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Nationality Diversity of Bank Boards

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Abstract

The aim of this paper is to carry out a comparative study for nationality diversity in bank boards. The study covers practices of board diversity of nine commercial banks. The data are compared for subsidiary banks in Bulgaria and their parent banks from the home country. The study defines a high degree of nationality diversity in subsidiary banks. The Bulgarian banks have a higher number of foreign members on boards compared to their parent banks. The good practices on board diversity in Bulgarian banks are a consequence of their subordination in European financial conglomerates and are aimed to reduce agent conflicts.

Keywords: corporate governance, subsidiary banks, Bulgaria, comparative study

Introduction

The effects of financial crisis reveal weaknesses in corporate governance of banks and highlight the need to balance independence and competences of boards (European Commission, 2010). The application of good corporate governance practices, including diversity of board composition and structure, will increase the competitiveness and sustainability of banks in the long run (European Commission, 2012).

The diversity policy concerns recruitment of new board members and has impact on fit and proper test for managers (European Banking Authority, 2017). The diversity reflects the competences and views of board members. The low level of board diversity leads to a process called "group thinking", reducing debates, ideas and disputes in the decision-making process and ineffective supervision of managers (Čančer & Mulej, 2013).

The diversity of a board contributes to weakening the phenomenon of "herd behavior" (European Banking Authority, 2016). Increasing diversity enables facilitation of understanding of the institution's activities and to ensure decision-making in an objective and constructive manner. Diversity can help to make better and more effective decisions about strategies and risk-taking, as members have the opportunity to benefit from a wider range of views, experiences, perceptions and values.

The main objective of this study is to compare the board diversity by nationality in subsidiary banks in Bulgaria and their parent banks in the home country. Using quantitative data processing methods, the study achieves qualitative conclusions about the practices of nine banks. The data sources are Bulgarian National Bank and European Banking Authority.

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The innovative nature of the diversity issue determines the limitations for our study: there is only one legislative source of information, the EU directives to reduce effects of the international financial crisis; otherwise, there is a small volume of published empirical data and scarce specialized literature. In accordance with the measures for prevention of future crisis in the EU, we formulated the following research hypotheses:

H1: Nationality diversity of boards aims to increase the competitiveness and sustainability of banks;

H2: Parent banks have a higher level of nationality diversity of boards than their subsidiary banks considering that they are: registered in the euro area, covered under EU directives and listed on stock exchanges.

The structure of this study consists of three parts. In the first part is presented the emergence and development of concept for board diversity in the EU; in the second one, we consider the expected effects of this process; and the third part contains an empirical study, on the basis of which some basic findings are made. Finally, the findings of the study are specified and recommendations are given for future research.

Emergence and Development of Diversity in Bank Boards

Globalization strengthens and accelerates the process of capital exports, which is why the need for supervising abroad managers for fiduciary duties is growing. Another process, the European integration, has placed a third function of diversified boards on the agenda—knowledge of local legislation and customer preferences. For some countries from Eastern Europe, the adoption of market principles in the 1990s and the entry of foreign ownership into the banking system have further influenced the development of board diversity.

In the EU was adopted a board diversity policy as a measure to reduce the effects of recent financial crises; among them, the leading causes are managers' behavior and, in particular, the lack of board control over managers' appetite for risk (Basel Committee on Banking Supervision, 2010). Although the data on foreign presentation in boards in the EU Member States are positive—1/3 of their members are foreign citizens (European Commission, 2011) and despite the adopted directives and harmonization process, the different levels of nationality board diversity in some cases are significant, from 54% for the Netherlands to 2% for Spain (IIC Partners, 2015).

The diversity of bank boards arises in 2002 under the Sarbanes-Oxley Act in the USA through requirements to increase the presentation of women, minorities, young managers and persons without bank practice (Björklund, 2010).

In 2009, radical steps have been taken in the EU to reformat good corporate governance practices and focus on protecting stakeholders rather than shareholders. Because of the introduction of measures to protect taxpayers and stakeholders since 2013, the EU banks are required to adopt an own corporate policy on board diversity to prevent future crises. The basic principles of diversity enforcement control are the classic "comply-or-explain" principle, the opinion by external auditors for reached results, and the good practice data by competent authorities. The issue of the importance of board diversity on reforms for good corporate governance practices is found in several documents:

- The European Commission published its "Green paper: Corporate governance in financial institutions and remuneration policies" (European Commission, 2010), which includes measures to tackle the effects of financial crises. The main reason for crisis is the lack of effective control by boards over managers and, accordingly, insufficient resources to assess risks. A direct reflection of this disadvantage is found in the lack of diversity in social and personal characteristics of the board (gender, social and cultural background, education, nationality).
- In "Action Plan: European company law and corporate governance a modern legal framework for more engaged shareholders and sustainable companies" (European Commission, 2012), the European Commission sets requirements for greater transparency regarding diversity policy and clarifies the Green paper's (2010) terminology. The initiative is complementary to the proposal to improve diversity for non-executive board members of listed companies only.
 - The Directive 2013/36/EU makes recommendations for encouraging independent opinion and facilitating constructive criticism in boards. In the appointment of board members, the Member States and competent authorities should require banks and nomination committees to take into account a wide range of criteria for skills and abilities held by applicants. To this end, the banks need to develop policies to promote diversity in the boards in terms of age, gender, nationality, education and professional experience. The Directive includes the following requirements: the financial intermediaries to establish a nomination committee that identifies and recommends for approval of the board or the general meeting of shareholders the filling of seats in management bodies, taking into account the balance of knowledge, skills, diversity and experience of board members; the financial institutions to develop a policy to promote

diversity in boards; and the competent authorities of the Member States to provide information on the diversity to the European Banking Authority to compare diversity practices at the EU level.

The European Banking Authority provides a summary of diversity of boards in the European Union since 2016 (European Banking Authority, 2016). The data of national competent authorities are processed and compared to improve the good practices of individual banks. Diversity of nationality is of particular importance to overseas banks, as they combine business activity and expertise in the relevant market. The nationality diversity allows a board to take better account of cultural values, as well as legal and market circumstances.

Effects of Board Diversity

During the latest financial crisis, it became clear that corporate governance had not functioned as expected (Pašić, Bratina and Festić, 2016). The recommendations contained in the EU directives (Directive 2013/36/EU, Directive 2014/59/EU, Directive 2014/65/EU) on the diversity of bank boards are related to the achievement of the following expected effects:

- effective risk control and sustainability of financial institutions;
- independently viewing and facilitating of constructive criticism;
- balance of knowledge, skills and experience of board members:
- balance between independence and competences of board members;
- objectivity and independence in assessing the qualities of members in order to exercise control over efficiency of management;
- sound and prudent management, promoting market integrity and protecting investors' interests;
- understanding of the bank's activities, including the main risks;
- avoiding "group thinking";
- adequate representation of the population;
- understanding of cultural values, market peculiarities and legal frameworks.

There is a recommendation to add several forms of diversity for achieving greater effects (García-Mecaa et al., 2015). The tendency is a composition of boards to achieve diversity in terms of:

- age;
- gender;
- nationality;
- education and professional experience.

An additional form of diversity is a representation of employees and workers in management. This is an appropriate way to promote diversity by adding a key point of view and real knowledge of the institution's internal functioning.

Nationality Diversity of Bank Boards: The Bulgarian Practice

The European Commission's recommendations on diversity are primarily related to non-executive members of bank boards (European Commission, 2011). Diversity policies refer to the members of a supervisory board in a two-tier system and to the non-executive members of a board of directors in a one-tier system (Nedelchev, 2017b). The majority of Bulgarian banks are with foreign ownership, which explains the prevalence of two-tier management systems in Bulgaria (Nedelchev, 2017a).

The Bulgarian National Bank identifies nine Bulgarian banks as subsidiaries of European financial groups: Allianz Bank Bulgaria, DSK Bank, EIBank, Eurobank Bulgaria, Procredit Bank Bulgaria, Raiffeisen Bank, Societe Generale Expressbank, Unicredit Bulbank, and United Bulgarian Bank (Bulgarian National Bank, 2017). These banks have an average of 5.4 persons as the number of board members. The largest number of board members (seven natural persons, i.e., the maximum number of members foreseen in a supervisory board under the national legislation) has banks from Germany and Italy (Figure 1).

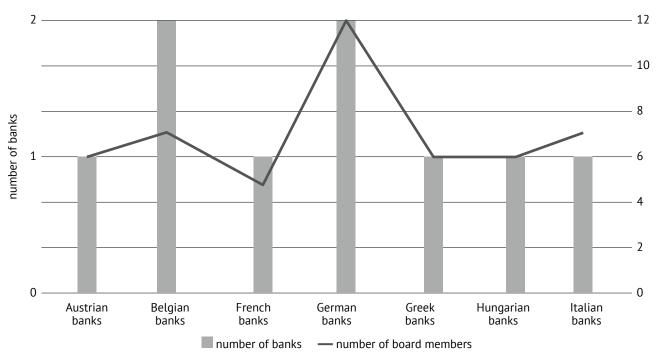
The bank boards in Bulgaria are over-internationalized. The average percentage of Bulgarian members on boards is relatively low (12%), which can be explained by the high foreign share in bank ownership. In more than half of Bulgarian banks, the chairman of the board is a foreign citizen.

Procredit Bank Bulgaria has the most Bulgarian members on the board (40%), and in four banks (DSK Bank, EIBank, Raiffeisen Bank and United Bulgarian Bank), the boards are entirely foreign (Figure 2).

The majority of Bulgarian banks (73%) are overseas subsidiaries of banking groups from the EU; these groups are listed on stock exchanges and are within the scope of EU directives, as they are registered in the Euro area (Houbenova-Delisivkova, 2015). The nationality diversity in subsidiary banks is a fact: 88% of board members are foreign citizens, while in parent banks, 27% are foreign (Figure 3).

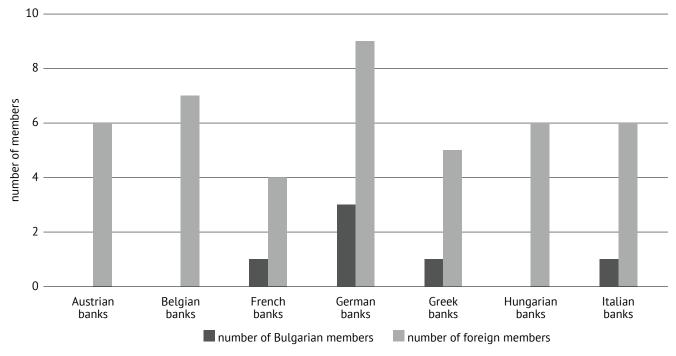
Depending on the origin of capital, the banking boards in Europe fall within two types and differ in their function

Figure 1. Foreign subsidiary banks in Bulgaria



Source: Bulgarian National Bank, 2017

Figure 2. Nationality diversity of bank boards in Bulgaria



Source: Bulgarian National Bank, 2017

(International Finance Corporation, 2012). In banks with local capital, the boards are created to comply with regulatory requirements rather than to add value to bank operations. For banks with foreign capital, the boards are formality; they focus on implementing the decisions of the head offices and

establishing close relationships with management without sufficient knowledge of the local environment. In subsidiary banks, the foreign board members reflect the origin of capital, and in parent banks, their own professionalism (Figure 4).

Figure 3. Nationality diversity of boards in Bulgarian subsidiary banks and their parent banks

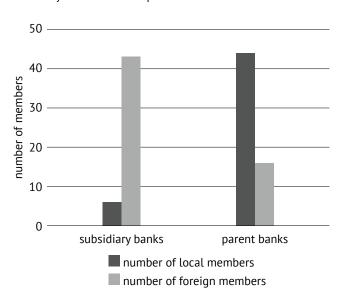
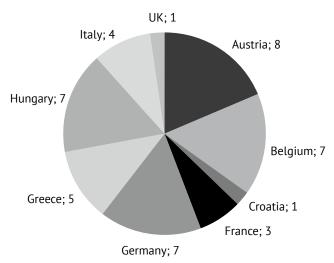


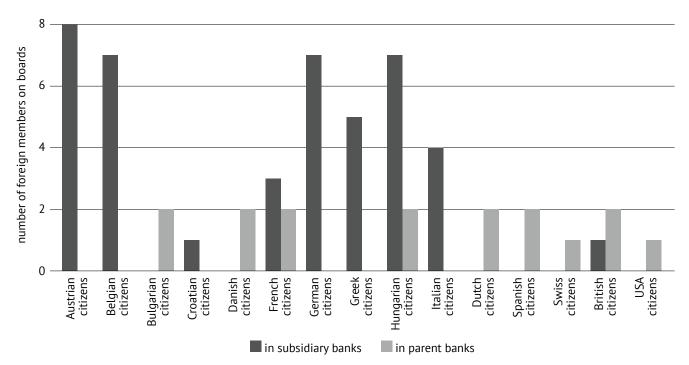
Figure 5. Number of foreign members in Bulgarian bank boards



Source: Bulgarian National Bank, 2017

Source: Bulgarian National Bank, 2017

Figure 4. Nationality of foreign board members in Bulgarian subsidiary banks and their parent banks



Source: Bulgarian National Bank, 2017

All foreign ownership in Bulgarian bank system is from the EU. In cases of five banks (DSK bank, EIBank, Procredit bank Bulgaria, Raiffeisen bank Bulgaria, United Bulgarian bank), the foreign board members are from the home country. In some cases, there are foreign board members outside the home country who reflect the structure of financial groups, i.e., a board member from the country of the holding group for decline of contagion risk (Allianz bank

Bulgaria, Eurobank Bulgaria, Societe Generale Expessbank, Unicredit Bulbank). In the case of TBI Bank, there are board members from the home country, the Netherlands, and one board member from the ultimate home country (Israel).

The nationality of board members of Bulgarian banks indicates the home country and, more precisely, the vertical structure of capital investments (Figure 5).

The adopted policy for board diversity is individualized for each Member State and despite the statutory requirements throughout the EU, the proportion of institutions conducting such policies is small (35.5%). For Bulgaria as a host country, the banks with adopted diversity policies are 26.7%, i.e., close to the average in the home country (29%) (Figure 6).

Conclusions and Recommendations

The importance of diversity of boards has arisen at the beginning of 21st century and more concretely, the need for gender diversity. At the core of diversity are social expectations and more often, political initiatives rather than scientific research. Irrespective of the form of diversity, the policy initiatives in this area outweigh the economic reality without satisfying the social needs that stir up public mistrust. The main reason for the mistrust of political initiatives for board diversity is the lack of quantitative measures for the achieved quality results.

In order to reduce the effects of a financial crisis and to prevent future crises, it is necessary to achieve diversity in bank boards. In this context, there are recommendations in the EU for good corporate governance practices to include reporting for the level of diversity that would improve the decision-making process and risk management.

The recommendations in EU directives for diversity include quality effects that can be identified in the medium and long term. The expected effects of diversity are defined as being of a qualitative nature. Quantitative measures are not provided in EU directives and national policies for determining the contributions of diversity on boards. It is recommended to introduce a set of conventional indicators for conducting international comparative analyses provided by EU directives within the remit of national competent authorities and European Banking Authority.

Our results partially support the first hypothesis (*H*1) – there is likely an increasing competitiveness and sustainability for parent banks only. The nationality diversity in boards of subsidiary banks is two types: members from home country and occasionally, from country where is registered the holding group. We assume there are different aims of nationality diversity of boards in subsidiary banks: protection of ownership (of the bank's equity) abroad, repatriation of profit, prevention of contagion risk and generation of management staff. To confirm the assumptions, we recommend a qualitative meta-study be carried out as a complement to this quantitative study and to extend the study's scope with a larger number of countries.

The study data did not indicate a higher level of board diversity in parent banks. An additional element to critical attitude towards the second hypothesis (*H2*) is the time difference in introduction of national diversity in boards: for subsidiary banks, the diversity began long before EU directives and even before the beginning of the source of diversity reform, the international financial crisis. The process of liberalization in Eastern Europe from the 1990s attracts bank groups from the EU and gives rise to a new form of boards' diversity in subsidiary banks—a supervisory board containing non-residents from the home country and a management board, whose members are residents of the host country.

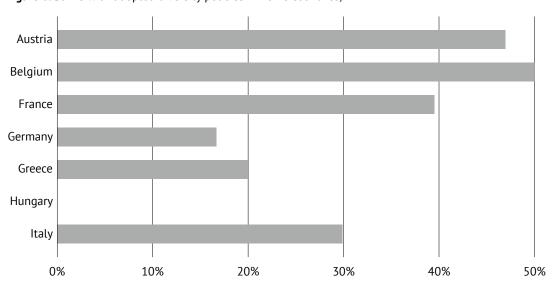


Figure 6. Banks with adopted diversity policies in home countries, %

Source: European Banking Authority, 2017

The matter of achieving diversity in nationality is specific for transnational banks, as only diverse boards are able to meet the needs of local customers and stakeholders (International Finance Corporation, 2015). However, in order to be successful in this direction, the boards of transnational banks must necessarily take into account the cultural values and the legislation in the host country.

The study shows that in Bulgarian banks, there is nationality diversity above the average level in their parent banks in their home country. The good results are due to the subordination of Bulgarian banks to the hierarchy of EU financial groups and, to a lesser extent, to the European directives. The place in the hierarchy defines the purpose of nationality diversity: for the parent banks, diversity reduces the risk while for the subsidiary banks - reducing of the agency problem.

The stabilization of the banking system and the prospects for EU membership led to an increase in foreign ownership in Bulgarian banks. The subordination of subsidiary banks in their bank groups explains the fact that in Bulgaria, the diversity of boards is introduced before implementation of a diversity policy in the EU. In other words, unlike other

countries in Bulgaria, the board diversity is not a consequence of EU membership, but rather of the introduction of market economy and good corporate governance practices. While diversity is restricted to compliance with EU directives for parent banks, its ultimate goal in Bulgarian banks is to protect abroad investments.

The innovation of board diversity determines the difficulties in carrying out studies. The main challenge is the limited literature, which defines our study as a keystone for further benchmarking. The official data are mainly by competent authorities and specialized bodies that should be interpreted for their practical application. Finally, the study is limited in scope, as the first data for the EU are from 2016.

The recommendation for future diversity study is to develop quantitative measures for determination of effects described in the second part of this study. Additional recommendation is to be carrying out the same study for other countries with dominantly foreign ownership in its bank system. And finally, a comparative analysis of the results is recommended to be performed in Bulgaria and other countries to highlight national specifics.

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Nacionalna raznolikost nadzornih svetov bank

Izvleček

Namen prispevka je izvedba primerjalne študije o nacionalni raznolikosti nadzornih svetov bank. Študija zajema bančno prakso glede raznolikosti sestave nadzornih svetov devetih poslovnih bank v Bolgariji. Podatke primerjamo za podrejene banke v Bolgariji in njihove nadrejene kreditne institucije v matičnih državah.

Študija opredeljuje visoko stopnjo nacionalne raznolikosti v obravnavnih podrejenih bankah. Število tujih članov nadzornih svetov je v bolgarskih bankah višje kot v preučevanih nadrejenih kreditnih institucijah. Dobre prakse v zvezi z raznolikostjo v teh organih bolgarskih bank so posledica njihove podrejenosti v evropskih finančnih konglomeratih in so namenjene zmanjšanju konfliktov interesov med agentom in principalom.

Ključne besede: korporativno upravljanje, podrejene banke, Bolgarija, primerjalna študija

Towards European Union or Regional Economic Area: Western Balkans at Crossroads

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Abstract

The aim of the paper is to reflect upon the dilemma or whether the EU will continue the integration process in the Western Balkans or backlash on regional cooperation instruments and initiatives within the framework of the Western Balkans. The Regional Economic Area (REA) is analyzed as the more recent policy of the European Union for the remaining Balkan countries. It is crucial to analyze the idea behind REA, starting from two main assumptions: first, the creation of REA stemmed from EU internal challenges; and second, REA came up as a creative EU approach in efforts to find a specific model for reforms in the Western Balkans in the frame of regional institutions. The paper also discusses regional trade and specifically the role of the Regional Cooperation Council (RCC) in coordinating these initiatives in the Western Balkans. Taking into consideration the EU current challenges as well as difficulties of the Western Balkan countries to overcome the political and economic problems, then regional cooperation could appear as an alternative to the EU integration process for the Western Balkans. The main conclusion of this paper is that the Western Balkans needs the EU's direct support, in particular, since RCC and other regional instruments cannot enforce, support and monitor the initiatives and reforms in the region.

Keywords: Western Balkans, integration, cooperation, coordination, regional, enlargement

Introduction

The Western Balkan countries together make a small market in the region that depends on improved regional cooperation, EU integration processes and developments in the world markets. The regional integration of the Western Balkans represents an important aspect of European Integration for the countries of the region (Pere, 2009, p. 159). Deepening cooperation and trade between Western Balkan countries would bring both economic and political benefits to the region by reducing trade barriers, increasing foreign investments, and improving the business environment. The EU should strengthen the regional approach by giving all countries of the region tangible European commitment (Rupnik, 2010, p.7). According to Doring (1997, p.16) the initial EU accession strategy for the Western Balkans was one that linked accession to the peace of reform in the individual countries of the Western Balkans.

During 1999, the Stability Pact for the South East Europe (SEE) was created by the international community as the main institution for the regional cooperation

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in the Western Balkans, and it was transformed in 2008 into the Regional Cooperation Council (RCC). During 2017, the EU launched the idea of the Regional Economic Area of the Western Balkans as an instrument for further integration of the region. Furthermore, the EU authorized the RCC to implement national and regional activities in four areas, such as: trade, investments, mobility and digital integration, all within the framework of the Regional Economic Area.

There is a question whether this institution, namely the RCC, can perform its role in coordinating and supporting political, economic and institutional agenda for the Western Balkans. The question gains importance when taking into consideration the political challenges, trade disputes and other problems between countries of the region. During 1999, it was necessary for the international community to set up a mechanism for regional cooperation then known as the Stability Pact, with the purpose of establishing a framework of peace and cooperation between countries in the region. Nowadays, however, its successor, the RCC, does not appear to have the prerequisites or capacity to further enhance, coordinate, or even more importantly, monitor regional initiatives in the Western Balkans.

Lessons learned from the Regional Ownership on the Western Balkans, which was launched in 2006 and implemented in 2008, teach us that regional mechanisms in the Western Balkans cannot have significant success. For illustration, the success of CEFTA implementation during 2007 depended on the EU Institutions, as the countries of the Western Balkans couldn't resolve political and trade disputes. Therefore, the role of the EU institutions and other international stakeholders appears critical because of fragile institutions in the Western Balkan region. The EU's intention to delegate the power of integration from Brussels to Sarajevo could be a message that the region of the Western Balkans will be supported indirectly by the EU. That would mean the EU will create a preferential relationship on trade and a few other key areas with the Western Balkans, with the enlargement process most likely slowing down in the meantime.

The main research question of this paper is to assess whether this initiative came as result of internal EU challenges for involvement in the Western Balkans or as a result of new understanding that regional issues in the Western Balkans can be addressed more efficiently within RCC as a regional mechanism. The paper consists of the following sections: introduction, literature review, methodology and a discussion and analysis of the main findings. The final part of the paper presents conclusions emphasizing the most important findings and value added of the paper.

Methodology

According to the various estimates and analysis carried out, at this initial stage of the REA development, it is very difficult to predict the outcomes of REA development and its future impact in the Western Balkans. An alternative route to investigating the impact of REA could be built on the existing knowledge and experiences on the functioning of regional instruments. Besides, several interviews were carried out with local experts on EU studies to better address the research questions and surveys were conducted with 100 respondents / postgraduate students to gain their views on REA and EU initiatives. The interviews and surveys focused on Prishtina: Firstly, since students of the University of Prishtina are representative of the opinion of the educated Kosovo population since they come from all sides of Kosovo; and secondly, since the central government and other institutions are based in Prishtina. The sample and region were selected in order to achieve a high rate of response as well as to ensure the quality of surveys from the respondents, in particular, keeping in mind that the Regional Economic Area (REA) is a new and specific EU initiative with few people having information about it in Kosovo.

Theoretical Background

Economic integration is considered as a form of internationalization of production within a given region (Moraliyska, 2014, p.3). Furthermore, market integration is a crucial pre-condition for further cooperation and integration between countries. Therefore, creation of free trade areas through the gradual liberalization of trade, harmonization of procedures and expansion of trade and investments in the region is seen as needed. In another perspective, Grossman and Helpman (1993, p.667) concluded that the decision of countries to conclude regional trade agreements is determined from the extent to which the government is concerned about the welfare of its constituents.

According to the Stability Pact (2001), the Central European Free Trade Agreement (CEFTA) was considered the most important free trade agreement of Central and South East European countries that included Poland, the Czech Republic, Slovakia, and Hungary, followed by Slovenia, Romania, and Bulgaria. Being the first regional economic association for these countries, it has contributed over the years to improve the trade regime and prepare its members for accession to the EU. Most of these countries, by promoting trade and cooperation, increased trade flows, strengthened economic relations, increased economic convergence and successfully joined the EU.

On the other hand, as of 2000, the Stabilization and Association Process (SAP) launched by the EU provided all Western Balkan countries with free access to EU markets through Autonomous Trade Measures (ATMs). Autonomous Trade Measures enabled free movement of trade from the Western Balkans to the EU, therefore offering opportunities for Western Balkan countries (Štiblar, 2008, p.66). Additionally, the Central European Free Trade Agreement (CEFTA 2006) was launched by the EU for the countries of the Western Balkans to promote free trade and economic prosperity for the region. According to Tempera (2011, p.2), the CEFTA is inspired by the World Trade Organization (WTO), and as a result, the WTO strictly honors the ensuing policy created.

The CEFTA 2006, as a comprehensive free trade agreement with the aim of trade liberalization, addresses various non-tariff barriers as well as other areas such as investment, services, public procurement and intellectual property rights (Hadjinski, 2010, p.3).

The market integration and investment climate in the Western Balkans was fragile due to long-term conflict and problems from the past between the Western Balkan countries. Unfortunately, the political challenges and business environment are still constraining FDI flows in the Western Balkans. According to the World Bank, most of the Western Balkan countries specialize in low- value added products, and comparative advantage is frequent in products with medium-low or low technological intensity (World Bank, 2015). There is very low R&D budget translated into an almost nonexistent number of deposited patents, which is seen as one of the reasons that these countries cannot benefit significantly from the EU market.

According to Kathuria (2008, p.6), intra-industry trade is also low between Western Balkans and the EU. Despite the free-trade arrangements with the EU, the share of Intra Industry Trade (IIT) is below 30 % for each country apart from Croatia, which is far less compared to the share of (EU-10) prior to accession around 40% in 2002. However, the exports remain low, as a share of GDP in Western Balkans and below potential according to the World Bank report of 2015, as exports averaged around 38% of GDP in 2013 in WB6 countries. According to the report, Kosovo and Bosnia are experiencing low performance with exports share around 20-30% of GDP; Albanian exports to the EU are estimated at 40% below potential, while other countries are around 30% below potential. This compares with over 60% in EU 11 countries. This situation is due to higher economic differences between the EU and Western Balkans.

Despite the success story of CEFTA for the countries of Central Europe, the implementation and functioning of the CEFTA 2006 for Balkans was quite complex and the economic

impact was partial. Therefore, the efforts towards economic integration through the CEFTA 2006 have not increased the shares of trade within the Western Balkans at the expected levels, and the EU has remained the dominant export market for all the Western Balkans (World Bank, 2015). Due to this fact, CEFTA 2006 could serve mainly as the instrument for institutional reforms in the Western Balkans such as: rules of origin, sanitary and phytosanitary issues, non-tariff measures and other important issues, and less for the increase of the export and trade between countries.

Regional cooperation

Regional co-operation was considered as a very important instrument for the Western Balkans and an engine to pull the entire region away from the conflicts and consolidate peace and democracy (Erler, 2004, p.11). During 1999-2008 few challenges of the region were addressed, and good neighborly relations were initiated within the Stability Pact framework. Given the lack of co-operation in the Western Balkans, the intensification of regional cooperation by the European Union was crucial, as the Western Balkans needed the European agenda. The main regional initiatives between the Western Balkans achieved between 2001 and 2008 include: Energy Community, European Common Aviation Area Agreement (ECAA), MOU on South East Europe Transport Observatory (SEETO), CEFTA and Bilateral Free Trade Agreements, Stability Pact for SEE, European Charter for Small Enterprises, Investment Compact, Electronic Southeast Europe Initiative ("eSEE"), and Non-Tariff Barriers Removal Initiative (Stability Pact for South East Europe, 2008). These initiatives created short-term cooperation between the Western Balkan countries. Despite the challenges, the Western Balkan countries continued their regional cooperation to benefit economically and institutionally from the European integration process, therefore to promote local institutions and their administrative capabilities. Nowadays, the EU framework and appropriate policies in Western Balkans could also prevent further increase of Russian influence in the region and especially in Serbia and Montenegro - a kind of influence capable of generating additional challenges to cooperative efforts among the Western Balkans.

Regional ownership and RCC role

For the EU, the idea of the regional ownership was considered very important as an instrument to transfer competencies from the international community, namely the EU, to the region of the Western Balkans. Therefore, during 2008, the EU transformed the Stability Pact for SEE from Brussels to the newly formed Regional Cooperation Council

in Sarajevo. Besides, the leadership of this mechanism was also "regionalized" from EU to leadership coming from the Western Balkans. The idea of regional ownership in the framework of regional co-operation was launched under the following assumptions (Qorraj, 2010, p.81):

- Satisfactory regional co-operation has been achieved in the Western Balkans;
- Western Balkan countries should play an active role on the regional cooperation; and
- Western Balkan countries are ready to intensify their regional cooperation process.

But the core question remains whether regional ownership is an appropriate policy or framework, taking into consideration political and economic challenges between the countries of the region, specifically the unresolved political relationship between Kosovo and Serbia. The obstacles or problems in the Western Balkans become apparent when looking at the implementation of the Regional Ownership and CEFTA 2006 during 2008. Serbia and Kosovo could not overcome political challenges, with Serbia applying barriers and trade disputes against Kosovo. Additionally, the Serbian leadership strongly opposed Kosovo's integration into regional and international institutions, making it thus impossible for Kosovo to participate in the above-mentioned regional initiatives. This was a huge setback to regional cooperation. From 2008 to 2012, the presence of Kosovo in regional initiatives and meetings was seriously challenged (Qorraj, 2016, p.196). Past experience showed that although the regional ownership was launched by the EU with the purpose to transfer the "decision making process" from the EU to the Western Balkans, despite its minor achievements, this process in the Western Balkans has failed, putting the region of the Western Balkans at yet another crossroads. With the actual initiative such as "Regional Economic Area", the region could face other numerous challenges between countries in the region under the supervision and monitoring of the Regional Cooperation Council.

European integration vs. Regional Economic Area

Juncker (2017) acknowledged that Europe faces problems, therefore he declared, "I'm not in favor of the Western Balkans joining the EU soon". But if you take away the European perspective, then we might again experience what we experienced in the 1990s. In this respect, the stability of the composition of the European Union is a prerequisite for the Western Balkans not being at war again. From one point of view, this statement makes it clear that the EU does not see in the Western Balkans a region that could converge within the EU but, on the contrary, sees dealing with the Balkans as a measure to save the region from potential repetition of the past conflicts.

From another point of view, in the Western Balkans, there is a higher expectation of the people for the path towards the EU. Therefore, the question is whether these people have enough information about the EU challenges and on what is such optimism for the EU grounded. Bieber and Kmezić (2016, p.2) stated that the "optimism" for the EU membership in Western Balkans is due to the fact that EU integration was the main driving force for democracy and reforms, and close cooperation with the countries of Western Europe provide a model, a partner and a goal for many citizens in the region. The second important point is that people in the Western Balkans are governed by "corrupt and authoritarian" leaders, and therefore, the EU enlargement is seen as an instrument that accelerates democratic, economic and institutional reforms in their countries. Furthermore, the EU-Western Balkans Summit in Thessaloniki 2003 translated the vision for EU integration into a commitment (Schaefer, 2004, p.34).

During 2017, the EU launched the Regional Economic Area (REA) for the Western Balkans. The REA was first introduced as the "Western Balkans Common Market" within the framework of the Berlin Process, followed by the Trieste Summit in July 2017, with involvement of the EU and Western Balkan leaders. According to the (DG NEAR of the European Commission, 2017), the creation of a Regional Economic Area, as envisioned by the draft Multi-Annual Action Plan, foresees implementation of far-reaching interventions and actions. This integration will be structured along four main areas:

- A common market for goods, services and capital;
- Free flow of skilled workforce integrated into professional and academic EU networks;
- A common digital market;
- A dynamic investment space.

One of the core points of the Trieste Summit is to entrust the Regional Cooperation Council with a role of facilitating the work of the task force and coordinating the development of the Action Plan between various regional structures and working groups, including CEFTA and others. According to (Bonomi, 2017, p.15), a major achievement of the Berlin process has been its contribution to boost the interest of the Western Balkans and EU stakeholders regarding regional cooperation. He continued that the challenge is to build on the Berlin Process and contribute to the transformation of EU enlargement policy to increase credibility and effectiveness.

Finally, it's important to summarize what is behind the idea of the EU to create the Regional Economic Area in the Western Balkans. There could be two answers to it: Firstly, the creation of REA came as a result of the current internal challenges of the EU, such as the refugee crises, BREXIT, and security and economic issues. In this context, the EU

may have decided to shift the direct engagement from the EU institutions to the Western Balkans' regional initiatives.

Secondly, the creation of REA could be a result of an EU creative approach to coordinate and monitor tasks and reforms in the Western Balkans with the support of regional actors or regional mechanisms such as RCC, even though the role of the latter could be questioned due to its structure and the Western Balkans' history. Based on experience with other regional initiatives, as well as the current relationship between Western Balkan countries, one must conclude that the first assumption holds. The second option appears unlikely to be accepted, in particular, while taking into consideration those countries of the region could face difficulties in jointly succeeding in implementing this and similar initiatives.

Results

The study consists of three stages. In the first stage, a simple questionnaire was designed that would obtain full views of the respondents within a minimum timeframe and commitment by the respondents. In the second stage, competent respondents were identified, and the questionnaire administered in conditions whereby they could fully focus on giving their views on respective issues. The third step was to process the collected data and finally interpret the survey results. The main findings from the employed survey and descriptive statistics are as follows: around 98% of the respondents are very well informed about the Regional Economic Area in the Western Balkans. In the question whether creation of REA could be considered an adequate EU policy for the Western Balkans, only 15% think that it is adequate, while around 85% declared that CEFTA is already present in the Western Balkans and the main challenge is not with creation of new initiatives but with implementation of the existing ones. Furthermore, when asked about the expected impact of this initiative in the Western Balkans, around 87 % declared that REA will not have any significant economic impact in the Western Balkans.

Regarding political impact, around 54% of the respondents expect that REA will have political impact in the region, whereas 46% of respondents declared that the main impact will be in supporting Regional Integration for the countries of the Western Balkans. Regarding the question whether the creation of REA will substitute the EU policy with regional policy, which respectively, will diminish EU engagement in the Western Balkans, 87% accepted this, while 13% still believe in EU engagement in the Western Balkans. Regarding the Regional Cooperation Council's (RCC) function and capabilities to implement the REA,

around 81% of the respondents answered that RCC cannot functionalize the Regional Economic Area. Almost 31% of the respondents answered that the RCC cannot implement the REA due to lack of institutional capacity, whereas 69% think that the RCC may fail due to political challenges of the Western Balkan countries. In the question whether the regional issues should be addressed by the EU Commission in Brussels or by the RCC, around 98% of the respondents thought that EU Commission has much more political and institutional influence in the Balkans than the RCC and regional institutions.

Conclusions

The main conclusion of the paper is that political, economic and institutional environments in the Western Balkans are still fragile; therefore, there is a need for continuous direct support from the EU institutions, while the regional cooperation and regional institutions could be as complementary instruments. Also, two additional scenarios could be drawn from the paper:

The optimistic scenario, meaning that significant reforms will be accelerated within the framework of the Economic Regional Area for the Western Balkan countries, allowing also for achieving the European standards and economic convergence and facilitating their road towards the EU in the long run. The pessimistic scenario is that the Economic Regional Area launched by the EU and supported by regional countries could replace the idea of the European Integration for the Western Balkans as the Regional Cooperation Council cannot enhance and coordinate significantly the required reforms by the EU, therefore, it could delay the fulfillment of the tasks and reforms. Furthermore, due to BREXIT, internal issues—including monetary and fiscal reforms, migration/refugees and security challenges-it is obvious that the EU is trying to transfer the competences for the Western Balkans to the RCC.

From the Western Balkan perspective; the region is not creating any significant economic and institutional convergence; on the contrary, the region could export the negative spillover effects to the Union. Furthermore, the past has shown that regional institutions in the Western Balkans, due to their fragile democracy, cannot resolve political, economic and institutional disputes between their countries. Regarding the research question, I conclude as follows: according to the survey results, there is a conclusion that the REA was created by the EU due to its internal challenges and as a mechanism for diminished involvement of the EU in the Western Balkans rather than to find a specific model for supporting the developments in the Western Balkans

through the RCC. Furthermore, according to respondents, the Regional Cooperation Council and other regional institutions do not have adequate capabilities to coordinate, monitor and influence the development of the regional market in the Western Balkans.

Finally, the Regional Economic Area for the Western Balkans is the second-best solution, as it does not formally halt the European Integration Process, and yet it does not create expectations for a quick integration of the Western Balkans in EU. It is therefore recommended that the EU should keep its active role in the political, economic and institutional life of the Western Balkans through the European Integration Process. Only a direct involvement of EU institutions can monitor and guarantee the success of undertaken actions by concrete instruments such as: monitoring permanently the implementation of regional initiatives, supporting the region with financial assistance, educational programs and cross-border cooperation projects.

Limitations

There are also limitations of this paper, as the REA is a new EU initiative and therefore insufficient data are available

to analyze the functionalization and implementation of the REA. At this stage of developments, based on the experiences of the previous enlargement, it is very difficult to predict the future developments and effects of the REA in the Western Balkans.

Further research

In the future, it will be possible to monitor the Regional Economic Area and its impact on the reforms undertaken by Western Balkan countries. This would allow analysis of ways in which this initiative will support these countries to fulfill EU standards to follow their course towards the EU.

Contribution

Although there is a lack of data and statistics about the Regional Economic Area's effects, this paper will contribute theoretically to the literature of the European Integration and Western Balkans, based on descriptive statistics. The paper will also offer additional sources and knowledge about regional cooperation and EU enlargement of the Western Balkans.

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Proti Evropski uniji ali regionalnemu ekonomskemu območju: zahodni Balkan na razpotju

Izvleček

Cilj tega članka je premišljati o dilemi, ali bo Evropska unija nadaljevala integracijske procese na Zahodnem Balkanu ali nasprotovala instrumentom regionalnega sodelovanja in pobudam znotraj okvira Zahodnega Balkana. Regionalno ekonomsko območje je analizirano kot bolj nedavna politika Evropske unije do preostalih držav Balkana. Ključno je analizirati idejo za regionalnim ekonomskim območjem, izhajajoč iz dveh ključnih predpostavk: prvič, vzpostavitev regionalnega ekonomskega območja je izvirala iz notranjih izzivov Evropske unije, in drugič, regionalno ekonomsko območje je nastalo kot kreativni pristop Evropske unije v prizadevanjih, da bi našla specifičen model za reforme na Zahodnem Balkanu v okviru regionalnih ustanov. V članku tudi razpravljamo o regionalni trgovini in specifično o vlogi Sveta za regionalno sodelovanje pri koordiniranju teh pobud na Zahodnem Balkanu. Upoštevajoč trenutne izzive Evropske unije in težave držav Zahodnega Balkana pri obvladovanju političnih in ekonomskih problemov se lahko regionalno sodelovanje zdi kot alternativa integracijskemu procesu Evropske unije, še posebej odkar Svet za regionalno sodelovanje in drugi regionalni instrumenti ne morejo uveljaviti, podpirati in nadzorovati pobud in reform v regiji.

Ključne besede: Zahodni Balkan, integracija, sodelovanje, koordinacija, regionalni, širitev

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Productivity and Economic Growth in the European Union: Impact of Investment in Research and Development

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Abstract

This paper focuses on investment in research and development as a factor of labour productivity and economic growth. Our analysis confirms the link between expenditure for research and development (expressed in % of GDP) and labour productivity (expressed in the number of hours worked) based on selected data for EU Member States in the period 1995-2013. A causal link between variables of the concave parabola was confirmed, and the value of expenditure for research and development (2.85% of EU GDP) maximising productivity (per hour of work) was determined based on the examined data. In accordance with these findings, EU's target of reaching 3% of GDP spent on research and development to be achieved by 2020 seems in support of reaching maximum productivity in the EU.

Key words: investment in research and development, productivity, economic growth, correlation, panel analysis

Introduction

How to increase the level of productivity and consequently economic growth in comparison to other leading economies in the world such as the USA and Japan remains of the main topics of economic and political discussions in the European Union. Such discussions quickly come across the determinants of growth and productivity. That is why the preceding paper focuses on investment in research and development and explains its role in determining productivity and economic growth.

Theory and empirical literature provide a wide variety of authors, who analyse the relationship among investment in research and development, and productivity and economic growth. There have been several views in the modern theory of economic growth since the middle of the twentieth century. The first, neoclassical



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growth theory, formalized by Solow (1956, 1957) and Swan (1956), is based on the assumption of exogenous technological progress, while explaining the increasing relation among production factors capital and labour as a main source of economic growth.

On the other hand, endogenous growth theories emphasize production factors such as new knowledge (Romer, 1990; Grossman & Helpman, 1991); research, development and innovations (Aghion & Howitt, 1992); and human capital (Lucas, 1988) as main sources of productivity and economic growth. Arrow (1962) is one of the authors who introduced the concept of learning by doing and defined the technological change as an unplanned outcome of new knowledge, which is generated in the process of learning by doing. Grossman and Helpman (1991) added the notion that modern technological progress requires intentional investment of the private sector in research and development, while the state should neutralize the spill-over effect of the new knowledge. They applied the spill-over effect of knowledge also to the cross-country level as an important source of productivity growth in individual countries and differences among them. Aghion and Howitt (1992) are founders of a group of models, in which research activities are crucial for creating new knowledge, and where new improvements of products and processes generate growth of productivity and economic growth. There are also empirical papers by Coccia (2009) and Zachariadis (2004), who confirmed the positive impact of expenditure for research and development on productivity.

Contrary, Pack (1994) found out that in some OECD countries, productivity declined despite increased expenditure for research and development. The author explained his findings by the impact of production organization and social and institutional characteristics of the economies. A similar approach can be noted in the third standpoint related to the causes of economic growth, which place more interest on noneconomic factors such as: new institutional economics (North, 2003) or the concept of national innovation systems (Lundvall, 1992; Nelson, 1993).

Being aware of the findings of economic theory about the role of investment in research and development for enhancing productivity and economic growth, the EU pays special attention to the expenditure level for research and development. Already, since the 1950s, when the economic and political integration in Europe began, a need for an effective, common research and development policy has been present. The aim is to gain synergy effects of research activities by overcoming the partial national research policies, to avoid the duplication of research and to reach common directions in research and innovations for solving key challenges of European society and to increase effectiveness of investment in research and development.

In 2000, the EU introduced the Lisbon Strategy with special attention to establishing European Research Area (ERA), common internal market for research with free mobility of researchers, scientific discoveries and technologies. The EU maintained ERA as a central element also in the present strategy of Europe 2020 and its leading incentive Innovation Union, which were presented in 2010. Since 1984, the EU has been stimulating research and development activities through five-year framework programs, which are key EU financial instruments for supporting research and development. These framework programs are supplemented by several structural funds on the national and regional levels.

By implementing such support for research activities, the EU strives to become the leading research area in the world, to enhance competitiveness of the European economy and to find solutions for the EU's modern social challenges (such as demographic changes and population aging, healthy food, scarce energy sources, etc.). In the current program period (2014-2020), the framework program Horizon 2020 takes place with the biggest budget in EU history, which is an additional indicator of the importance that the EU places on research and innovations for enhancing the productivity and competitiveness of the European economy.

The paper analyses the impact of expenditure for research and development on labour productivity in EU-28 for the period from year 1995 to year 2013. The original contribution of the paper to the observed economic phenomena is empirically testing the relationship between investment in research and development by taking into account a different set of countries and different time frame, as compared to other similar empirical works (such as Coccia, 2009; Zachariadis, 2004; Hall & Mairesse, 1995; Amendola et al., 1993; Lichtenberg & Siegel, 1991). In addition, we empirically tested the link among the size of investment in research and development and potential maximal productivity, which was done by only a few authors (Coccia, 2009). Furthermore, Pokrivcak and Zahorsky (2016) found empirical evidence of statistically significant impact of investment in research and development in the Czech Republic, Poland, Romania, and Slovenia among all CEE countries. Meanwhile, Gocer at al. (2016) and Gehringer et al. (2016) estimate the effect of investment of research and development on income and economic growth, respectively.

The paper proceeds with a review of the level of investment in research and development in EU member states. The third part explains the data used and methodology applied, which is followed by the presentation of empirical results in section four. The fifth and last section provides the conclusions.

Investment in Research and Development in EU Member States

The indicator for the size of expenditure for research and development is gross domestic expenditure on research and development (GERD) as a % of gross domestic product (GDP). The share of expenditure for research and development in GDP is also defined as R&D Intensity (Eurostat, 2016).

Since investment in research and development presents one of the key determinants of productivity and enhancing competitiveness, the EU Lisbon Strategy had set a goal of devoting 3% of GDP for research and development in year 2010, which was not achieved. According to Eurostat, the share of investment in research and development in GDP in EU reached 1.93% in 2010 (Eurostat, 2016). EU kept the goal of 3 % also in its Europe 2020 Strategy for smart sustainable and inclusive growth with its leading incentive, Innovation Union, which is supposed to be realized by 2020. Individual EU member states set different national goals by 2020 (Table 1). Among them, six states (Belgium, Denmark, Germany, Estonia, France and Slovenia) set the same goal as the EU (3%) while three states (Austria, Finland and Sweden) set a higher goal (Eurostat, 2016). The size of expenditure for research and development in EUR per capita by EU member states is presented in Figure 1.

Taking a look at individual EU member states (Table 1), one can notice the highest R&D Intensity in 2014 in Finland (3.17%), Sweden (3.16%), Denmark (3.04%) and in Austria (2.99%). Nine member states devoted less than 1% of GDP to research and development. These are, besides Greece, many of the members who joined the EU in 2004 or later. However, Slovenia is above EU average with 2.39%, while Czech Republic (2.00%), Estonia (1.46%), Hungary (1.38%) are below EU average but above 1 % of GDP (Eurostat, 2016).

Figure 2 presents comparison of expenditures for research and development in EU-28 and other selected economies: USA, Japan and South Korea. According to Eurostat, EU-28 member states, on average, devoted 1.80% of GDP for research and development in year 2003, although this amount decreased to 1.76% in 2005, it has grown since 2006, with slight fall in 2010, to 2.03% in year 2014. Despite the growing trend in the observed period, the share of GDP devoted for research and development in EU-28 in 2012 was lower than in other selected economies, particularly Japan (3.34%), USA (2.81%) and South Korea (4.03%) (Eurostat, 2016).

Data and Methodology

Data about the size of expenditure for research and development in % of GDP, and data about the labour productivity in EUR per hour, were obtained from the Eurostat database for individual EU-28 member states for the period of 1995-2013.

Our empirical analysis of productivity is limited to only one determinant (the expenditure for research and development), even though there are other factors influencing the productivity. The expenditure for research and development are considered as total and not divided to several sectors (government, private, higher education. etc.). Our database consists of EU-28 member states (N=28) for the period

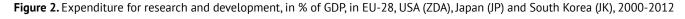
Table 1. Expenditure for research and development in EU-28 and target values for 2020

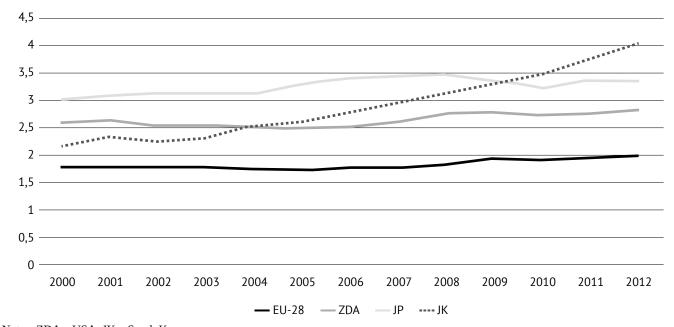
% of GDP	2000	2005	2010	2014	2020 Target
EU-28	1.79	1.76	1.93	2.03	3
BE	1.93	1.78	2.05	2.46	3
BG	0.49	0.45	0.59	0.80	1.5
CZ	1.12	1.17	1.34	2.00	1
DK	2.19	2.39	2.94	3.08	3
DE	2.39	2.42	2.71	2.84	3
EE	0.60	0.92	1.58	1.46	3
<u>IE</u>	1.09	1.20	1.62	1.55	2
EL	n.a.	0.58	0.60	0.83	1.21
ES	0.89	1.10	1.35	1.20	2
FR	2.08	2.04	2.18	2.26	3
HR	n.a.	0.86	0.74	0.79	1.4
<u>IT</u>	1.01	1.05	1.22	1.29	1.53
CY	0.23	0.37	0.45	0.47	0.5
LV	0.44	0.53	0.60	0.68	1.5
LT	n.a.	0.75	0.78	1.02	1.9
LU	1.57	1.59	1.53	1.24	2.3
HU	0.79	0.93	1.15	1.38	1.8
MT	n.a.	0.53	0.64	0.85	2
NL	1.81	1.79	1.72	1.97	2.5
AT	1.89	2.38	2.74	2.99	3.76
PL	0.64	0.57	0.72	0.94	1.7
PT	0.72	0.76	1.53	1.29	2.7
RO	0.36	0.41	0.45	0.38	2
SI	1.36	1.41	2.06	2.39	3
SK	0.64	0.49	0.62	0.89	1.2
FI	3.25	3.33	3.73	3.17	4
SE	n.a.	3.39	3.22	3.16	4
UK	1.73	1.63	1.69	1.72	n.a.

Vir: Eurostat (2016).

Figure 1. Public expenditure for research and development (in EUR per capita) for EU member states in year 2014

Source of data: Eurostat (2016).





Notes: ZDA – USA, JK – South Korea Source of data: Eurostat (2016).

1993-2013 (T=19), resulting in a panel dataset of dimension NxT (532). Considering the missing data for some observations, we applied the empirical analysis to the panel data with 454 observations.

The empirical analysis consists of four parts. First, by applying time series data for individual EU member states, we tested what kind of correlation among R&D intensity (expenditure for research and development as a share of GDP

in %) and productivity existed in the period of 1995-2013. Second, we explored the effect of time lags in the size of expenditure for research and development in their correlation to productivity. In the third part, we explored the functional relationship among expenditure for research and development and productivity by utilizing a panel data set. Fourth, based on the results from the previous part, the size of expenditure for research and development, which maximises the productivity in the panel of EU member states, was calculated.

Results of the Empirical Analysis

Correlation among expenditure for research and development, and labour productivity in EU-28

The Pearson correlation coefficient (r_{xy}) defines the direction and strength of correlation among two variables, y_i and x_i . It can be calculated by (Artenjak, 2003, p. 154):

$$r_{xy} = \frac{c_{xy}}{\sigma_x \sigma_y} = \frac{\frac{1}{N} \sum_{i=1}^{N} (x_i - \bar{x}) (y_i - \bar{y})}{\sqrt{\frac{1}{N} \sum_{i=1}^{N} (x_i - \bar{x})^2 \cdot \frac{1}{N} \sum_{i=1}^{N} (y_i - \bar{y})^2}} = \frac{\frac{1}{N} \sum_{i=1}^{N} x_i y_i - \bar{x} \bar{y}}{\sqrt{\frac{1}{N} \sum_{i=1}^{N} (x_i^2 - \bar{x}^2) \cdot \frac{1}{N} \sum_{i=1}^{N} (y_i^2 - \bar{y}^2)}},$$
(1)

where c_{xy} is covariance of y and x, σ_x standard deviation of variable x, σ_y standard deviation of variable y, N is the number of observations, \bar{y} is arithmetic mean of y, and \bar{x} is arithmetic mean of x.

The value of the correlation coefficient can be in the interval of $-1 \le r_{xy} \le 1$, where the absolute values of the coefficient present different strength of the correlation among the observed variables (Artenjak, 2003, p. 154):

 $|r_{xy}| = 0$, no correlation, $0 < |r_{xy}| \le 0.50$, weak correlation, $0.51 \le |r_{xy}| \le 0.79$, moderate correlation, $0.80 \le |r_{xy}| \le 0.99$, strong correlation, $|r_{xy}| = 1$, perfect correlation.

Based on the data for the size of expenditure for research and development, and labour productivity, we calculated the correlation coefficients (r_{xy}) for individual EU-28 member states in the period of 1995-2013. Table 2 presents results obtained in SPSS.

In 17 out of 28 EU member states, there is positive and statistically significant correlation among expenditure for research and development and labour productivity. In one case, there is statistically significant negative correlation (p < 0.05), while other countries exhibited statistically insignificant correlation among observed variables. Table 3

presents the number of EU-28 member states regarding the direction and strength of the correlation for the significance level of 5%.

Table 2. Correlation coefficients (r_{xy}) among expenditure for research and development, and labour productivity in EU-28

	r_{xy}	р
BE	0.529*	0.020
BG	0.350*	0.042
CZ	0.793**	0.000
DK	0.850**	0.000
DE	0.907**	0.000
EE	0.865**	0.000
IE	0.777**	0.000
EL	0.205	0.523
ES	0.790**	0.000
FR	-0.084	0.734
HR	n.a.	n.a.
IT	0.655**	0.002
CY	0.958**	0.000
LV	0.796**	0.001
LT	0.893**	0.000
LU	0.436	0.178
HU	0.866**	0.000
MT	0.037	0.914
NL	-0.252	0.298
AT	0.988**	0.000
PL	0.451	0.053
PT	0.888**	0.000
RO	0.005	0.983
SI	0.794**	0.001
SK	-0.455	0.050
FI	0.883**	0.000
SE	-0.104	0.711
UK	-0.462*	0.046

Notes

 $\ensuremath{\text{n.a.}}$ – Due to missing data for Croatia, the correlation coefficients were not calculated.

Table 3. Number of EU-28 member states regarding the direction and strength of correlation

	Positive and weak correlation	Positive and moderate correlation	Positive and strong correlation	Negative correlation
Statistically significant at 5%	1	7	9	1
Statistically insignificant		9		

^{*}Correlation coefficient is statistically significant at 5%.

^{**} Correlation coefficient is statistically significant at 1%.

Correlation among expenditure for research and development and labour productivity in EU-28 with time lags

Besides the basic correlation coefficient among the observed variables, we have checked also the effects of time lags in expenditure for research and development on labour productivity by applying Pearson correlation coefficients for periods (t-1), (t-2), (t-3). For labour productivity, the period of 1998-2013 was applied, while for expenditure for research and development, we employed time periods (t) 1998-2013, (t-1) 1997-2012, (t-2) 1996-2011 and (t-3) 1995-2010. We calculated Pearson correlation coefficients (r_{xy}) in SPSS for individual EU member states and presented them in Table 4.

Considering the time period t (without time lags in expenditure for research and development), there are 16 EU member states with statistically significant positive moderate or strong correlation coefficients. Regarding one, two and three-year lags in expenditure for research and development, there are 14, 13 and 13 EU member states with positive moderate or strong correlation coefficients, respectively. When compared to the correlation without the time lags, one can note that the correlation is stronger with 1-year lag for 10 EU member states, with 2-year lag in 11 states and with 3-year lag in 10 EU member states (out of 16 EU member states with statistically significant positive moderate or strong correlation without time lags). Additionally, it can be noted that 8 out of 16 member states have the highest

Table 4. Correlation coefficients (r_{xy}) in EU-28 with time lags in expenditure for research and development

	,	-		
	r _{xy} +	r _{xy} (t-1)	r _{xy} (t-2)	r _{xy} (t-3)
BE	0.308 (p=0.245)	0.265 (p=0.322)	0.316 (p=0.234)	0.510* (p=0.044)
BG	0.495 (p=0.051)	0.436 (p=0.091)	0.186 (p=0.491)	-0.186 (p=0.490)
CZ	0.713** (p=0.002)	0.729**(p=0.001)	0.826** (p=0.000)	0.919** (p=0.000)
DK	0.757** (p=0.001)	0.839** (p=0.000)	0.905** (p=0.000)	0.926** (p=0.000)
DE	0.846** (p=0.000)	0.855** (p=0.000)	0.895** (p=0.000)	0.916** (p=0.000)
EE	0.865** (p=0.000)	0.798** (p=0.000)	0.829** (p=0.001)	0.909** (p=0.000)
IE	0.777** (p=0.000)	0.705** (p=0.002)	0.595* (p=0.015)	0.458 (p=0.074)
EL	0.205 (p=0.523)	0.469 (p=0.067)	-0.086 (p=0.801)	0.383 (p=0.245)
ES	0.764** (p=0.001)	0.854** (p=0.000)	0.922** (p=0.000)	0.962** (p=0.000)
FR	0.329 (p=0.214)	0.189 (p=0.483)	-0.146 (p=0.589)	-0.427 (p=0.099)
HR	n.a.	n.a.	n.a.	n.a.
IT	0.442 (p=0.087)	0.413 (p=0.112)	0.467 (p=0.068)	0.545* (p=0.029)
CY	0.958** (p=0.000)	0.949** (p=0.000)	0.981** (p=0.000)	0.985** (p=0.000)
LV	0.796** (p=0.001)	0.871** (p=0.000)	0.803** (p=0.001)	0.682** (p=0.007)
LT	0.893** (p=0.000)	0.904** (p=0.000)	0.700 (p=0.053)	0.519 (p=0.233)
LU	0.463 (p=0.178)	0.410 (p=0.211)	0.147 (p=0.706)	-0.248 (p=0.554)
HU	0.809** (p=0.000)	0.853** (p=0.000)	0.886** (p=0.000)	0.898** (p=0.000)
MT	0.037 (p=0.914)	0.400 (p=0.175)	-0.573 (p=0.107)	-0.524 (p=0.183)
NL	-0.073 (p=0.789)	-0.294 (p=0.269)	-0.516* (p=0.041)	-0.685** (p=0.003)
AT	0.981** (p=0.000)	0.984** (p=0.000)	0.987** (p=0.000)	0.984** (p=0.000)
PL	0.519** (p=0.039)	0.398 (p=0.127)	0.195 (p=0.469)	0.055 (p=0.841)
PT	0.874** (p=0.000)	0.910** (p=0.000)	0.923** (p=0.000)	0.906** (p=0.000)
RO	0.531** (p=0.034)	0.248 (p=0.355)	-0.212 (p=0.431)	-0.526* (p=0.036)
SI	0.794** (p=0.001)	0.730** (p=0.003)	0.672** (p=0.009)	0.659** (p=0.010)
SK	0.005 (p=0.985)	-0.445 (p=0.084)	-0.723** (p=0.002)	-0.866** (p=0.000)
FI	0.741** (p=0.001)	0.829** (p=0.000)	0.883** (p=0.000)	0.903** (p=0.000)
SE	-0.663** (p=0.013)	0.469 (p=0.067)	-0.188 (p=0.558)	0.242 (p=0.448)
UK	-0.371 (p=0.157)	-0.291 (p=0.275)	-0.336 (p=0.203)	-0.528* (p=0.036)

Notes: *Correlation coefficient is statistically significant at 5%. ** Correlation coefficient is statistically significant at 1%. n.a. – Due to missing data for Croatia, the correlation coefficients were not calculated.

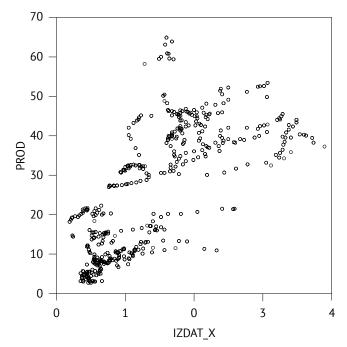
correlation coefficient among expenditure for research and development and labour productivity with 3-year lag (*t*-3) for expenditure for research and development. While two member states exhibit the strongest correlation among the observed variables with 2-year lag in expenditure for research and development, there are two member states with 1-year lag and four member states without time lags.

Regarding all EU member states included into the analysis, it can be concluded that 15 countries (out of 27) exhibit positive and statistically significant correlation among labour productivity in the current period and expenditure for research and development with 3-year lag. This is followed by 14 countries with positive and statistical significant correlation in the case of 2-year lag in expenditure for research and development, and by 13 countries with positive and statistical significant correlation in the case of 1- year lag in expenditure for research and development.

Nonlinear relation among expenditure for research and development and labour productivity

The scatter plot in Figure 3 displays nonlinear relation among expenditure for research and development in % of GDP (independent variable) and labour productivity per hour of work (dependent variable). Distribution of observations in the diagram illustrates that the best fit would be a parabola (polynomial of degree 2). The estimation of quadratic function was conducted on the panel of EU-28 member states.

Figure 3. Expenditure for research and development in % of GDP (*IZDAT_X*) and labour productivity (*PROD*) in EU-28 in period 1995-2013



Quadratic regression model is in general expressed as (Pfajfar, 2014, p. 167):

$$y_{it} = \beta_1 + \beta_2 x_{2it} + \beta_3 x_{2it}^2 + u_{it}, \tag{2}$$

where:

i = 1,2,...n (n - number of observations),

t = 1,2,...T (T – number of time units),

 y_{it} – dependent variable,

 x_{it} – independent variable,

 β – regression parameters,

 u_{it} – regression error.

Developing our model, we set expenditure for research and development in % of GDP ($IZDAT_X$) as independent variable X_{2it} , while the dependent variable Y_{it} is labour productivity per hour of work (PROD). In such a setting the quadratic regression model is defined as:

$$\tilde{P}ROD_{it} = b_1 + b_2 (IZDAT_X)_{it} + b_3 (IZDAT_X)_{it}^2,$$
(3)

where:

i stands for number of EU member states, i = 1, 2, ..., 28; t stands for number of observed years in time period of 1995-2013, t = 1, 2, ..., 19.

Regarding the main characteristic of our data set, we are dealing with panel data or pooled cross-section time-series data. There are several advantages of panel data in comparison with time-series data or cross-section data. In this context, Gujarati (2011, p. 280) names higher information value and the possibility of considering the heterogeneity of individual observation units (EU member states). Our dataset is considered as an unbalanced panel since number of observations (28 member states) is different from number of time units (19 years). It is also a short panel, as number of cross sections (N=28) is higher than number of time units (T=19) (Gujarati, 2011, p. 280).

The estimated quadratic regression model with fixed effects resulted in the following results:

Under assumption of heterogeneity of cross section units (EU member states), the regression model with fixed effects was utilized. To test for statistical significance of heterogeneity

among EU member states, we employed redundant fixed effect test in EViews and achieved results presented in Table 5.

Table 5. Redundant Fixed Effect Test

Redundant Fixed Effects Tests

Equation: Untitled

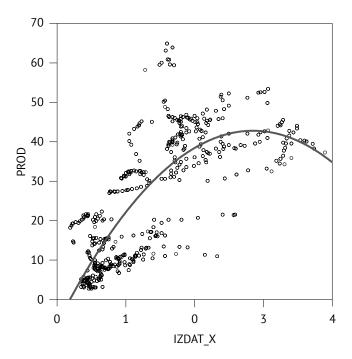
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	413.053124	(26,425)	0.0000
Cross-section Chi-square	1483.851136	26	0.0000

The values of F and χ^2 statistics are statistically significant at p < 0.001, thus, the null hypothesis of redundant fixed effects can be rejected, which means that fixed effects are imperative, confirming the heterogeneity among individual EU member states and the appropriateness of applying the model with fixed effects.

Based on our sample, it can be concluded that the labour productivity, on average, increases for 22.411 EUR per hour of work (34.493 – 2*6.041), if expenditure for research and development is increased by one percentage point. The effect of the independent variable is positive. The value of adjusted determination coefficient (\overline{R}^2) in the estimated model shows that 61.4% of dependent variable variance can be explained by the variance of explanatory variable. Graphic results are presented in Figure 5.

Figure 5. Graphic presentation of estimated regression function



The optimal level of expenditure for research and development

The estimated quadratic regression function in Equation 4 displays the positive value of regression coefficient b_2 , while the value of regression coefficient b_3 is negative, suggesting that the impact of the independent variable on dependent variable increases at first and later it starts diminishing. As Figure 5 shows, the quadratic function is concave. Maximum value of the estimated regression function can be calculated by setting its first derivative to 0. Thus, the extreme value of the quadratic function can be calculated as:

$$x_{max} = -\frac{b_2}{2b_3} \tag{5}$$

In our case the size of expenditure for research and development that maximises labour productivity is:

$$IZDAT_X_{max} = -\frac{34.493}{2(-6.041)} = 2.85$$
 (6)

Considering the optimal value of the independent variable, the value of the dependent variable (labour productivity) is 42.83 EUR per hour of work. It is important to note that the calculated optimal size of expenditure for research and development is very close to the EU target for 2020 (3%) on average and also for many individual member states.

Conclusion

For decades, the European Union has lagged behind economic superpowers, such as the United States of America and Japan. For this reason, the question of how to increase productivity and economic growth came to the forefront of political and economic discourse. The paper focuses on investment in research and development as a factor of productivity and economic growth. Throughout the history of economic theory, different authors studying the relationship between expenditure for research and development on the one hand and productivity and economic growth on the other made various theoretical and empirical contributions. Distinctively, the so-called new growth theory or endogenous growth models strive to explain the sources of technological change, and consequently, their impact on productivity and the economic growth. Thus, one common characteristic of the endogenous growth models is that new knowledge obtained in the production process through learning by doing; knowledge spill-over; and the creation of new types of products, processes, organization, etc, or their high-quality improvements are inextricably linked to research, development and innovation, and are important

factors of productivity and economic growth. The EU has placed investment in research and development at the centre of its key strategic documents. The target of reaching 3% of GDP spent on research and development has already been set in the 2000 Lisbon Strategy and remains the main objective in the new strategy entitled Europe 2020 and its flagship initiative, Innovation Union.

This paper confirms the link between expenditure for research and development (expressed in % of GDP) and labour productivity (expressed in the number of hours worked) based on observed data for EU member states in the period 1995-2013. A causal link between variables of the concave parabola was confirmed, and the value of investment in research and development of 2.85% of GDP maximising labour productivity was determined based on the examined data. In accordance with these findings, EU's target of reaching 3% of GDP spent on research and development to be achieved by 2020 seems in support of reaching maximum productivity in the EU. The results are similar to

those of Coccia (2009) related to optimal level of investment in research and development, and to those of Gehringer et al. (2016) and Gocer et al. (2016), as they all find empirically supporting evidence of the impact of investment in research and development on productivity and income.

An important limitation of this research is examining the effects of only one explanatory variable. Thus, further research could be focused on adding more potential determinants of productivity and economic growth. Future analysis of this topic could also cover other panel data techniques in discovering the impact of investment in research and development on labour productivity in EU member states.

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Produktivnost in gospodarska rast v Evropski uniji: vpliv vlaganj v raziskave in razvoj

Izvleček

V tem članku smo se osredotočili na vlaganja v raziskave in razvoj kot dejavnik produktivnosti in gospodarske rasti. Za države članice EU smo v obdobju 1995-2013 potrdili povezanost izdatkov za raziskave in razvoj, izraženih v % BDP, s produktivnostjo dela, izraženo na uro opravljenega dela. Ugotovili smo povezanost med spremenljivkama oblike konkavne parabole ter na obravnavanih podatkih opredelili vrednost vlaganj v raziskave in razvoj (2,85 % BDP EU), ki maksimira produktivnost dela. Ob tem lahko navedemo, da je cilj o vlaganjih v raziskave in razvoj v obsegu 3 % BDP, ki si ga je zastavila EU do leta 2020, v podporo doseganju maksimalne ravni produktivnosti v EU.

Ključne besede: vlaganja v raziskave in razvoj, produktivnost, gospodarska rast, korelacija, panelna analiza

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Cultural Foundations of Female Entrepreneurship in Mexico: Challenges and Opportunities

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Abstract

This paper analyses possible challenges and opportunities that Mexican female entrepreneurs face during the establishment of new enterprises. Based on in-depth interviews with female entrepreneurs and entrepreneurship experts, authors researched opportunities in the form of governmental and non-governmental institutional support, growing entrepreneurship, social awareness and women empowerment. However, lack of credibility, fear of vulnerability to criticism and social pressure are some challenges associated with gender egalitarianism. In such, the authors proved that Mexican culture impacts women in some ways more than the others. Institutional collectivism was the cultural dimension with higher positive impact on women, followed by gender egalitarianism with a neutral to positive impact and the power distance with a neutral influence on women.

Keywords: female entrepreneurship, culture, Mexico, challenges, opportunities

Introduction

The growth of female entrepreneurship indices is becoming more influential and powerful over time. Nevertheless, in Mexico, there exists more male than female entrepreneurs. What is the reason for this? One theory based on the Global Entrepreneurship and Development Institute expresses that formal institutions or cultural conditions generate barriers for women, which makes it more difficult to start or grow a new venture. Women may face some type of problems concerning gender equalization and entrepreneurship. For example, they can be

affected by reduced legal rights, and restrictions on activities done outside their home, community or country (Terjesen & Lloyd, 2015, p. 7). In the 2015 Female Entrepreneurship Index Report from the GEDI, it is indicated that attitudes and culture play a crucial role in creating and forming an entrepreneurial culture (Terjesen & Lloyd, 2015, p. 7).

Based on a research from the World Bank, the number of women operating their own business globally is increasing every year (World Bank, 2012, p. 3). There are different factors that cause this important growth, mainly the necessity or the opportunity (World Bank, 2012, p. 3). The World Bank mentions in its 2012 World Development Report that in the developed countries, opportunity is the driving force that influences women to open a new business. On the contrary, women in developing countries do so based on necessity. This is mainly because in developing countries, women need to find a way to support the family and the household. In these cases, self-employment and entrepreneurship is one of the best and feasible options to progress and experience economic improvement (World Bank, 2012, p. 3).

Based on the Global Entrepreneurship Monitor 2014 Report and in contrast to what the 2012 World Bank Report mentioned previously about developing countries, Mexican entrepreneurs tend to start businesses to pursue an opportunity, rather than out of a necessity (GEM, 2014). Even though Mexico is considered by the World Bank as a developing country, Mexican entrepreneurs perceive good opportunities to start a new business. Based on 2014 data from GEM, 53.5% of the adult population in Mexico believe that they have the correct skills to be successful in the entrepreneurial world (GEM, 2014). Studies from the same research indicate that three out of four (75%) early-stage entrepreneurs start a business pursuing an opportunity, and 50% are in an improvement-driven stage (GEM, 2014).

Literature Review

Over the last few decades, several female entrepreneurship studies and researches have been written and published. However, none of them has focused on analysing how the cultural background of an emerging market such as Mexico can create challenges and/or opportunities for female entrepreneurs during the process of a venture creation. On one hand, many types of research identify that most of the entrepreneurial activity is a result of business opportunities, long pursuit and detection (e.g., Hessels et al., 2008, p.328; Bosma et al., 2008, p.13; Feldman & Bolino, 2000, p.53; Carter et al., 2003, p.17). On the other hand, various researches mention that low and middle-income countries have one of the highest rates of necessity-based entrepreneurship, especially among females

(e.g., Allen et al., 2008, p.36; Verheul et al., 2006, p.156; Minniti, 2006, p. 23, Terjesena & Amorós, 2010, p.314). In Mexico, entrepreneurs tend to start businesses to pursue an opportunity, rather than out of necessity (GEM, 2014). There are few studies that focus mainly and specifically on Mexican female entrepreneurship (e.g., Guerrero Ramos et al., 2014, 2012; Godoy, 2013; Rodríguez et al., 2014) and some are limited towards providing guidance for women in order to be able to open a new venture in Mexico (GEM Report 2014). A high number of papers investigate both how institutional actions can facilitate or block female entrepreneurship (e.g., Allen et al., 2008, p.24; Estrin & Mickiewicz, 2011) as well as the development and performance of female entrepreneurs (e.g., Bowen & Hisrich, 1986; Terjesen & Amorós, 2010; Bardasi et al., 2011). However, limited attention has been focused on Latin American countries such as Mexico (Weeks & Seiler, 2001, p.3). Cultural dimensions are described and ascertained (e.g., Hofstede, 2001; House et al., 2004) but they are not linked to an entrepreneurial manner.

Researchers like Hofstede (1980), Dorfman and Howell (1988), House et al. (2004), and Schwartz (2006), among others, have discussed cultural dimensions as a tool to conceptualise and operate cultures. One of the most relevant cultural dimensions are the ones developed by Hofstede; based on his work titled, "Culture consequences, comparing values, behaviours, institutions and organizations across nations", the dimensions created have been applied in a large number of research in the area of sociology, psychology, management and marketing (Steenkamp, 2001, p. 31).

The aim of this paper is to describe possible challenges and opportunities that Mexican female entrepreneurs face during the establishment of new enterprises. The authors analyse how three of the nine GLOBE study cultural dimensions power distance, gender egalitarianism, and institutional collectivism—can impact positively or negatively the female entrepreneurs, between the phases of conception and firm birth included in the entrepreneurship process described by the Global Entrepreneurship Monitor. The main framework for the analysis of this research is the GLOBE study. It is a complete and renowned research conducted and edited by five academics, Robert J. House, Paul. J Hanges, Mansour Javidan, Peter W. Dorfman, and Vipin Gupta. This work examines culture based on nine cultural dimensions, which are analysed by the practices and values of 62 societies. Practices are acts or "the way things are done in a culture" and values are "artefacts" made by humans, in other words, they are judgments about "the way things should be done" (House et al., 2004, p. XV). The GLOBE study measures the "practices" and "values" existing in several types of industries (financial, services, food processing, and telecommunications industry); organizations (several in each industry); and societies (62 cultures) (House et al., 2004, p. XV). The

authors of this research try to define how culture is related to societal, organisational, and leadership effectiveness (House et al. 2004, p. XV).

Based on the previous research works of Hofstede (1980), Huntington (1996), Inglehart (1997), Murdock (1981), Redfield (1948), and on their own investigation, the authors of the GLOBE study decided to adapt Hofstede's cultural dimensions (power distance, uncertainty avoidance, individualism, masculinity, long-term orientation) into a more precise and complete way. After carrying out this project, the authors broke new ground by developing a total of nine cultural dimensions, which are rated with 7 points, 1 being the lowest level and 7 the maximum (House et al., 2004, p. XVI). Next, they are presented and scored specifically for the country of Mexico.

In this paper, the authors have decided to rely on just three cultural dimensions in order to develop the research. Gender egalitarianism, institutional collectivism and power distance were selected. Furthermore, the research has focused on indicators of "practices" rather than "values", since these types of indicators describe how Mexican society acts on a day-to-day basis rather than being based just on moral standards.

Based on the results from the GLOBE study of 62 societies: Culture, Leadership, and Organizations, Mexican culture is being described as a society that has a high degree (5.22/7) on the power distance dimension, a medium degree (4.06/7)

on the institutional collectivism dimension and a medium degree (3.64/7) on the gender egalitarianism dimension (House et al., 2004, different pp.).

After the literature review, the authors conducted the empirical part of the study by obtaining primary data. Attaining primary data consisted of a qualitative exploratory research, based on 13 in-depth interviews with female entrepreneurs and entrepreneurship experts in Mexico. After presenting the methodology, the next sections reveal the findings and discussion of the results of an empirical analysis. The last section draws conclusions.

Methodology

To find out how culture can affect or benefit female entrepreneurship in Mexico, the following research questions were established:

- RQ1: How does the GLOBE cultural dimensions of power distance, gender egalitarianism, and institutional collectivism impact women during the conception phase of a new venture in Mexico?
- RQ2: How do these implications transform into challenges?
- RQ3: How do these implications transform into opportunities?

Table 1. GLOBE's Study of cultural dimensions

GLOBE cultural dimensions for Mexico						
Cultural dimension	Description	Practices (as is)	Values (should be)			
Power distance	The degree to which members of a collective expect power to be distributed equally	5.22	2.85			
Uncertainty avoidance	The extent to which a society, organization, or group relies on social norms, rules or procedures to alleviate unpredictability of future events.	4.18	5.26			
Human orientation	The degree to which a collective encourages and rewards individuals for being fair, altruistic, generous, caring and kind to others.	3.98	5.10			
Collectivism I (Institutional)	The degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action.	4.06	4.92			
Collectivism II (In-Group)	The degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families.	5.71	5.95			
Assertiveness	The degree to which individuals are assertive, confrontational, and aggressive in their relationships with others.	4.45	3.79			
Gender Egalitarianism	The degree to which a collective minimizes gender inequality.	3.64	4.73			
Future Orientation	The extent to which individuals engage in future-oriented behaviors such as delaying gratification, planning, and investing in the future.	3.87	5.86			
Performance Orientation	The degree to which a collective encourages and rewards group members for performance improvement and excellence.	4.10	6.16			

Source: House et al., 2004.

To answer these research questions, we developed an explorative qualitative research. Mainly for this study, a total of 13 in-depth interviews were completed; 11 with female entrepreneurs and 2 with entrepreneurship experts. A qualitative research design is particularly appropriate for research questions exploring entrepreneurs' points of view, experiences and preferences. As an unstructured, exploratory research method, qualitative research provides a better understanding and insight into the problem stated (Malhotra, 2010, p. 171). The analysis of the data content has a deductive approach. This is based on the fact that the authors created their own assumptions about the possible results and answers to the research questions mentioned previously.

Due to the nature of the study, the authors used a non-random sampling method, namely quota sampling. For the research, the principle of key informant was used. The main informant was the team responsible for a business incubators network from the university Tecnológico de Monterrey, and the director of the organization Victoria 147.

For the target population, the authors have chosen Mexican female entrepreneurs who have owned a business in Mexico for more than 3 months and had already completed the conception phase of the GEM entrepreneurial process.

Semi-structured interviews were used in order to give the participants an opportunity to present their own experiences regarding challenges, opportunities and cultural insights during the conception phase of the new venture. Interviews included

13 questions for the entrepreneurs and 9 questions for the experts. An interview guide helped authors as an orientation for the interviews. Interviews with female entrepreneurs and with experts were organized into four main general sections: introduction (of the company and participant or of the institution and programs offered), motivations to undertake entrepreneurship, challenges, and opportunities. For further analysis, the sections of challenges and opportunities were connected to the three cultural dimensions that were selected: power distance, gender egalitarianism, and institutional collectivism. For experts, the section of challenges was mainly related to the selected GLOBE cultural dimensions, and the opportunities section was more related to national prospects for female entrepreneurs.

Findings

In this chapter, the main findings from the explorative qualitative research are presented through aspects of opportunities and challenges.

Opportunities: Entrepreneurs

The interviews that were conducted with entrepreneurs followed the guidance of two main questions within the section on opportunities. The first one was divided into three and followed with sub-questions depending on the specific case of the participant.

Table 2. Entrepreneur's opportunities

		Related to:			
N°	Main opportunities during the conception phase	Power Distance	Gender Egalitarianism	Institutional Collectivism	Main 3 factors that promote female entrepreneurship
1	- Support from ITESM, INADEM, COPARMEX	Neutral: no difference between genders	Support from society.	Support from ITESM and INADEM.	 Face fears Training and improve knowledge Self-confidence
2	 Time management Work in a high entrepreneurial atmosphere Networking 	Neutral: no difference between genders	Good acceptance from society	Application to INADEM's contest and support from SEDECO to the technological sector.	Entrepreneurial lifestyle knowledge Avoid the comfort zone Avoid gender roles
3	- Good relationship with government and entrepreneurial institutions	Very helpful employees	Support from groups of friends and institutions	Support from SHCP, Victoria 147 and Bank Banregio	1. Respect among women 2. Conferences, programs that help women to not feel guilty or less for being entrepreneurs 3. Increase awareness regarding the benefits of entrepreneurship to new generations
4	 Financial resources from different governmental institutions Equitable processes from institutions 	Neutral: no difference between genders	Very good acceptance from society, women empowerment	Competitions from INADEM and state's government with a special bonus to women. As well as competitions with CONACYT	 Diffusion of information Perseverance Responsibility Find a good team to work with or partnership

Table 2. Entrepreneur's opportunities (continuation)

			Related to):	
N°	Main opportunities during the conception phase	Power Distance	Gender Egalitarianism	Institutional Collectivism	Main 3 factors that promote female entrepreneurship
5	 Acceptance and credibility from society Entertainment sector related to children is well accepted if the service is provided by a woman 	Neutral: no difference between genders	Good acceptance from society	Good assistance from PROEMPLEO	1. Create awareness about the benefits of female entrepreneurship 2. More governmental support 3. To provide more knowledge about entrepreneurship
6	Economic support from relativesParticipation in Victoria 147	difference	Generation with a new way of thinking, good acceptance from society and increasing women empowerment	None	Create social awareness Provide more support, increase number of institutions Balance family/mother life with entrepreneurship
7	Family supportInstitutional support from Victoria 147	None	Acceptance from the community	Support from INADEM and Victoria 147	Face fears Create more institutions that support female entrepreneurship More education
8	 Networking Financial resources from family Virgin market niche Being part of Victoria 147 	Good assistance	Support from family and friends	Support from CANACO in Mexico City	More diffusion of information about female entrepreneurship Create a type of network to support mothers who are entrepreneurs Provide better financial programs
9	 Bank loans especially for female entrepreneurship Programs supporting female entrepreneurship 	Neutral: no difference between genders	Great acceptance from society, women empowerment and new generations aware of the benefits of entrepreneurship	INADEM, National Institution for Women and more access to financing	1. Enforce self-esteem 2. Have a concrete life plan 3. Do networking 4. Disseminate more information regarding female entrepreneurship
10	- Support from business incubators	Neutral: no difference between genders	Significant growth of female entrepreneurship and women empowerment	Opportunities with Banks Banregio and NexoBanregio special for women	1. Education 2. More financial resources 3. More entrepreneurial networks 4. Collaboration 5. Female empowerment 6. Financial independence
11	-Networking -Solid financial support	Women empowerment	Women empowerment	Unknown	 Improve self-esteem Believe in your passion Be perseverant Be informed and aware of all the opportunities available

Source: Own research.

Analyzing results from interviews, some conclusions can be drawn about the possible or available opportunities that female entrepreneurs have during the conception phase. As a general finding, it can be said that most of opportunities generated during the conception phase were in close relation to cultural dimensions of institutional collectivism and gender egalitarianism. On the other hand, those related to the institutional collectivism are based on the fact that important and significant opportunities for female entrepreneurs are being developed by governmental and non-governmental institutions. On the other hand, they are

in close relation to gender egalitarianism, due to increasing social awareness and women empowerment in the country. In relation to the cultural dimension of power distance, participants didn't provide any valuable response; most of them didn't make any specification about possible opportunities related to it. Thus, it can be said that this cultural dimension was not significant to the participants.

In the next table, the most frequent opportunities related to each cultural dimension mentioned by the entrepreneurs are shown.

Table 3. Possible or available opportunities for entrepreneurs

Possible or available opportunities							
Power Distance Helpful governmental employees, good assistance.							
Gender Egalitarianism Support from relatives and society, increasing women empowerment, new generation with n thinking (pro-female entrepreneurship)							
Institutional Collectivism	Support from governmental institutions like SE, INADEM, INMujeres, SEDECO, PROEMPLEO, SHCP, CONACYT, and CANACO. Special programs for women provided by governmental institutions like MujeresPYME and Mujeres Moviendo a México. As well as governmental facilities like government business incubators. Special bonus for female entrepreneurs during contest and application for loans credits provided by the government. Special programs for women provided by non-governmental institutions like Victoria 147, ITESM business incubators, Mujer Emprende, 10,000 por México. Special financial programs provided specially for women from Nacional Financiera, Banregio, Banorte						

Source: Own research.

Moreover, participants exposed factors that promote female entrepreneurship in Mexico. These are based on personal experiences. For interviewees', participation in different motivational programs for improving self-esteem and avoiding fears, and promotion of commercial, managerial and financial knowledge were the most important factors for promotion of female entrepreneurship. Others were the raised social awareness and acceptance of female entrepreneurship; spreading opportunities offered by governmental and non-governmental institutions and possibilities for networking.

Opportunities: Experts

Related to the opportunities, two questions were posed to the experts. One of them concerned the main opportunities that female entrepreneurs have or can obtain, and the other concerned the main factors that can promote female entrepreneurship in Mexico. In the opinion of experts, main opportunities that female entrepreneurs have are in the form of good bank credit and loans for female entrepreneurs, many governmental programs for supporting female entrepreneurship, as well as possibilities for networking and business incubators. Main

factors that promote female entrepreneurship are financial knowledge, learning from a corporative and business atmosphere, improvement of self-esteem and self-confidence, entrepreneurial knowledge, development of entrepreneurial competencies and the awareness of opportunities.

Challenges: Entrepreneurs

In this part, the main challenges or obstacles perceived and presented during the conception phase are mentioned and described from a personal perspective.

As with the section related to opportunities, the interviews conducted with entrepreneurs in the segment of challenges followed the guidance of two main questions. The first one being divided into three parts, and the following one with sub-questions depending on the specific case of the participant.

Analysing the results of the interviews, some conclusions can be made about the perceived or experienced challenges that female entrepreneurs had during the conception phase. As a general finding, it can be said that most of the challenges

Table 4. Entrepreneur's challenges

		Related to:			
N°	Main obstacles during the CP	Power Distance	Gender Egalitarianism	Institutional Collectivism	Difficulties faced within Mexican Society
1	 Managerial and financial knowledge Devaluation of the market in terms of the business sector 	None	Lack of acceptance from society	No problems regarding gender, just with the administrative process in general. Institutional efficiency	 Low self-esteem and confidence Tolerance towards risk Fear of failure
2	- Relationships with transportation companies and quality provided during services of transportations	Normal bureaucratic problems, but nothing to do with gender itself	Vulnerability and social pressure	No problems related to gender	Lack of credibility Self-esteem and confidence Gender roles

Table 4. Entrepreneur's challenges (continuation)

		Related to:			
N°	Main obstacles during the CP	Power Distance	Gender Egalitarianism	Institutional Collectivism	Difficulties faced within Mexican Society
3	- Social pressure regarding the gender role (family)	None	Social pressure from family	None	Lack of credibility and acceptance Criticism and social pressure regarding the gender role Tolerance towards risk
4	Lack of administrative knowledgeFinancial funds	Normal bureaucratic problems, but nothing to do with gender itself	None	None	Fear of failure Lack of self-esteem and confidence Fear to vulnerability for criticism and rejection
5	Financial resourcesBasic management knowledge	None	None	None	1. Fear of economic instability
6	Give up a regular job for something unknownLack of partnershipCreation of desireFinancial resources	Normal bureaucratic problems but nothing to do with gender	None	Long administrative processes, not enough diffusion of programs and rewards	 "Machismo" way of thinking Lack of credibility Lack of self-esteem
7	- Sell knowledge - Financial resources	Lack of institutional efficiency	Lack of credibility from clients	None	Lack of self-esteem and confidence Lack or low practical or rational way of thinking from women More conservative thinking Lack of credibility Fear of failure
8	- Trade knowledge	None	None at the beginning but after having babies, reduction of credibility from clients	-Lack of diffusion about programs -Fear of debt with banks	Lack of credibility Gender patterns roles Time management
9	 Self-esteem Low support between women, no respect or envy 	Some due to ignorance of the business sector and institutional efficiency	Lack of acceptance	None	 Lack of self-esteem and confidence Support of partnership Lack of will Fear of failure
10	 Few information about how to make the entrepreneurial process correctly Many business incubators generate confusion 	None	Gender roles	Good promotion from INADEM	 Fear of failure Communication problems Lack of credibility, acceptance from family Lack of partnership
11	Bureaucratic and administrative problems	Bureaucratic and regulatory terms	None	None	1. Women's low self-esteem, confidence and respect to their own person 2. "Machismo thinking" 3. Men believe they have the power in most of the times

Source: Own research.

or obstacles generated during the conception phase were in close relation to the cultural dimensions of institutional collectivism and gender egalitarianism. In one hand, those related to institutional collectivism are based on the fact that there is still not enough diffusion of programmes promoting female entrepreneurship, as well as lack of financial funds and institutional efficiency. On the other hand, results were in close relation to gender egalitarianism. This is because most of the participants mentioned that there is a lack of social credibility and acceptance for being a woman, together with a fear of vulnerability to criticism and social pressure in society. In relation to the cultural dimension of power

Table 5. Perceived or experienced challenges by entrepreneurs

Perceived or ex	perienced challenges
Power Distance	Normal bureaucratic problems, but none of them having to do with gender related. Just 2 out of 13 presented or mentioned problems relating it to lack of institutional efficiency.
Gender Egalitarianism	Lack of acceptance from society or family, vulnerability to criticism, social pressure based on gender roles, lack of credibility from clients
Institutional Collectivism	Lack of institutional efficiency and financial funds, not enough diffusion of programs and rewards from governmental institutions, fear to bank debts

Source: Own research.

distance, participants didn't provide any valuable response; most of them didn't specify about possible obstacles related to it. Thus, it can be said that this cultural dimension was not significant to the participants, as was the case with opportunities. The most frequent challenges related to each cultural dimension mentioned by the entrepreneurs are shown in the table below.

Challenges: Experts

In the case of the experts, three main questions with sub-questions were developed, all of them asking about the main obstacles coming from a social, institutional and national/cultural perspective. These are the three responses obtained from the two experts.

Two interesting responses were frequent during both types of interviews and became significant for the researchers: one was the lack of self-esteem and confidence of women; the other was risk tolerance towards starting a new business. Hence, in general terms, it can be confirmed that most of the participants of these interviews are more risk averse than men. They prefer everything planned and prepared before undertaking a business. Specifically in relation to financial resources, women tend to have a sort of fear regarding banking funding and loans.

Our results are similar to others, proving that women are both more risk-averse and less competitive than men (e.g., Croson & Gneezy, 2009, p.1; Bönte & Piegeler, 2012, p.7; Wagner, 2007, p.2; Verheul et al., 2012, p.334). Self-esteem and

Table 6. Women's challenges based on experts opinion

N°	Main obstacles for women
1	Lack of self-esteem and confidenceTolerance towards riskFear of failure
2	Tolerance for uncertaintyLack of entrepreneurial knowledgeFear of failure

Source: Own research.

confidence regarding entrepreneurship can be very important for deciding to become an entrepreneur. Based on the main findings of this research, more than half of the participants mentioned that this was an important challenge for them.

Analysis and Discussion

In this chapter, the main findings are compared with the primary data gathered with the literature review. Also, the research questions are answered and explained by providing verification or falsification to the assumptions previously defined.

Research question 1: How does the GLOBE cultural dimensions of power distance, gender egalitarianism, and institutional collectivism impact women during the conception phase of a new venture in Mexico?

It is true that the three cultural dimensions selected for this research have an impact on women during the conception

Table 7. Research question n° 1 tested

Assumptions	Reality
A1.1 High degree of power distance has a <u>negative impact</u> on women during the conception phase.	R1.1 High degree of power distance has a <u>neutral impact</u> on women during the conception phase.
A1.2 Medium degree of gender egalitarianism has a <u>neutral</u> <u>impact</u> on women during the conception phase.	R1.2 Medium degree of gender egalitarianism has a <u>neutral to</u> <u>positive impact</u> on women during the conception phase.
A1.3 Medium degree of institutional collectivism has a <u>neutral</u> <u>impact</u> on women during the conception phase.	R1.3 Medium degree of institutional collectivism has a <u>positive</u> <u>impact</u> on women during the conception phase.

Source: Own research.

phase of a new venture, although some in a greater degree than others. For this research, three main levels of impact were selected for measuring the influence on women; either having a negative, neutral or positive effect. After completing the in-depth interviews, the authors of this research noticed significant reactions and feedback based on each personal experience and anecdote towards the cultural dimensions. In the next table, answers based on reality and on the researchers' perceptions are shown and explained consequently.

In the case of the first assumption, a high degree of power distance does not have a negative impact on women during the conception phase; rather it has a neutral effect. Thus, this assumption can be falsified. Falsification is based on the fact that women participants in this research didn't react positively or negatively towards the dimension; women didn't explain any type of bad or good experience in relation to it. Bureaucratic procedures for administrative tasks were briefly mentioned. Nevertheless, participants were not directly affected by this circumstance during the conception phase.

Subsequently, as a second cultural dimension, the actual medium degree for gender egalitarianism in Mexico has a neutral to positive effect on women. Therefore, the assumption supporting this cultural dimension can be verified. After analysing the participants' interviews, the authors noticed that most of the interviewed women mentioned that gender equality was not a problem for them within Mexican society. This is because there is a growing trend of social awareness, great social and moral support towards women, as well as an increasing empowerment. Nevertheless, there is still a conservative point of view in some families regarding gender roles.

As the third cultural dimension, the actual medium degree of institutional collectivism didn't have a neutral impact, as it was defined on the related assumption. It rather had a very positive one. Thus, this assumption can be falsified. A great impact was detected on women during the conception phase based on personal experiences and knowledge from the interview's participants. Moreover, some entrepreneurs mentioned the fact that there is a lack of institutional efficiency regarding amount of support and rewards given to female entrepreneurs in Mexico. This specifically refers to governmental institutions during the conception phase of a new business.

Research question 2: How do these implications transform into challenges?

Based on the analysis of the main findings regarding research question number 2, some conclusions can be made about the perceived or experienced challenges that female

Table 8. Research question n° 2 tested

A2.1 High degree of power distance will generate bureaucracy through the conception phase, generating obstacles for the accomplishment of the new venture.

A2.2 Low degree of gender egalitarianism will generate negative attitudes towards female entrepreneurs inducing to the lack of credibility and acceptance.

A2.3 Low degree of institutional collectivism will generate less favorable lending terms, access to capital and lack of administrative support to female entrepreneurs.

Source: Own research.

entrepreneurs had during the conception phase. In relation to the first assumption, just 2 out of 13 participants mentioned that bureaucratic procedures were an obstacle for them during the conception phase. Participants didn't really react positively or negatively towards the bureaucratic procedures as a consequence of a high power distance. Women briefly mentioned that there are normal administrative processes due to a lack of institutional efficiency in general terms, as a characteristic of Mexican governmental institutions. Thus, it should be mentioned that the actual high degree of power distance in Mexico didn't generate bureaucracy towards women during the conception phase of the entrepreneurial process.

Following the second assumption regarding gender egalitarianism, results were in close relation to this dimension. After analysing the interviews, 8 participants mentioned that there is a lack of social credibility and acceptance for being a female entrepreneur, as well as their own fear of vulnerability to criticism and social pressure. Some other challenges that are not in direct relation to gender egalitarianism, but are still associated with it, were the lack of self-esteem and confidence, as well as risk avoidance. These two answers were mentioned frequently, both by entrepreneurs and by experts. For the researchers, these challenges previously mentioned are quite particular and remarkable due to the fact that these are the challenges that have to do with female psychology.

Regarding the third assumption related to institutional collectivism as a dimension, it was the one having the most positive impact on women. Participants briefly mentioned that insufficient diffusion of programs and institutional rewards exist, and that there are few financial funds benefiting women, together with limited institutional efficiency.

Research question 3: How do these implications transform into opportunities?

Based on the fact that the high degree of power distance had a neutral impact on women during the conception phase, the possibility of opportunity relies on the condition of

Table 9. Research question n° 3 tested

A3.1 Low degree of power distance will generate a more equitable and administrative process through the conception phase.

A3.2 High degree of gender egalitarianism will generate positive societal attitudes towards female entrepreneurs and non-gender stereotypes.

A3.3 High institutional collectivism will generate cooperative and conceivable administrative and financial support to female entrepreneurs.

Source: Own research.

improving the governmental institutional efficiency in order to avoid the few bureaucratic procedures experienced by the participants. Helpful governmental employees providing a respectable assistance to female entrepreneurs was crucial and significant for entrepreneurs during the conception phase. Even though the degree of power distance in Mexico is high, this doesn't mean that there exists a possibility of a less equitable process creation towards women during the conception phase.

The cumulative societal awareness of female entrepreneurship in Mexico, together with the collectively increasing women empowerment, generates a great opportunity for the cultural dimension of gender egalitarianism. New generations supporting a modern and non-conservative way of thinking have generated positive societal attitudes towards women and entrepreneurship. After analysing the interviews, the authors of this research noticed that none of the participants had suffered discrimination for being women in Mexico, nevertheless, as it has already been mentioned before, there is a lack of social credibility and vulnerability towards criticism, as well as social pressure coming from more conservative individuals.

Institutional collectivism, the third cultural dimension, had the most optimistic characteristics. Especially, business incubators, different governmental programmes and female entrepreneurship organizations encouraged women during the conception phase. Furthermore, women enjoyed financial encouragement; banks lend them money under special conditions, and women also received a special bonus during the application for a financial support (either from banks or from governmental institutions) during financial contests, etc. Governmental institutions like SE and INADEM have developed special programmes to encourage and help women to start their own business. Examples of these are the project called "Mujeres moviendo a Mexico" and the project "Mujeres PYME".

The first one offers training in technical assistance, business skills, and services to women entrepreneurs (Crea

Comunidades de Emprendedores Sociales, 2015). The second one aims to provide preferential access to business development tools and financing (Instituto Nacional del Emprendedor, 2016).

There also other programmes supporting women entrepreneurship in different ways. With an aim of raising the economic growth in the country, INADEM provides financial support to entrepreneurs in starting or improving their business. FNE provides 19 national contests. They are grouped into five main categories and support the following programs:

- strategic sectors and regional development,
- business development,
- entrepreneurs and financing,
- programs for micro, small and medium enterprises, and
- Incorporation of information technologies and communications.

In such, entrepreneurship projects led by women receive extra points as they want to promote female entrepreneurship in the country (FNE, 2016).

Furthermore, a lot of non-governmental institutions (organisations like Victoria 147, Mujer Emprende or 1000 por Mexico, and business incubators like the one from ITESM) provide assistance and motivational support to women during the establishment of their companies.

Conclusion

Mexican culture during the conception phase of a new venture impacts women in some ways more than others. Institutional collectivism was the cultural dimension with higher positive impact on women, followed by gender egalitarianism with a neutral to positive impact, and power distance with a neutral influence on women.

On one hand, the positive impact on women caused by the cultural dimension of institutional collectivism generates vast opportunities for female entrepreneurs through important institutional support that governmental and non-governmental institutions are providing to future entrepreneurs nowadays.

On the other hand, the neutral to positive impact on women created by the gender egalitarianism is transformed into opportunities. But at the same time, there remain a few challenges for female entrepreneurs. Lack of social credibility and fear of vulnerability to criticism, together with social pressure, are the result of a remaining conservative society and individual low self-esteem. Based on the results, it can

be proven that female psychology encloses the generation of risk avoidance towards entrepreneurship and a low level of competitiveness. Nevertheless, the positive impact of this dimension generates opportunities based on women empowerment and growing social awareness in favour of female entrepreneurship. At the same time, the hierarchies and bureaucratic structures of Mexican society, generated in a cultural dimension of power distance, have a neutral impact on women during the conception phase. Based on the results, only the possible opportunity of improvement of institutional efficiency can be mentioned.

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Annex 1: List of abbreviations

CANACO - Camara de Comercio, Serviciosy Turismo

CONACYT - Consejo Nacional de Ciencia y Tecnología

COPARMEX - Confederación Patronal de la República Mexicana

CP - Conception phase

GEDI - Global Entrepreneurship and Development Institute

GEM - Global Entrepreneurship Monitor

GLOBE - GLOBE study of 62 Societies

INADEM - Instituto Nacional del Emprendedor

ITESM - Instituto Tecnológico y de Estudios Superiores de Monterrey

SE - Secretaría de Economía

SEDECO - Secretaría de Desarrollo Económico

SHCP - Secretaría de Hacienda y Crédito Público

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Temelji kulture ženskega podjetništva v Mehiki: izzivi in priložnosti

Izvleček

V članku so analizirani mogoči izzivi in priložnosti, s katerimi se srečujejo mehiške podjetnice pri ustanavljanju novih podjetij. Avtorji so na podlagi poglobljenih intervjujev s podjetnicami in strokovnjaki za podjetništvo opozorili na priložnosti v obliki vladne in nevladne institucionalne podpore, vse večje vloge družbene ozaveščenosti o podjetništvu in krepitve vloge žensk. Vendar pa še vedno obstajajo nekateri izzivi, ki so povezani s pomanjkanjem verodostojnosti, strahom pred ranljivostjo do kritike in socialnim pritiskom, ki je povezan z enakostjo spolov.

Avtorji so dokazali, da mehiška kultura v nekaterih elementih na ženske bolj vpliva kot v drugih. Institucionalni kolektivizem ima kot kulturna razsežnost večji pozitivni učinek na ženske, enakopravnost med spoloma ima nevtralni do pozitivni učinek, medtem ko ima razdalja moči nevtralen vpliv na ženske.

Ključne besede: žensko podjetništvo, kultura, Mehika, izzivi, priložnosti

A Conceptual Model of the Relationship between Personal Values and Personal Tax Culture Regarding the Perception of Tax System Fairness

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Abstract

The purpose of this paper is to explore the relationship between personal values and personal tax culture regarding the perception of a tax system's fairness. The paper deals with the main theoretical starting points of the fundamental cornerstones of the general tax culture such as tax evasion, tax compliance and tax system. Based on findings in Schwartz's model of personal values, the paper discusses some of individual personal values, categorized into ten groups within a two-dimensional circular design, along two bipolar dimensions. Because this field of research is largely unexplored and based on the previous theoretical research, a conceptual model for analysing this relationship was developed.

Keywords: personal values, personal tax culture, tax system, tax compliance, conceptual model

Introduction

The behavior of an individual as a result of a set of personal values plays an important role in their studying (Bardi & Schwartz, 2003, p. 1207). With their help, we understand various socio-psychological phenomena (Schwartz & Bardi, 2001, as summarized from Bardi & Schwartz, 2003, p. 1207). The relationship between personal values and personal tax culture is quite unexplored in the existing literature. We establish that there is an ungrounded relationship between personal values and personal tax culture regarding the perceptions of a tax system's fairness.

Therefore, the purpose of the paper is to examine the gap between personal values of two target groups, accountants and non-accountants, and their personal tax culture. The gap between them is illustrated in the paper with the help of

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a conceptual model for analyzing the relationship between personal values and personal tax culture, regarding the perception of a tax system's fairness.

The introductory part is followed by a shorter theoretical presentation of the problem, followed by the development of the conceptual model and research questions with responses to them.

Personal Tax Culture: Literature Review

Despite a still unfounded relationship between the personal values of accountants and non-accountants and their personal tax culture, personal values were already studied by many authors in the past. Feldman (2015), Schwartz (1992), Sezer et al. (2015), Litina and Palivos (2016), Gino (2015), Alleyne et al. (2013), Fischer and Poortinga (2012), Fischer, et al. (2010), and Vauclair et al. (2015) studied factors influencing the shaping of individuals and consequently their personal culture. They established that personal values were supposed to have the key role in motivating for ethical decision and behaviour of individuals. An important milestone in studying personal values was set by Schwartz (1992), as he measured the importance of an individual's personal values with the help of a questionnaire in many variants with different chosen populations. Hofstede (1980, in Richardson, 2007, 2008) studied dimensions of national culture, which indirectly influence the formation of tax culture.

Due the too broad range of individual cornerstones of tax culture, we limit the scope of our study to only some, namely: tax system, tax evasion, tax compliance and personal values.

The first cornerstone of personal culture, *tax system*, is according to Richardson (2007, p. 62), an entirety of important factors in comprehension of tax culture. Richardson (2007, p. 62) thinks that a tax system should be efficient, open, measurable and dividable; it presents an entirety of tax formats in specific countries with the purpose to fulfil fiscal, economic and social goals. Tax legislation is not always sufficiently precise and, therefore, there are often tax gaps (James & Alley, 2004, p. 29). There are practical difficulties in interpreting and understanding tax legislation, since the state and taxpayers do not have the same interpretation or tax discipline (James & Alley, 2004, p. 29).

The extent in which taxpayers challenge the significance of the tax law may depend on numerous things, including the level of their preparedness to act in accordance with the existent tax system (James & Alley, 2004, p. 30). Richardson (2007), Mayr (2000), Jackson and Milliron (1986), and

Richardson and Sawyer (2001) state different definitions of the desired characteristics of tax systems. Richardson (2007, p. 62) emphasises simplicity. The simplicity of a tax system as a cornerstone of tax culture is an important factor in studying tax evasion (Jackson & Milliron, 1986, p. 138; Richardson & Sawyer, 2001, p. 184; as summarized from Richardson, 2006, p. 153). The tax system influences tax values, which are influenced by individual cultural dimensions defined by Hofstede (individualism, patriarchism, avoiding uncertainty, and influence / power of an individual), and external factors. Based on these intertwining factors, Richardson (2007) examined in an empirical study the relationship between the already mentioned four cultural dimensions according to Hofstede and other components of the entire tax system, such as external influences, legal consequences, tax system, tax values and accounting system.

The second cornerstone of tax culture is tax evasion. According to Mangoting et al. (2015, p. 966), tax evasion is breaching legal provisions; rationally, taxpayers think they should have benefits from paying taxes. In literature, many authors defined the concept of tax evasion and it was the subject of numerous researches, as well (McGee, 2005a; 2005b; 2006; 2006a; 2007; Richardson, 2006; Richardson, 2008; Tsakumis, 2007; Cule, 2009; Korndörfer, 2014; Webley, 2001; Torgler, 2003; Pickhardt, 2014; Ahmed & Braithwaite, 2005; Alm, 2012a; Alm, 2012b; Coricelli et al., 2014; Falkinger & Walther, 1991; Marino & Zizza, 2012; Mittone & Patelli, 2000; Pickhardt & Seibold, 2014). Authors study traditional (Alm, 2012a; 2012b; Alm & Murray, 1991; Alm & Melnik, 2010) as well as modern approaches to measuring tax evasion (Alm, 2012a; 2012b; Slemrod, Blumenthal & Christian, 2001; Kleven, Knudsen, Kreiner, Pedersen & Saez, 2010; Iyer, Reckers & Sanders, 2010; Pissardies & Weber; 1989; Feldman & Slemrod, 2007; Henderson, Storeygard & Weil, 2009). Hofstede (1980, p. 25; Richardson, 2008, p. 69; Richardson, 2006) was the first one to draw attention to interconnectivity between a national culture and related tax culture and tax evasion.

Among important factors that connect and influence tax processes (tax evasion and tax culture), there is also *tax compliance*. James and Alley (2004, p. 29; as summarized from Andreas & Savitri, 2015, p. 165) believe that tax compliance is problematic, as it is not always easy to convince a taxpayer to act in accordance with law and to fulfil tax liabilities. Thus, Zain (2007, p. 45; as summarized from Mangoting et al., 2015, p. 966) realized that one of the bigger problems of low tax compliance in the country is high tax evasion. According to James and Alley (2004, p. 29), the simplest definition of tax compliance is the extent in which taxpayers act in accordance with tax legislation. Besides the stated, the concept and measurement of the phenomena of tax compliance, which includes the tax activity

and means that tax activities in the country as well as outside of it are reciprocally tax compliant, were also studied by Andreas and Savitri (2015), Bayissa Gobena and Van Dijke (2016), Saad (2014), Kastlunger, Dressler and Kirchler (2010), Lisi (2014; 2015), Liviu Mesca (2013), Kornhauser (2007), Andreoni, Erard and Feinstein (1998), James & Alley (2004), Hofmann, Hoelzl and Kirchler (2008), Harter, Rechberger, Kirchler and Schabmann (2008), Kastlunger, Kirchler, Mittone and Pitters (2009), and Hofmann, Hoelzl and Kirchler (2008). Regardless of the chosen width of the justification of the concept of tax compliance, the level of tax compliance can be measured through various factors that influence its development.

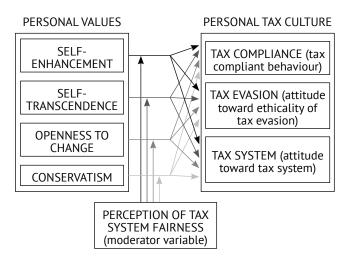
Defining the chosen cornerstones of tax culture indicates intertwinement of different factors with reciprocal influence. If we wish to analyse the relationship between the personal values of an individual and his/her tax culture, we must study his/her personal values, as well. The personality of an individual includes all physical, mental and behavioural characteristics, which appear relatively constantly and distinctively in an individual (Musek & Pečjak, 2001, p. 188). Feldman and co-authors (2015) proved the complexity of motives for unethical behaviour regarding motivating people to act ethically or unethically. They emphasized the importance of understanding the motivation linked to unethical behaviour (Kish-Gephart, Harrison & Trevino, 2010; Pulfrey & Butera, 2013; Tenbrunsel & Smith-Crowe, 2008; Trevino, Weaver & Reynolds, 2006; as summarized from Feldman et al., 2015, p. 1). In making their choices, people act in accordance with their own interests (Feldman, 2015, p. 69). They calculate in themselves the probability that their behavior will have various consequences and probabilities (Brlic, 2010, page 18). They usually choose those actions that maximize the positive results and minimize the negative ones. Personal values are an abstract, long-term motivational goal and reflect the principles and beliefs of a person about what matters to him/her in life (Schwartz, 1992; Feldman et al., 2015, p. 70).

A Conceptual Model of the Relationship between Personal Values and Personal Tax Culture

With the help of the conceptual model, the so-far existing theoretical as well as empirical findings where gaps are presented in the existing literature will be presented. Within the conceptual model, four different sets of relationships in Figure 1 will be presented. Individual variables of the model, were already presented theoretically as well as empirically in some previous researches, as mentioned in the previous chapter. Schwartz (1992) divided ten motivational types of

values in two bipolar dimensions — self-enhancement and self-transcendence on one hand, and openness to change and conservatism on the other. Therefore, in the model of relationships, we divided the latter into four different sets (See Figure 1). Each of these sets includes a component of one bipolar dimension of personal values relationship of which we then study with all three chosen cornerstones of personal tax culture—tax compliant behaviour, attitude of ethicality toward tax evasion and attitude toward tax system. These were taken from the definition of the general tax culture on the macro level and will now be studied on the level of an individual.

Figure 1. Conceptual model – presentation of relationships



Source: Own research, 2017.

The concept of tax evasion, which is measured with the attitude toward ethicality of tax evasion, is included into the conceptual model due to unethicality of tax evasion in a certain environment, which can also be studied as a socially responsible or irresponsible behaviour. Tax evasion is measured with the help of the already developed instrument used by McGee (2006). The concept of tax compliance is measured with the help of an individual's attitude toward tax compliant behaviour.

Tax compliance, interpreted as a level of individual's preparedness or the social responsibility of an individual to fulfil tax liabilities, is an important factor that connects and influences tax processes. A tax system is one of the cornerstones of tax culture, which is researched in relationship with the personal values of an individual via individual's attitude to the existing tax system; hereby the individual's social responsibility is noticeable again. In relationship with the tax system we included in the model a moderator variable, i.e., the individual's perception of tax system fairness.

We namely conclude that an individual acts differently in circumstances for which they believe that the tax system toward them as taxpayers is fair than in circumstances about which they believe that the tax system toward them is unfair. Personal values of an individual were included in the model as Feldman (2015) studied how personal values of an individual actually influence unethical behaviour.

Feldman (2015) states that the dimension of self-enhancement emphasizes the encouragement of oneself and encouragement of selfish interests at the expense of others. Therefore, the values included in the dimension of self-enhancement present a danger of a high level of unethicality. The assumption is that the perception of a tax system's fairness influences the intensity of the relationship between self-enhancement and individual cornerstones of tax culture (the individual's attitude toward the tax system, the individual's tax compliant behaviour).

The dimension of self-transcendence promotes the interests of others (Feldman, 2015). Values in this dimension state motivation for empathy, fairness and integrity toward others (Grant, 2007; 2008; as summarized from Feldman, 2015). In this way, the dimension of self-transcendence reflects a negative attitude toward unethicality that includes harm of others (Schwartz, 2007; Sverdlik et al., 2012; as summarised from Feldman, 2015). The assumption is that the perception of tax system fairness influences the intensity of relationship between self-transcendence and individual cornerstones of tax culture (the individual's attitude toward the tax system, the individual's attitude toward ethicality of tax evasion and the individual's tax compliant behaviour).

The dimension of personal values called openness to change reflects the openness of thinking and behaviour and includes stimulation and promotion of interests of an individual (Schwartz, 1992). Out of all four dimensions, this is the one that is the least directed in unethicality in its proportion, as unethicality in this context is mostly dependent on the individual's motif. There is an assumption that the perception of a tax system's fairness influences the intensity of the relationship between openness to change and individual cornerstones of tax culture (the individual's attitude toward the tax system, the individual's attitude toward ethicality of tax evasion and the individual's tax compliant behaviour).

Personal values, which include tradition, safety and compliance of an individual's behaviour in accordance with expectations, express motivation for self-discipline and present a person's overcoming his/her immediate wishes (Feldman, 2015). We assume that the perception of a tax system's fairness influences the intensity of the relationship between conservatism and individual cornerstones of tax culture (the

individual's attitude toward the tax system, the individual's attitude toward ethicality of tax evasion and the individual's tax compliant behaviour).

Research Questions Based on the Conceptual Model

Based on the existing literature and previous research that has dealt with the topic, the following research questions arise:

• Is there a connection between personal values of an individual and tax evasion?

We find the answer on this researched question to be that the personal values of an individual are a sum of his/her physical, mental and behavioral characteristics, which are characteristic of him/her (Musek & Pečjak, 2001, p. 188). Individuals calculate in themselves the probability that due to their behavior, there will be various consequences and they calculate the likelihood of those as well (Brlic, 2010, p. 18). They usually decide on those actions that maximize the positive results and minimize the negative ones. At some points in life, ethics can be learnt. People are not born with innate desires to be ethical or to care for the welfare of others (Brlic, 2010, p. 18). Individual values depend on the environment in which individuals live and on the prevailing social, cultural and economic factors. Feldman and co-authors (2015) explore the reasons for the unethical behavior of individuals. They studied the connection between personal values and unethical attitudes and behavior. They proved the complexity of motives for unethical behavior, as to motivating people to act ethically or unethically. They emphasized the importance of understanding the motivation associated with unethical behavior (Kish-Gephart, Harrison & Trevino, 2010; Puffrey & Butera, 2013; Tenbrunsel & Smith-Crowe, 2008; Trevino, Weaver & Reynolds, 2006; Feldman et al. 2015, p. 1). Rest and Barnett (1986, Feldman et al., 2015, p. 70) identified non-ethics as a violation of generally accepted socio-ethical norms. Such behavior can include lies, dishonesty, fraud, theft, sabotage, and bribery. It may also include less active unethical behavior, such as other concealment and violation of legislation (Feldman et al., 2015, p. 70). On the other hand, there is a cornerstone of tax culture: tax evasion, defined as an impermissible, immoral and criminal act. Several authors studied the motives of an individual for his/her tendency to tax evasion. Hundsdoerfer (1996, p. 18) lists numerous individual's motives, which are the result of the personality of each individual. With the theoretical findings and the current research in the field of personal values and tax evasion, we can claim that there is a connection between personal values of the individual and the individual's inclination to tax evasion, which originates from the personality of the individual.

• Is there a connection between personal values of an individual and tax compliance?

Tax compliance is measured by the individual's attitude towards tax compliance. Tax compliance, which is interpreted as the degree of readiness of an individual to fulfill tax obligations, is an important factor that links and affects tax processes. James and Alley (2004, p. 29) state that the simplest definition of tax compliance is to be understood as the degree to which taxpayers operate in accordance with tax legislation. Tax compliance was the subject of both theoretical and empirical studies, but never in connection with personal values defined by Schwartz (1992). James & Alley (2004, p. 29, summarized by Andreas & Savitri, 2015, p. 165) state that tax compliance is problematic because it is not always easy to persuade the taxpayer to act in accordance with the law and to comply with tax obligations. Thus, various authors (Zain, 2007, p. 45, summarized by Mangoting et al., 2015, p. 966) concluded that one of the major problems of low tax compliance in the country is high tax evasion. Thus, we can conclude that there is also a positive connection between personal values of an individual and their tax compliance, since this is a consequence of an individual's personality.

Conclusion

According to the review of scientific literature on the main cornerstones, included in the developed model for analyzing the relationship between personal values of the individual and the personal tax culture, in view of the perception of the tax system fairness, both the theoretical and the empirical gap in the field of research are perceived. The increasing importance of personal values, which are physical, mental and behavioral characteristics by which individuals differ from one another, affects the socially responsible behavior of an individual. In the literature, though, there are no studies of the connection of personal values with an individual's personal tax culture. That is why we designed a conceptual model that would include both the individual's tax culture, as well as personal values of the individual. In their work, individual authors have already been defining and empirically proving individual cornerstones of tax culture, especially at the macroeconomic level; the developed model, however, connects all the cornerstones with personal values. In further research, empirical research can be carried out on the basis of a conceptual model and a designed questionnaire in several different countries. Therefore, a comparison of the results of individual countries will be possible.

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Konceptualni model povezav med osebnimi vrednotami in osebno davčno kulturo glede na percepcijo pravičnosti davčnega sistema

Izvleček

Namen prispevka je raziskati povezavo med osebnimi vrednotami in osebno davčno kulturo glede na percepcijo pravičnosti davčnega sistema. Prispevek obravnava glavne gradnike davčne kulture, kot so davčna utaja, davčna usklajenost in davčni sistem. Na drugi strani pa teoretično opredeljujemo osebne vrednote posameznika, pri katerih smo se usmerili na Schwartzov model osebnih vrednot. Schwartzov model osebne vrednote kategorizira v deset skupin, znotraj dvodimenzionalnega krožnega modela, vzdolž dveh bipolarnih dimenzij. Zaradi neraziskanosti obravnavanega področja smo v nadaljevanju prispevka razvili konceptualni model za analizo povezave med osebnimi vrednotami in osebno davčno kulturo, ki temelji na predhodnih raziskavah.

Ključne besede: osebne vrednote, osebna davčna kultura, davčni sistem, davčna skladnost, konceptualni model

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Changes in Tax Legislation and Social Responsibility of Taxpayers and Legislative Institutions

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Abstract

The article deals with the cost of tax compliance which arises for taxpayers from tax complexity and the constant changes in tax legislation. A socially responsible institution for the fiscal aggression is the Financial Administration of the Republic of Slovenia, as its powers and responsibilities creates the tax position of individuals, businesses and the entire economy. The aim of our research is to encourage socially responsible behaviour of legislation institutions in adopting the tax legislation, which will help to improve the social responsibility of taxpayers and increase tax compliance.

Keywords: social responsibility, tax compliance, changes in tax legislation, tax aggressiveness

Introduction

The concept of tax compliance can be explained as a fulfilment of tax obligations. Tax compliance is the willingness of taxpayers to act in accordance with tax legislation. We believe that the concept of tax compliance should be used in terms of requisite integrity in the tax areas and, therefore, uses the notion of tax compliance which, in our view, includes more than just the stage of fulfilment of tax obligations or behaviour of the taxpayer towards taxes. In our view, the concept of tax compliance respects the principle of integrity in terms of treatment of all the factors and processes that are necessary to achieve the ultimate goal of paying taxes, including tax social responsibility strategies. Recent studies (Lanis & Richardson, 2011; Shafer & Simmons, 2008; Watson, 2012; Štager, 2014) confirm that socially responsible companies manage their tax aggressiveness positively, which is associated with tax compliance. Many taxpayers are adopting and strengthening their corporate social responsibility strategies in recognition of a range of benefits for companies, such as: lower tax compliance costs, higher responsibility to regulators and government, and better tax loyalty, which are all linked to sustainable business success and tax compliance. The research purpose of this article is to examine the frequency of changing the tax rules, as one of the most common determinants of tax complexity. In the study, we examined the hypothesis H1: Tax regulations in Slovenia do not alter significantly more often than in the selected countries.

After the introduction, we present in Section 2 the social responsibility of taxpayers. In Section 3, we discuss the social responsibility of legislative institutions. Section 4 presents a description of the data used, with special research focus

on the frequency of changing the tax rules in the selected countries, namely: Slovenia, Austria, Great Britain, Croatia, Bulgaria, Hungary, Czech Republic, Romania and Poland. We restricted our research to the period from 1993 to 2014 and on 10 different tax rules. In Section 5, we report research results. Section 6 represents conclusions and future research, follwed by remarks on the broader applicability of our results.

Literature Review of Social Responsibility of Taxpayers

A taxpayer's tax strategy can play an important part in their approach to social responsibility. Taxes are an important source of finance for the government, enabling them to meet economic and social objectives and helping to secure overall prosperity and stability. The role of the taxpayer in supporting tax systems should be limited to paying taxes in accordance with the law.

Avi-Yonah (2014) advocates that the answer to the question of whether corporations should try to minimize their tax payments by any legally permissible means thus depends on our view of corporate social responsibility:

- the first is the view that the corporation is primarily a creature of the state (the "artificial entity" view);
- the second is that the corporation is an entity separate from both the state and its shareholders (the "real entity" view);
- the third is that the corporation is merely an aggregate of its individual members or shareholders (the "aggregate" or "nexus-of-contracts" view);

Each of these three views has different implications for the issue of taxes and corporate social responsibility.

Authors Lanis and Richardson (2011) carried out a comprehensive survey of tax aggressiveness in relation to social responsibility, which we have chosen as an example of the most important research. Corporate social responsibility can potentially influence the fiscal aggressiveness of businesses, given how the company presents and manages its systems and processes in relation to social well-being. Taxes affect many business decisions in relation to the tax base and a commitment to pay taxes, which can be linked to tax aggression. Management measures designed solely to reduce corporate taxes through tax aggression are becoming an increasingly common feature of entrepreneurial behaviour around the world (Lanis & Richardson, 2011, p. 2). Nevertheless, fiscal aggression can generate higher costs than benefits. From a social point of view, the payment of taxes provides financing of public goods. For businesses using negative tax aggression, it is generally not considered to be the case that they have paid their fair share of corporate taxes to the state budget. This deficit in tax revenues creates large and irreversible potential losses of society.

A company with negative tax aggression is defined as socially irresponsible. Companies with a good profile of social responsibility are expected to exercise positive tax aggressiveness. The survey of socially responsible behaviour and tax aggression from 2011 showed the following important findings (Lanis & Richardson, 2011, p. 12–14):

- 86% of enterprises reported a net loss of business for at least three years in the six-year period studied prior to the first year of implementation of tax aggression.
- In 55% of the companies, the president of the management board simultaneously holds another managerial position.
- The higher the level of corporate social responsibility, the lower the level of tax aggression.
- The degree of ownership of internal managers does not affect tax aggression.
- If the company reported a net loss of business for at least three years in the six-year period under review, there is a greater likelihood of tax aggression, which means that the company's poor financial performance causes them to rely too heavily on revenue and profits, thereby increasing the risk of tax aggression.
- There is a high motivation for managers to inflate the value of share prices by participating in tax aggression activities.
- The combination of the positions of members of the management board and other management positions actually increases the likelihood of fiscal aggressiveness, mainly due to ineffective supervision, as the management functions of the managerial staff are in conflict of interest.
- Companies with a high share of inventories in the balance sheet are less tax-aggressive than capital-intensive companies.
- Companies with high R & D costs are more taxingly aggressive, as these costs are tax-deductible expenses, and thus, companies are more prone to tax aggression activities.
- Companies engaged in activities related to energy, materials, industry, unlimited consumption, healthcare, information technology, telecommunications and public companies are more intense in the activities of tax aggression.
- The factors on the basis of which the tax aggressiveness of companies could be assessed are accounting indicators
- Certain factors are not indicators of the company's tax aggressiveness.

- If the president of the management board performs another managerial function at the same time, the possibility of fiscal aggressiveness increases.
- Companies with a disclosed corporate social responsibility strategy in annual reports are less tax-aggressive.
- Companies with a higher market value than the book value are more taxingly aggressive.

The survey confirmed the basic hypothesis, when the company performs several activities of social responsibility (political cooperation; environmental protection; social and local development; investment; promotion of prosperity and development of employees; implementation of policies for maintaining good relations with customers, suppliers and government bodies), there is less likelihood of tax aggression.

In connection with company management and correlation with tax aggression, authors Waegenaere, Sansing, and Wielhouwer (2013, p. 34–35) found that the compensation system in terms of rewards to the company's management for lower tax exposure and without the reward for unrecognizing the potential for lower tax liabilities, provides the right incentives for tax managers. Measurement of fiscal aggressive positions depends on the ability and capability of tax authorities in determining inadequate and illegal fiscally aggressive behaviours.

The research of Lanis and Richardson (2011) is associated with the study of authors Marshall, Smith, and Armstrong (2010), since social responsibility is related to ethical behaviour. A 2010 study of ethical behaviour in Australia (Marshall, Smith, & Armstrong, 2010, p. 214-215) showed that the most important ethical problem for the Western Australian tax authorities is confidentiality, followed by professional qualifications, problems associated with by providing misleading customer advice and technical skills. The survey shows concerns in tax practice at all levels, with increasing social responsibilities in a complex and rapidly changing environment. Additionally, Marshall, Smith, and Armstrong (2010) found that the introduction of a structured, continuing professional education has provided broad support to the tax profession in terms of improving tax compliance and corporate social responsibility.

Shafer and Simmons (2008, p. 699–702) studied the following hypotheses in the survey on corporate social responsibility and tax avoidance:

 Taxpayers who strongly believe in the importance of corporate ethics and corporate responsibility will be negatively assessed by aggressive tax avoidance schemes (negative tax aggression) and label them as less ethical and socially responsible behaviour.

- Taxable persons who condemn the negative tax aggression will be less likely to participate in such systems.
- Taxpayers who tend toward negative tax aggression will less faithfully believe in the importance of ethical behaviour and corporate social responsibility.
- Taxable persons inclined to negative fiscal aggressiveness will evaluate aggressive tax evasion schemes more leniently.
- The attitude toward the importance of ethical and socially responsible behaviour will influence the assessment of positive and negative tax aggression.

Therefore, the more taxpayers perceive the importance of ethics and corporate social responsibility, the greater and more important impact they will have on their ethical and social responsibility, which affects their behavioural intentions. The results also show that those taxpayers who give up in the sense of ethical and socially responsible leadership are more likely to tolerate aggressive tax avoidance schemes, which is a negative tax aggression. Watson (2012) studied the relationship between tax avoidance and corporate social responsibility to determine whether socially responsible companies accept the values of corporate social responsibility and take them into account when choosing a fiscal strategy or simply increase profits. Watson (2012, p. 5, 13) notes that less socially responsible companies exhibit lower effective tax rates and more unrecognized tax benefits than other companies, in line with socially responsible companies that use aggressive fiscal strategies to reduce effective tax rates. The findings reject the theory of interest groups, which argues that corporate social responsibility is causing the interests of many stakeholders to be considered when making business decisions. Instead, the results support the theory of shareholders in which corporate social responsibility means increasing their profits. The level of corporate social responsibility disclosure and environmental performance can be an indicator of company tax aggressiveness (Sari & Tjen, 2016).

Most previous research as a key factor that affects tax complexity, and consequently, tax compliance, includes tax morality; research (Halla, 2010) has identified a causal link between the tax morality and behaviour of the taxpayer in terms of tax compliance, which implies that tax policy makers can alter the degree of tax compliance with the fiscal management of tax morale¹. We detected a survey of tax compliance knowledge management, which leads to

¹ There is an open question of good instruments for tax reform. Various institutional arrangements are associated with high levels of tax morale, such as direct democracy. It stresses the importance of respectful treatment of taxpayers from the financial administration. The tax should be persistent if it is inherited from more tax compliant and moral generations, and the latter could take some time (Halla, 2010, p. 10).

changes in behaviour, attitudes and thoughts of the taxpayer in the direction of socially responsible companies (Shafer & Simmons, 2008; Frank, Lynch, & Rego, 2008; Hanlon, Krishnan, & Mills, 2009; Hasseldine, Holland, & Pernil, 2009; Hanlon & Heitzman, 2010; Marshall, Smith, & Armstrong, 2010; Lanis & Richardson, 2011; Lennox, Lisowsky, & Pittman, 2012; Donohoe & Knechel, 2012; Guenther, Matsunaga, & Wiliams, 2013; Waegenaere, Sansing, & Wielhouwer, 2013; Cvrlje, 2015; Bahovec, Cvrlje, & Palić, 2014; Štager, 2014).

Measures of tax aggressiveness intended exclusively for the reduction of corporate taxes and contributions are becoming an increasingly common feature of corporate responsible behaviour worldwide. Tax aggression can be positive when it comes to optimization of tax obligations of companies using legally permissible conduct and represents benefits for society as a whole. Tax aggression can also be negative, such as when it comes to optimization of tax obligations of companies using illegal practices and adversely reducing the tax liability of companies. Knowledge management in our opinion could enable the implementation of positive tax aggressiveness—tax compliance; awareness of the negative consequences of the implementation of the tax aggressiveness; and consequently, reduction in the amount of negative tax aggressiveness, which represents social responsibility.

From the corporate social responsibility point of view, aggressive tax planning can be defined as actions taken by tax-payers which are in the line of requirements of tax law, but which do not meet the reasonable and justified expectations and requirements of the stakeholders (Knuutinen, 2014).

A recent study by authors Lanis and Richardson (2011, p. 1) confirms that socially responsible companies manage their tax aggressiveness positively (Shafer & Simmons, 2008; Watson, 2012), which is associated with tax compliance. Therefore, we believe that the introduction of knowledge management would have a positive impact on tax compliance and deliver benefits for society—particularly in terms of equal tax compliance of taxpayers and for companies—and in terms of financial impact, for an individual company sustained in the event of negative tax aggressiveness. A socially responsible institution for fiscal aggression is the Financial Administration of the Republic of Slovenia, as its powers and responsibilities creates the tax position of individuals, businesses and the entire economy, which lead to corporate social responsibility of taxpayers.

Tax complexity and the frequency of changes in tax legislation have caused an increasing use of taxpayers` time for the dissemination of tax legislation and compliance with tax innovations, resulting in high costs of tax compliance (Batrancea et al., 2012, p. 104). Tax complexity is the

result of the increased complexity of tax laws, caused by the calculation complexity or the complexity of accounting for certain types of taxes, the complexity of tax forms, the complexity of compliance with tax legislation, legal complexity, process complexity and low level of readability of legislation, which are key indicators of tax complexity (Evans & Tran-Nam, 2013; Vaillancourt, Roy & Lammam, 2015). The frequency of changes was studied in a number of researches: Delgado, Salinas-Jiminez and Sanz, 2001; Hasseldine and Hansford, 2002; Stavrianos and Greenland, 2002; Blažič, 2004; Shaw, Slemrod and Whiting, 2007; Klun, 2004; Laffer, Winegard and Childs, 2011; SBA, 2011; Lopes and Martins, 2013; Vaillancourt, Edison and Barros, 2013; AAT, 2015; Batkins, 2015; NTUF'S, 2015; PwC and The World Bank Group, 2015; and English and Hammond, 2015. Most of these studies are focused on measuring tax compliance on the area of the Value Added Tax, Income Tax, salaries tax and Corporate Income Tax. None of these surveys included research into the number of changes in tax legislation like our research is exploring nor presents new scientific research findings. So, we examined the hypothesis H1: Tax regulations in Slovenia do not alter significantly more often than in the selected countries.

Literature Review of Social Responsibility of Legislative Institutions

A socially responsible institution for fiscal aggression is the Financial Administration of the Republic of Slovenia, as its powers and responsibilities create the tax position of individuals, businesses and the entire economy. Also, a socially responsible institution for tax laws and tax complexity, which leads to high costs of tax compliance, is the Ministry of Finance and Government. There is now pressure from some legislative institutions on stakeholders that they comply with the spirit and letter of relevant tax laws, and in many cases, this means an expectation around both tax payments and the disclosure of relevant financial information.

Capaldi (2008) highlights that the first taxation practices were developed in Mesopotamia, ancient Egypt, Palestine and the Hittitie Empire by looking at ancient documents, so it can be said that the authority of taxation in these ancient and important civilizations depended in the state ruler's actual power rather than having a legal basis. Gribnau (2015) confirms that through tax incentives, the tax legislator often tries to steer citizens' behaviour to achieve policy goals. This way, the tax legislator stimulates taxpayers to adopt a calculating attitude towards the tax system, breeding a rule-based mindset focused on tax planning. Taxpayers turn around the rules to their advantage. The tax legislator usually reacts with refined or new rules that add to the existing complexity

of tax law. Armstrong and Green (2014) say that despite explanations by Adam Smith, Friedrich von Hayek, Milton Friedman and others, the idea that people should be free to make contracts as they see fit (the so-called "invisible hand" of the market) is counter-intuitive for many people. They cannot believe such a system can work because it lacks a coordinator and, they argue, the parties are motivated by greed. Adam Smith (Smith, 2008, p. 25) addressed this concern: "It is not from the benevolence of the butcher, the brewer, or the baker, that we can expect our dinner, but from their regard to their own interest". In contrast, mandates and subsidies aimed at promoting corporate social responsibility and reducing corporate social irresponsibility are based on the belief that governments must provide a guiding hand (Armstrong & Green, 2014).

Four aspects are important for the complexity of the tax system: Predictability, enforceability, complexity and manipulation. Predictability and enforceability relate to the tax legislation, while the difficulty of manipulation refers to the response of taxpayers to tax legislation (Evans & Tran-Nam, 2013, p. 5). To insure high tax compliance among taxpayers, legislative institutions rely on two measures: power measures, such as audits and fines; and trust related measures, such as fair procedures (Allingham & Sandmo, 1972; Feld & Frey, 2007; Srinivasan, 1973). Gangl, Hofmann and Kirchler (2015) identified that tax compliance represents a social dilemma in which the short-term self-interest to minimize tax payments is at odds with the collective long-term interest to provide sufficient tax funds for public goods. This social dilemma can be solved and tax compliance can be guaranteed by the power of tax authorities and public trust in them, which can be achieved through socially responsible adoption of tax legislation.

Data

Among the most common causes of tax complexity are ambiguities in tax legislation and tax returns and frequency of changes in tax laws. In our research, we focused on one of the causes of tax complexity, that is, the frequency of changing tax legislation. The purpose of this article is to examine the frequency of changing the tax rules, as one of the most common determinants of tax complexity. The frequencies of changing the tax rules were compared in the selected countries, namely: Slovenia, Austria, Great Britain, Croatia, Bulgaria, Hungary, Czech Republic, Romania and Poland. In the sample of analysed countries, we covered European countries with comparable tax systems based on prior consultation with tax experts advising taxpayers of the selected countries. We restricted our research to the period from 1993 to 2014 and on 10 different tax rules, namely:

The Companies Act (hereinafter: CA); Value Added Tax Act (hereinafter: VATA); The Distress for Customs and Excise Duties and Other Indirect Taxes Regulations (hereinafter: DCED); Personal Income Act (hereinafter: PIA); Corporation Taxes Act (hereinafter: CTA); Taxation of Pensions Act (hereinafter: TPA); Health and Social Care Act (hereinafter: HSCA); Tax Management Act (hereinafter: TMA); Offences Act (hereinafter: OA); and The Accounting Standards (hereinafter: AS). According to the Office for Tax Simplification (OTS, 2015, p. 9), it is necessary to consider the measurement period for a period of more than ten years. In accordance with the recommendation of the Office for Tax Simplification, we covered a period of 20 years. In this article, we restricted the research to a qualitative survey of the frequency of changing the tax rules.

Empirical Results

To verify hypothesis H1, we used a qualitative review of the number of changes in tax regulations across countries and years. We prepared a summary statement (Table 1) in which we have delimited the period of time to the period since the adoption of the regulation after the independence of Slovenia to the EU accession (1993–2003), and to the period from EU membership to the end of 2014 (2004–2014). The reason for delimiting the time period is because we assume that after the year 2003, all the researched States needed time for adjustment of their domestic legislation with EU legislation and changing legislation during the EU membership. Due to the excessive volume of used sources and literature (tax regulations), a list of all official regulations in force across the countries and selected years of our research is not subject to publication².

By comparing the ten-year period prior to entry into the EU and ten years after joining the EU (Table 1), we find that:

- Slovenia, with entry to the EU, changes all ten of tax regulations more often;
- Poland, with entry into the EU, also changes all ten researched tax rules more often;
- Bulgaria, Hungary, Czech Republic and Romania, after joining the EU, have changed nine out of the ten researched tax rules frequently;
- The United Kingdom, since 2004, has changed eight tax rules frequently, while Croatia has changed seven tax rules and Austria has changed five tax rules.

Based on a qualitative review of the number of changing tax regulations in Slovenia in comparison with the selected

² The list may be obtained on the basis of the written submissions of the author of this paper.

Table 1. The number of tax law changes

Country	CA	PIA	VATA	DCED	CTA	TPA	HSCA	TMA	OA	AS
The number					er of tax law changes in the period 1993–2003					
Slovenia	16	24	24	13	13	18	12	11	15	15
Austria	22	49	23	9	31	91	91	27	20	22
Great Britain	1	-	1	1	_	-	_	-	-	1
Croatia	4	13	24	_	6	10	13	1	4	-
Bulgaria	29	29	30	19	35	35	43	17	15	11
Hungary	18	27	31	45	33	66	66	43	22	15
Czech Republic	-	76	12	9	76	16	23	7	35	6
Romania	1	7	1	7	7	14	-	7	20	3
Poland	16	88	50	8	77	42	50	35	29	29
			The nu	umber of ta	x law chang	ges in the p	eriod 2004	-2014		
Slovenia	17*	44*	48*	2*	27*	32*	18*	31*	19*	34*
Austria	16	60*	21	10*	28	97*	97*	29*	24	16
Great Britain	9*	2*	7*	35*	3*	1*	26*	2*	-	1
Croatia	5*	10	13	16*	8*	19*	27*	5*	2	4*
Bulgaria	34*	52*	50*	39*	46*	101*	143*	63*	25*	2
Hungary	44*	107*	63*	79*	83*	49*	57	134*	58*	47*
Czech Republic	1*	92*	47*	27*	92*	47*	42*	8*	49*	24
Romania	21*	28*	17*	28*	28*	74*	7*	28*	11	5*
Poland	29*	158*	51*	38*	97*	60*	119*	90*	37*	35*
		Т	he cumulat	tive numbei	r of tax law	changes in	the period	1993-201	4	
Slovenia	33	68	72**	34	40	50	30	42	34	49**
Austria	38	109**	44	19	59	188**	188**	56**	44**	38**
Great Britain	10	2	8	36**	3	1	26	2	-	2
Croatia	9	23	37	16	14	29	40	6	6	4
Bulgaria	63*	81	80**	58**	81**	136**	186**	80**	40	13
Hungary	62**	81	80**	58**	81**	136**	186**	80**	40	13
Czech Republic	1	168**	59	36**	168**	63	65	15	84**	30
Romania	22	35	18	35	35	88	7	35	31	8
Poland	45**	246**	101**	46**	174**	102**	169**	125**	66**	64**

Note: CA – Companies Act; PIA – Personal Income Act; VATA – Value Added Tax Act; DCED – The Distress for Customs and Excise Duties and Other Indirect Taxes Regulations; CTA – Corporation Taxes Act; TPA – Taxation of Pensions Act; HSCA - Health and Social Care Act; TMA – Tax Management Act; OA – Offences Act; SA – Accounting Standards.

Source: Authors' calculations, extracted from SPSS.

countries researched in the two ten-year periods, we found out, that tax regulations in Slovenia do not alter significantly more often than in the selected countries, so the hypothesis H1 can be confirmed. This is evident from the higher number of changes in tax regulations in Bulgaria, Hungary, Romania, Poland and Austria than the number of changes in Slovenia. Also, the total number of changes in both researched periods is higher in those countries than the number of changes in tax regulations in Slovenia. Changing

legislation after 2004, when most countries joined the EU³, is characterised by frequently changing laws when they

^{*}The number of changes in the tax regulation in the period 2004-2014 is higher than the number of changes in the decade prior to joining the EU (1993-2003).

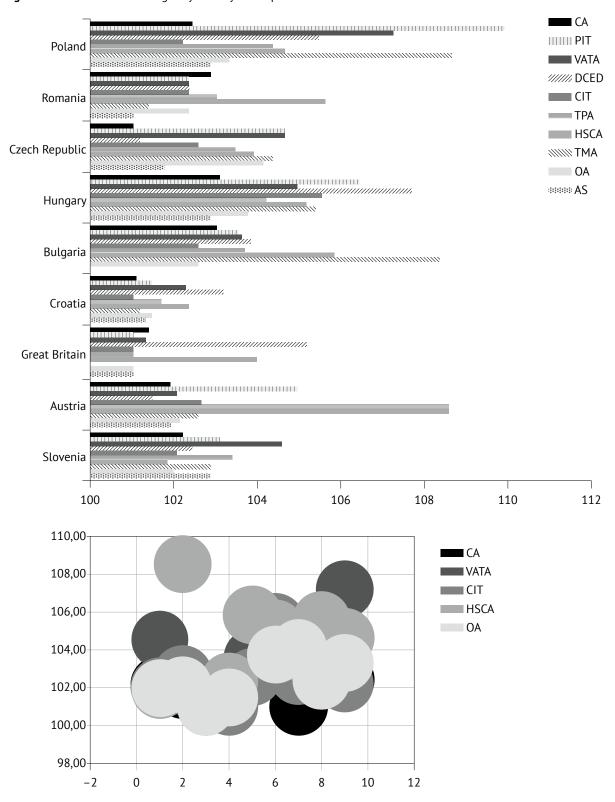
^{**}Top three countries of the maximum number of tax law changes.

³ Slovenia became an EU member on 01.05.2004; Austria on 01.01.1995; the UK on 01.01.1973; Croatia on 01.07.2013; Bulgaria on 01.01.2007; Hungary on 01.05.2004; the Czech Republic on 01.05.2004; Romania on 01.01.2007; and Poland on 01.05.2004. Source: https://europa.eu/european-union/about-eu/countries/member-countries/poland_sl.

implemented EU legislation into national legislation, as in the period from 1993 to 2004.

The calculation of the average number of changes in tax regulations irrespective of the country shows that the most common changes are restricted to the following regulations: Health and Social Care Act (4.67), Offences Act (4.35) and Personal Income Act (4.15). The minimum number of changes can be detected in Accounting Standards (1.89) and Corporate Taxes Act (2.45). To calculate the index of tax law changes, we used the base year 1993. The calculated index for all countries and all tax rules is

Figure 1. Index of tax law changes by country in the period 1993–2014



the same as, or greater than, 100. Figure 1 shows that the largest and at the forefront are indexes for OA, HSCA, CA and VATA.

The comparative analysis of the number of changes in tax rules in the two studied periods shows that:

- In all countries, the number of changes of DCED, TPA and TMA are higher in the period after joining the EU, which is also true for Austria and Great Britain;
- Eight of the nine countries researched after joining the EU changed CA, PIA, CTA and HSCA frequently, as is the case in Austria for PIA and HSCA, and also for Great Britain in the case of the CA, PIA, CTA, HSCA;
- All countries (except Austria and Great Britain, which
 joined the EU before the period researched), after
 joining the EU, changed eight out of ten rules frequently, namely: CA, PIA, VATA, DCED, CTA, TPA,
 HSCA and TMA. Irrespective of the date of accession
 of Austria and Great Britain to the EU, both countries
 also changed the majority of tax regulations frequently
 after 2004;
- The OA and DCED have rarely been subject to change (regardless of the number of changes) after joining the EU.

In Table 1, we have combined all the changes in tax regulations for the period 1993-2014. Comparative analysis showed that the higher number of changes in tax regulations are: For CA in Bulgaria, Hungary, Poland and Austria: For PIA in Poland, the Czech Republic, Austria, Bulgaria and Hungary; for VATA in Poland, Bulgaria, Hungary and Slovenia; for DCED in Bulgaria, Hungary, Poland, Great Britain and the Czech Republic; for CTA in Poland, the Czech Republic, Bulgaria and Hungary; for TPA, HSCA and TMA in Austria, Bulgaria, Hungary and Poland; for OA in the Czech Republic, Poland and Austria; and for AS in Poland, Slovenia and Austria. Changes occurring most often among the first four countries according to the number of changes in the two studied periods were in Bulgaria, Poland, Hungary and the Czech Republic.

Conclusions

The more taxpayers perceive the importance of ethics and corporate social responsibility, the greater and more important impact they will have on their ethical and social responsibility, which affects their behavioural intentions. Tax compliance knowledge management leads to changes in behaviour, attitudes and thoughts of the taxpayer in the direction of socially responsible companies. Knowledge management, in our opinion, could enable the implementation tax compliance; raise awareness of the negative

consequences of the implementation of the tax aggressiveness; and, consequently, reduce the amount of negative tax aggressiveness, which represents social responsibility. Socially responsible companies should manage their tax aggressiveness positively, which is associated with tax compliance. Therefore, we believe that the introduction of knowledge management would have a positive impact on tax compliance and deliver benefits for society—particularly in terms of equal tax compliance of taxpayers—and for companies, in terms of financial impact, for example by an individual company sustained in the event of negative tax aggressiveness and to higher tax social responsibility.

Based on our qualitative review of the number of changing tax regulations in Slovenia in comparison with the selected countries researched in the two ten-year periods, we found out that tax regulations in Slovenia do not alter significantly more often than in the selected countries, so the hypothesis H1 can be confirmed. That is, it can be seen from the higher number of changes in tax regulations in Bulgaria, Hungary, Romania, Poland and Austria, than in Slovenia. Also, the total number of changes in both periods researched is higher in those countries than the number of changes in tax regulations in Slovenia. Nevertheless, legislative institutions should be more tax social responsible when adopting legislation and lower the costs of tax compliance. None of previous surveys included research into the number of changes in tax legislation that our research is exploring, and that we present as new scientific research findings.

Based on our empirical research, it is possible to carry out extensive research, therefore, is a contribution to science seen in the quantitative research, which also includes other variables of tax law complexity and correlation to the variables of tax social responsibility. The research can be extended to other comparable countries. Future research should be oriented to a statistical model, which provides a certain degree of correlation of the selected explanatory variables on firms' costs and can also be evaluated. The proposed research is unique, since a similar research in Slovenia has not yet been carried out and our findings are original.

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Some elementary directions:

References in the text

Example 1a: Another graphic way of determining the stationarity of time series is correlogram of autocorrelation function (Gujarati, 1995).

Example 1b: Another graphic way of determining the stationarity of time series is correlogram of autocorrelation function (Gujarati, 1995, p. 36).

Example 2a: Engle and Granger (1987) present critical values also for other cointegration tests.

Example 2b: Engle and Granger (1987, p. 89) present critical values also for other cointegration tests.

References in the list of references

<u>Example 1 – Book:</u> Gujarati, D. N. (1995). *Basic Econometrics*. New York: McGraw-Hill.

<u>Example 2 – Journal article:</u> Engle, R. F., & Granger, C. W. J. (1987). Co-integration and Error Correction: Representation, Estimation and Testing. *Econometrica*, *55*(2), 251-276.

Example 3 – Book chapter or article from conference proceedings: MacKinnon, J. (1991). Critical Values for Cointegration Tests. In R. F. Engle & C.W. J. Granger, (Eds.), *Long-Run Economic Relationships: Readings in Cointegration* (pp. 191-215). Oxford: University Press.

Example 4 – Web source: Esteves, J., Pastor, J. A., & Casanovas, J. (2002). *Using the Partial Least Square (PLS): Method to Establish Critical Success Factors Interdependence in ERP Implementation Projects*. Retrieved from http://erp.ittoolbox.com/doc.asp?i=2321

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