponents claiming that it guarantees transparency and better communication between local and national administrations and citizens (Cegarra-Navarro et al, 2011: 469). It also represents one of the first steps in transforming a city into a smart city. The transformation to smarter cities usually requires innovation in planning, management and operations (Nephade et al, 2011: 32).

According to *Nam and Pardo*, making a city smart is a new approach to urban development. The smart city approach is emerging as a way to solve tangled and wicked problems inherited in the rapid urbanization. They consider smart city a contextualized interplay among technological innovation, managerial and organizational innovation, and policy innovation (Nam and Pardo, 2011: 185).

In *Harrison et al*.'s study, smart cities are denoted as instrumented, interconnected and intelligent. Instrumentation enables to capture and integrate near real-time data through the use of sensors, personal devices, smartphones, cameras etc. Interconnection means the integration of those data into an enterprise computing platform and communication of such information among various city services. Intelligent refers to the inclusion of complex analytics, modeling, optimization and visualization in the operational business processes to make better operational decisions (Harrison et al, 2010: 1). This approach enables the adaptation of city services to the citizens' needs and permits the optimal use of the infrastructure and resources, e.g. in assessing and optimizing the energy consumption.

Washburn et al. define smart city as a collection of smart computing technologies applied to critical infrastructure components and services, such as city administration and utilities. Smart computing refers to a new generation of integrated hardware, software and network technologies that provide IT systems with real-time awareness of the real world and advanced analytics to improve decision making and optimize business processes (Washburn et al, 2010: 2).

The integration of ICT with development projects can change the urban landscape of a city and offer a number of potential opportunities, they can enhance the management and functioning of a city (Chourabi et al, 2012: 2291).

It is also important to stress the role of human capital and education in urban development. Smart cities have to have smart people that use the technology and actively participate in shaping urban environment. The smart people concept comprises various factors like affinity to life long learning, social and ethnic plurality,

flexibility, creativity, open-mindedness, and participation in public life (Nam and Pardo, 2011: 287).

All smart city studies have three categories in common: technology, people and institution. Given the connection between them, a city is smart when investments in human capital and IT infrastructure fuel sustainable economic growth and a high quality of life, through participatory governance (Caragliu et al, 2011: 70).

3. RESEARCH FRAMEWORK

i-SCOPE (*Interoperable Smart City services through an Open Platform for urban Ecosystems*) project is a EU-funded project, started in January 2012 with a duration of 44 months. It aims to deploy added-value services (in the field of energy saving, noise pollution and mobility) on the top of 3D representation of the territory, exploiting the geometrical, topological and semantic information that describe urban environment. Smart services address three scenarios: improved inclusion and personal mobility of elderly and diversely-abled citizens, optimization of energy consumption through a service for accurate assessment of solar energy potential and energy loss at building level, and environmental monitoring through a real-time environmental noise mapping service. The smart routing service, accessible from the online platform and 3D mobile client, takes into account detailed urban layout, features and barriers in order to provide orientation and navigation information to pedestrians and diversely-able users on how to reach one destination from another, avoiding diverse architectural barriers on their way. The solar energy service improves energy efficiency and enables users to perform a detailed simulation of each roof's solar energy potential in pilot sites and create energy dispersion maps. The noise mapping service enables citizens to measure noise levels using their smartphones as "noise sensors" and create real-time noise maps that can be used to better understand urban noise pollution and help city administrations in decision and policy making.

The target users of the i-SCOPE project are elderly and diversely-abled citizens needing customized barrier-free routing instructions, city administrations that need to define policies in terms of heat dispersion and solar potential at urban level, professionals who need to have high precision solar potential assessment, city administrations that need to assess noise and create noise maps according to EU Environmental Noise Directive 2002/49/EC, and citizens, who can access real-time data.

The project consortium is composed of 20 European partners, among which research centers, universities, industries and local public administrations, coming from 10 European countries. The consortium has been structured in a way that each city administration works in close relationship with one technology provider. This ensures a strong bond between the final user and those in charge of the deployment of services, as well as better involvement of users in the project activities. Geographi-

cal proximity ensures also better and faster communication that is especially important during the testing phase and user's adoption of the final services.

After three years of project activities, the consortium has successfully developed mobile applications and i-SCOPE platform that enables access to three smart services for nine pilot locations. The services benefit from CityGML urban information model, official OGC Standard. The consortium has also involved public administration in the project, and created exploitation and business plan. A number of citizens living within the pilot partners' municipalities have been involved, but not as much as it was expected. On the other side, a lot of interest in the project outcomes has been gained from communities outside Europe, such as Chicago and Hong Kong.

The i-SCOPE project developed smart city services that should be easily adopted by citizens and significantly improve the quality of life in the pilot locations.

H_1: *The i-SCOPE technology is complex but user-friendly compared to other existing technologies for 3D visualization of a territory currently available on the market*.

The i-SCOPE mobile applications and platform are user-friendly even though behind them stands a development of complex technologies that enable contemporary 3D visualization of a territory. These technologies are developed with the intention to be widely used by citizens, and therefore require simpler codes compared to for example QGIS (Geographic Information System tool in open-source community), that uses complex codes and is designed for professionals. This user-friendliness should help to involve citizens in adoption and use of smart city services developed in the i-SCOPE project.

H_2: *City administrations are interested in deployment of i-SCOPE smart city services and able to bring them closer to the citizens to enhance their involvement in shaping smart and sustainable urban centers.*

Smart city services developed in the i-SCOPE project can bring significant help to city administrations in defining policies in terms of heat dispersion and solar potential, as well as in assessing noise levels to create noise maps according to EU Directive 2002/49/EC. Therefore, it is in their interest to convey citizens towards the use of smart city services, especially to collect real useful data that will help them to create better environment and improve the quality of life inside the boundaries of the area they manage.

4. METHODOLOGY

The project partners have defined the number of users that they want to involve in the project in nine pilot locations: the Municipality of Baia Mare, the Municipality of Indjija, the Municipality of Newcastle, the Municipality of Trento, the Municipality of Vienna, the Municipality of Zagreb, the Lazio region, the Zadar County and the Malta Harbour area. Each location differs in geographical position, size, number of inhabitants, culture, economic development, policies, infrastructure, local administration involvement and interest in certain smart services that will be developed and tested within the project.

Table 1. shows quantitative objectives related to the users' involvement in pilot partners' locations defined at the beginning of the project.

Table 1.: Involvement of users

Location	Citizens affected by the i-SCOPE technology	Experts within city department offices	Professionals (external of city department offices)	Academia
Baia Mare	200	20	20	5
Indjija	50	10	30	20
Lazio	500	20	0	0
Malta	200	20	35	0
Newcastle	120,000	20	50	50
Trento	200	20	0	30
Vienna	50	5	0	0
Zadar	200	10	50	0
Zagreb	1,000	10	-	0
Total	122,400	135	185	105

Source: Research proposal.

The citizens' involvement process is composed of three key phases. In the first phase, the citizens and other relevant actors were provided with the general information about the project. In the second phase, they were provided with the general presentation of the project evolution (initiated and finalized actions, first results). Dialogue with citizens and collecting feedback was enhanced, and citizens were involved in testing and improving the prototypes and products. We are currently in the final phase, where citizens and other relevant actors are provided with the general presentation of the final results and the implementation of the prototypes.

In order to raise awareness and involve citizens, the partners have agreed to undertake a lot of dissemination activities: to give a number of presentations and lectures, organize meetings, workshops, surveys, advertisement campaigns, participate to the conferences, issue press releases, newspaper and magazine articles, online articles, publications (books, leaflets, brochures) and keep the project website and social media channels continuously updated. For each target group have been defined engagement activities and key messages to convey, taking into account the needs addressed and benefits provided through the project (Table 2.).

Table 2.: Target users and engagement activities to address their needs

Target users	Engagement activities	Needs addressed and benefits provided by services
Citizens	Presentations, lectures, meetings, workshops, surveys, advertisement campaigns, press releases, newspaper and magazine articles, online articles, publications, website and social media	Routing service (orientation and navigation information taking into account avoiding architectural barriers on the way), optimization of energy consumption (assessment of roof's solar energy potential, cost-benefit analysis related to installation of solar and photovoltaic panels), noise mapping service (measurement of noise level in the area of interest or when filling a complaint for excessive noise exposure)
Experts within city department offices	Presentations, lectures, meetings, workshops, press releases, newspaper and magazine articles, online articles, publications	Routing service (definition of mobility routes inside the boundaries of the area they manage), assessment of solar energy potential (definition of energy-saving policies and to promote deployment of solar and photovoltaic panels within specific areas of the city), noise mapping service (better understanding of urban noise pollution and creation of noise maps according to EU Directive 2002/49/EC)
Professionals (external of city department offices)	Presentations, lectures, meetings, workshops, newspaper and magazine articles, online articles, publications, website and social media	Assessment of solar energy potential (improvement of energy performance and cost-benefit analysis related to installation of solar and photovoltaic panels)
Academia	Presentations, lectures, meetings, workshops, conferences, newspaper and magazine articles, publications, website and social media	Routing service, optimization of energy consumption and noise mapping service (experts and academics in the mobility, energy efficiency and noise mapping domains can further capitalize on the findings from the project and provide valuable feedback on developed solutions).

Source: Authors.

The set of indicators, together with the expected yearly progress, has been defined to monitor the success of dissemination activities along the project duration (Table 3.).

Table 3.: Definition of inDICATORS and expected results after each year of the project activities

Indicator	Expected results after first year	Expected results after second year	Expected results after third year
Number of training workshops organized by i-SCOPE partners	2	7	12
Number of articles, papers, publications	5	10	15
Number of conferences and events with the i-SCOPE evidence	2	5	6
Number of newsletter subscribers	30	60	120
Number of public presentations performed	10	20	40

Source: Research proposal.

Every six months partners have filled in a questionnaire and made a report on dissemination activities and citizens' involvement. Due to notable discrepancies between planned and achieved results, 18 months after the project has started, the methodology has been changed. It was decided that partners have to send bi-monthly and six-monthly reports to the project management team. It was also decided that more attention should be given to raising citizens' awareness. Thus, pilot partners have agreed to organize at least two events per semester and provide press releases and pictures of events in order to be published on local websites and on the i-SCOPE portal.

5. RESULTS AND DISCUSSION

Citizens' involvement in the i-SCOPE project is an essential strategic element that allows demonstration of the use of the smart services that have been developed during the project. The citizens are one of the most important final users of developed services.

During the three years, the partners have undertaken a number of activities in order to involve citizens, public administration, professionals and academia in development and testing of smart services that could bring meaningful and sustainable change in pilot partners' locations and increase the quality of life. More than a hundred press releases have been issued and a lot of other dissemination activities have been done in this period.

Table 4. shows the results of dissemination activities performed by partners in three years.

Table 4.: The results of dissemination activities after three years

Indicator	Results after first year	Results after second year	Results after third year
Number of training workshops organized by i-SCOPE partners	2 (2)	12 (7)	18 (12)
Number of articles, papers, publications	5 (5)	28 (10)	42 (15)
Number of conferences and events with the i-SCOPE evidence	2 (2)	27 (5)	55 (6)
Number of newsletter subscribers	30 (30)	58 (60)*	61 (120)*
Number of public presentations performed	10 (10)	43 (20)	65 (40)

Note: the expected results defined at the beginning of the project are shown in the parentheses. The * sign marks the negative deviations, i.e. the expected results have not been achieved.

Source: Research results.

The results in Table 4. show that the partners have performed even much more dissemination activities than it was planned at the beginning of the project. Despite a great number of publications, conferences and public presentations, the partners have not succeeded to achieve the expected number of newsletter subscribers that was important for spreading the news about the project and engagement of final users. The reason of this failure lays in the lack of newsletter promotion and complicated procedure for subscribing, i.e. there was no appropriate subscribing form on the project website and no invitation for subscription in newsletters.

Table 5. shows the results of users' involvement in the project for each pilot partner's location after three years of project activities.

Table 5.: The results of users' involvement in the project

Location	Citizens affected by the i-SCOPE technology	Experts within city department offices	Professionals (external of city department offices)	Academia
Baia Mare	200 (200)	20 (20)	20 (20)	5 (5)
Indjija	90 (50)	48 (10)	5 (30)*	20 (20)
Lazio	500 (500)	2 (20)*	50 (0)	0 (0)
Malta	0 (200)*	28 (20)	29 (0)	49 (0)
Newcastle	0 (120,000)*	6 (20)*	3 (35)*	1 (50)*
Trento	100 (200)*	100 (20)	30 (50)*	10 (30)*
Vienna	480 (50)	20 (5)	0 (0)	0 (0)
Zadar	187 (200)*	8 (10)*	4 (0)	0 (0)

Location	Citizens affected by the i-SCOPE technology	Experts within city department offices	Professionals (external of city department offices)	Academia
Zagreb	150 (1,000)*	40 (10)	40 (50)*	20 (0)
Total	1,707 (122,400)*	272 (135)	181 (185)*	105 (105)

Note: the expected results defined at the beginning of the project are shown in the parentheses. The * sign marks the negative deviations, i.e. the expected results have not been achieved.

Source: Research results.

The results in Table 5. show that some partners did not succeed to involve in the project as much users as it was defined at the beginning. The pilot partners in Malta, Newcastle, Trento, Zadar and Zagreb did not involve in the project as much citizens as it was planned. The pilot partners in Lazio, Newcastle and Zadar did not make it to involve enough experts within city department offices, while the pilot partners in Indjija, Newcastle, Trento and Zagreb did not involve in the project a planned number of professionals external of city department offices. The pilot partners in Newcastle and Trento also did not succeed to involve in the project as much members of academia as it was expected.

On a basis of collected data, we wanted to find out why some communities have failed in citizens' involvement. We have gone beyond the numbers and tried to find out the responses. We analyzed all collected reports and relationships between partner in charge on each pilot location and target users. The response was laying in city administration.

The sustainability of the project is connected to the capability of local administrations to convey citizens' interest towards the online platform and smart services, to involve them firstly as users, but also as co-designers of smart solutions. The research results have shown that the majority of local administrations have failed in this task, as they were more concerned about the implementation of the project, more precisely data collection, than exploiting the potentiality of a real e-inclusion of their citizens in enjoying the benefits of ICT. They were also concerned about citizens' acceptance of smart city technologies.

During the research period some trends have been identified, especially the different pace and level of engagement of territorial partners. There are clear dissimilarities between the cities, differences generated by planning traditions, the variance in the number of people and the level of involvement of the local authorities in the process. Low level of engagement of partner in Malta has led to the absence of citizens' involvement in the project in that pilot location. Such result is a consequence of their concern about the implementation of the project and final outcomes (will the services work properly and be useful or not). Some of the pilot partners (e.g. Zagreb, Zadar) have been more affected by the recent economic crisis and the process of citizens' involvement has become more difficult.

One of the reasons for not involving enough users in the project also lays down in the fact that the developed online platform and smart services require the use of newer technological devices, computers and smartphones of certain power and speed, as well as developed network infrastructure that were not available to all users. City administrations (such as Newcastle) did not want to promote the technology and services that citizens could not or could hardly use. Instead of looking on the long-term benefits of exploiting such a technology and services, they were more concerned on the short-term results and problems they faced.

Management and organization also play crucial role in citizens' involvement in the project. Complex organizations and local authorities require respecting long procedures, especially for authorization of certain activities such as organization of events with target users in order to bring the technology closer to them and enable testing on site, as well as direct dialogue and collecting feedback. Such procedures are not stimulating at all, and often lead to renouncing of any activity. This situation has been particularly noticed in Trento pilot location and has led to a poor citizens' involvement in the project and adoption of developed smart city services.

The results in Table 5. show also that some partners have succeeded to involve citizens in the project, such as pilot partners in Baia Mare, Indjija, Lazio and Vienna. All of them have successfully overcome the problems related to technology and infrastructure requirements as well as management and organization, and have actively participated in the project. They have done a lot of dissemination activities and have been very active in using the social media channels to engage with the citizens and enhance the communication. The pilot partner in Baia Mare has also done a number of meetings with high school students and various stakeholders in order to promote the project and invite them to test developed services. The pilot partner in Indjija has organized a number of workshops, presentations to university students, noise survey campaign in Belgrade, meetings with local government, public and private companies, and all these activities have brought the i-SCOPE services closer to the citizens, they had the opportunity to test them and provide feedback for their improvement. The pilot partner in Lazio has also organized a number of meetings with public authorities and associations, as well as presentations of the project platform to the citizens. The pilot partner in Vienna has organized a series of discussions to promote citizens' involvement in decision-making in the City, inviting also companies and organizations to join. It has also published a number of articles in print media and on online city portal to invite citizens to test the i-SCOPE services.

The results of our research show that the initially set hypothesis stating that the i-SCOPE technology is complex but user-friendly compared to other existing technologies for 3D visualization of a territory currently available on the market is accepted. The user-friendliness has been recognized in all pilot locations except Newcastle. Young population, such as high school and university students have been the most interested in the i-SCOPE technology as well as smart city services developed

in the project. They consider them useful for shaping the future of their cities, while most of adults have been more interested in the economic benefits of these services.

The second set hypothesis stating that city administrations are interested in deployment of i-SCOPE smart city services and able to bring them closer to citizens to enhance their involvement in shaping smart and sustainable urban centers can be just partially accepted. Our research has shown that not all city administrations have recognized the potential of the i-SCOPE smart city services and did not want to engage in the project until they see tangible results and that the developed technology work. Such attitude is not good for introducing new technologies and brining changes in the area they manage, and could lead to constant lagging in urban development.

The results of our research indicate that crucial factors for citizens' involvement in development and adoption of smart city services are user-friendly technology, good infrastructure that will enable such technology to work properly, management and organization, engagement of local administration, as well as their capability to understand the complex technology and bring it closer to the citizens. Citizens' involvement in development of smart city services can provide valuable feedback and improve the services to be more useful to the community. On the other side, local administrations have to understand the benefits of such technology for improving the process of collecting useful and real-time data, enhancing the process of decision making, and increasing citizens' participation in shaping smart and sustainable cities.

6. CONCLUSION

The concept of smart city implies the use of complex technologies that can improve the quality of life. Our research has shown that there are some crucial factors that play the key role in citizens' adoption of new smart solutions, such as user-friendly technology, infrastructure, management and organization, and the most important, interest, capability and social responsibility of local administrations. People need to be able to use the technology in order to benefit from it. Therefore, there is a big challenge for local administrations to deploy complex technologies and bring them closer to the citizens.

Citizens are no longer just passive observers, and thanks to the new information and communication technologies they can play an active role in shaping smart and sustainable urban centers. But local administrations need to be the main leaders, they are the ones that can improve the city management by means of smart technology.

The citizens' involvement in development and adoption of new technologies is a complex, non linear process that requires time and a lot of effort, especially from partners and city administrations. Since the project is currently in its final phase, it can be expected that some more citizens will get involved in testing the online plat-

form and final services. This will primarily depend on interest and capability of local administrations to bring the technology closer to the citizens. The research results have shown that those communities that have competent, proactive administrations, interested in improving city management and quality of life, have obtained the best results of citizens' involvement in the project. Such communities have seen the potential of new technology to create a sustained change that will last beyond the project.

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1 VOLUME | 1 ISSUE

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