REVISTIA

NEW STUDIES AND RESEARCH IN ECONOMICS

Edited by

Tonia De Giuseppe, Italy

Felice Corona, Italy

Siavash Bakhtiar, United Kingdom

Ana Paula Marques Portugal

Célia Taborda Silva, Portugal

Irina Cheremisova, Russia

Dominika Pazder, Poland

Ahmet Ecirli, Belgium

Miriam Aparicio, Argentina

Wan Kamal Mujani, Malaysia

Kristinka Ovesni, Serbia

Ekaterine Gulua, Georgia

Tereza Kopecka, Czech Republic

ISBN 978-88-909700-7-8

9 788890 970078

REVISTIA

PUBLISHING AND RESEARCH

NEW STUDIES AND RESEARCH IN ECONOMICS

First published in 2019

Revised in 2021

ISBN 9788890970078

Published by

Revistia

Publishing and Research

Address: 11, Portland Road, London, SE25 4UF, United Kingdom

Tel: +44 2080680407

E-Mail: office@revistia.com

TABLE OF CONTENTS

Accelerator Programs in Turkey: Who Benefits the Most from These Programs?

C. Cubukcu
Maltepe University, Istanbul, Turkey

S. Gulsecen
Istanbul University, Istanbul, Turkey

Abstract

This study analyzes the entrepreneurs attending six accelerator programs in Istanbul, Turkey. These accelerators are ITU Seed, Starter's Hub, SuCool, IOT Telco Labs, Pliot and Kworks. Using the frequency analysis method, it makes a study on 98 entrepreneurs who are currently attending or graduated from these programs. In this study the demographics of entrepreneurs in these accelerator programs were examined. According to the results of this study, entrepreneurs who are attending in these accelerator programs are generally male, young, well-educated, have few years of professional work experience and come from a family without entrepreneurship experience. There are studies studying entrepreneurs in government incubators in Turkey but the literature lack information about entrepreneurs attending accelerator programs in Turkey. Therefore, this study contributes to the literature by filling this gap.

Keywords: accelerators; incubators; startups; digital entrepreneurship

Introduction

Interest in innovation and starting a new business is growing rapidly especially for the past few decades. In order to advance this new business creation and support research and development, business incubators started to be established around the world. Incubators became widespread in the late 1980s as providers of office space and gathered together innovative companies under the same roof (Adkins, 2002; Lalkaka and Bishop, 1996). However, it has problems in its model such as a lack of exit policy (Bruneel et al., 2012). Therefore, a new type of program called "accelerator" evolved to accelerate new business ventures. The first accelerator is considered to be the "Y Combinator" program, which was established in 2005 (van Huijgevoort, 2012; Pauwels, et al., 2015) in Mountain View, CA, USA. This program operates with a more innovative and different business model compared to incubation centers (Christiansen, 2009).

Accelerators, as the name suggests, are programs that accelerate new businesses by providing specific services to them for a limited amount of time usually from three to six months. These services include office space, education, mentoring, networking and access to different financing options (Cohen and Hochberg, 2014; Ozkasikci, 2013; Miller and Bound, 2011; Marangoz, 2016; Mian, et al., 2016). Accelerators generally include technology startups into their programs with an open application and selection process.

Based on Miller and Bound (2011), an accelerator is defined to have the following six characteristics: seed investment in exchange for equity, time limited support, an application process open to all, cohorts or classes of startups, a focus on small teams rather than individuals and graduation with a demo day (Clarysse, et al., 2015; Pauwels, et al., 2015). As of December 2017, there are 18 accelerator programs in Turkey and only eight accelerator programs in Turkey fit into these characteristics. Out of these 8 programs, 6 of them agreed to participate on the study and this study performs a study on the entrepreneurs who have attended or are currently attending these six accelerator programs. These six accelerator programs are ITU Seed, Pilot, SuCool, Kworks, Starter's Hub and IOT Telco Labs programs.

Entrepreneur Characteristics and Demographics in Accelerator Programs

Seed-DB, a platform that analyses accelerators, stated that there are over 213 accelerators in the world (Pauwels, et al., 2015). In Turkey, there are only 18 programs that call themselves an accelerator. However, the studies that analyses accelerators in Turkey and works with the entrepreneurs who have attended these programs are very limited. There are several studies that analyses the characteristics and demographics of the entrepreneurs in government incubator centers such as Sungur and Dulupcu's "Survival Performance of Tenant Firms in Business Incubators (ISGEMS) in Turkey" (2013) and "The Role and Importance of KOSGEB in Improving the Entrepreneurship in Turkey" by Oktem, et al. (2007). Nonetheless, many accelerators have been founded within the past five years so there are not enough studies with entrepreneurs of these programs. The total number of entrepreneurs who have attended these 18 accelerator programs so far are unknown. However, the total number of entrepreneurs attended to six accelerator programs chosen for this study is approximately 2250. This means that the total universe of this study is 2250 entrepreneurs.

This study aims to look at simple statistics about entrepreneurs in the chosen 6 accelerator programs. Age, gender, educational status, previous work and entrepreneurship experience and family background of entrepreneurs will be evaluated. Also, the propositions in the section below will be analyzed.

2.1 *Gender Gap in Entrepreneurship*

There is a large gender gap in entrepreneurship due to the historically inherited male dominance in this area. According to Berglann et al. (2011), only 25% of the entrepreneurs are female. Many authors such as Carrasco and Cuevas (2010), Hechavarria and Reynolds (2009), Thach and Kidwell (2009) state that the number of women entrepreneurs is increasing every year. However, the specific studies about women entrepreneurs in technology or in digital startups are very limited and they suggest that the ratio of women entrepreneurs in technology sector is much less compared to other sectors. According a survey conducted by "Women who Tech" in 2012, tech startups owned by women are only 5%.

Proposition 1: More men are engaged in technology entrepreneurship than women. However, the number of women entrepreneurs in this sector is increasing.

Age of the Entrepreneur

The age of becoming an entrepreneur dropped for the past few years. There are studies which analyze young entrepreneurs and observe the effect of age in becoming an entrepreneur. These studies are Levesque & Minniti, 2006; Rojas & Siga, 2009; Thomas, 2009. Also, Levesque & Minniti (2006) mentions that young people tend to be entrepreneurs because they are willing to take more risks compared to older people. Blanchflower and Meyer (1994) state a similar point that young people are more adventurous and energetic so they are more open to take a risk of starting a new business. Although as people age, they acquire more skills and experience and gain new knowledge, their duties and the things they will lose increase at the same time. Therefore, it is harder for them to start a new business unless they find themselves unemployed or seek an opportunity to become their own boss (Albort-Morant and Oghazi, 2016).

Proposition 2: People who are between 20 and 35 years old are most likely to create a new technology company. As people age, their tendency to start a digital business drops.

Education of the Entrepreneur

It is obvious that formal education helps entrepreneurs gain some of the skills they need as an entrepreneur such as technical, behavioral, business management and leadership skills. However, the studies about the impact of education on entrepreneurial perceptions are contradictory. Some studies such as Shapero (1980), Fallows (1985), Ronstadt (1984), Laukkanen (2000), Peterman and Kennedy (2003), Wu and Wu (2008) argue that higher education lessens the desire to start a new venture. According to authors, there are several reasons of this. One of them is that an individual with a diploma have many other options and therefore, can find a better job in a corporation. Another reason is that higher education reduces curiosity and the tolerance for ambiguity and increases risk aversion. Also, some schools do not prepare their students to work on small businesses and instead, encourage them to work on big corporations. On the other hand, there are other studies such as Robinson and Sexton (1994), Davidsson and Honig (2003), Ertuna and Gurel (2011) that state that the effect of university education on entrepreneurship is positive. This means that the more formal education an individual gets, the more likely that individual will start a new business.

Proposition 3: Individuals with higher degrees are most likely to start a technology business.

Previous Work Experience of the Entrepreneur

Experience brings the ability to make better decisions and unfortunately, this is not something that can be learned in schools with theoretical training. Experience about organizational skills can be only gained by working in a company as an employee

(Albort-Morant and Oghazi, 2016). Also, if you want to learn how to manage a company, then, the best way is to work as a manager in a company or to watch your managers and learn from them. Mintzberg (2004) states that learning how to manage a company is only possible by gaining firsthand experience. Otherwise, one cannot understand all the dynamics of managing a business. Nowadays, universities also encourage their students to gain work experience before they graduate. As a result, they work with local businesses to provide different work opportunities to their students.

Proposition 4: Entrepreneurs gain professional work experience before starting their own digital ventures.

Family Background of the Entrepreneur

Entrepreneurs who have other entrepreneurs in their close families tend to start a new business easier because of the family support they receive. Other authors such as Albort-Morant and Oghazi (2016), Gurel et. al (2010), and Singh et. al. (2001) also support the same argument. Especially having a close family member, as an entrepreneur, has a larger impact than having a more distant family member. The reason of this is that they can get advantage of the experiences of their families in times of difficulties. Moreover, most of the entrepreneur families encourage their children to start a new venture because they have already been through the same path and thus, guide their children to overcome their challenges when necessary.

Proposition 5: People who have an entrepreneur in their immediate families are more likely to become technology entrepreneurs.

Methods

3.1 Data Collection Methods

A survey on entrepreneurship and accelerator programs provides the data for this study. The data collection process of the survey started at the end of September 2017 and was completed at the end of October 2017. Various methods have been used to collect data. Firstly, the coordinators of the accelerator programs were called and the offices of the programs or their training centers were visited. Entrepreneurs who were present during the visit were requested to complete the survey at that moment. The printed version of the survey was distributed to entrepreneurs for data collection. The accelerators visited were ITU Seed, Starter's Hub, SuCool and Kworks. The data of the surveys filled in these programs were later transferred to the electronic environment.

Survey data is held in SurveyMonkey in electronic environment. The link of the survey has been sent by coordinators to the remaining entrepreneurs, who are not present during the visit and also graduated from the programs. IOT Telco Labs and Pilot programs were not visited due to training sessions in these accelerators were ended. Therefore, the data for these programs were only collected via the link sent to the entrepreneurs on the internet. In addition, the survey link was shared in social media by groups of related accelerator programs and by various groups related to entrepreneurship. As a result, more participation in the survey was provided. Entrepreneurs completed the survey using SurveyMonkey on the internet. A gift was given to entrepreneurs who completed the survey to encourage participation. This gift is the electronic version of the articles related to cyber-crime written by the Informatics department.

A total of 131 people participated in the survey, but only 103 of them completed the survey. Among these 103 people, 5 of them were excluded from the study because they had participated in programs outside of the targeted accelerators, so overall 98 people filled out the survey. This number is sufficient according to Table 1. Approximately 750 startups have been added to the designated accelerators until the date of the study. Assuming that each startup has an average of 3 cofounders, our total universe for this study is 2250 people. According to Table 1, reaching out 93 persons from a 2500 person universe with 95% confidence interval and 10% error margin is sufficient for this study.

Acceptable margin of error	Size of population					
	Large	5000	2500	1000	500	200
±20%	24	24	24	23	23	22
±15%	43	42	42	41	39	35
±10%	96	94	93	88	81	65
±7.5%	171	165	160	146	127	92
±5%	384	357	333	278	217	132
±3%	1067	880	748	516	341	169

Table 1: Sample Size Table

3.2 Challenges in Collecting Data

One of the biggest challenges in collecting data was reaching out to entrepreneurs who graduated from the programs and persuading them to fill out the survey. Mainly, entrepreneurs who are currently participating in accelerator programs or who have been graduated in the last 2 years agreed to participate to the study and completed the survey. Some of the entrepreneurs who graduated from the accelerators before did not want to participate in the study because either they closed down their businesses or were no longer interested in entrepreneurship. Also, some of them grew their businesses and for this reason, they were abroad because they chose to carry over their headquarters to another country.

Results

The frequency analysis results of the survey study are explained below. 98 entrepreneurs from 6 accelerator programs participated in the survey. The distribution of these entrepreneurs according to the programs is as shown in Table 2.

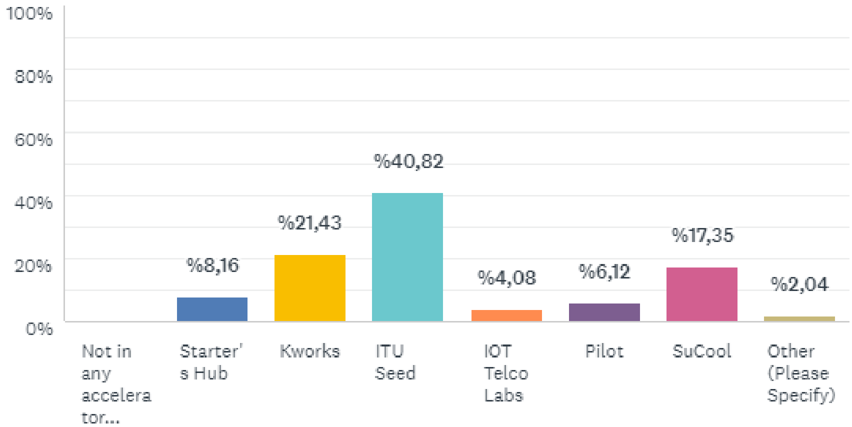


Table 2: Distribution of entrepreneurs according to accelerator programs

According to this table, 8 participants from Starter's Hub program, 21 from Kworks program, 42 from ITU Seed program, 4 from IOT Telco Labs program, 6 from Pilot program and 17 from SuCool program participated in the study. Since the entrepreneurs who are mentioned in the "Other" category have attended both to ITU Seed and to another accelerator program, they have written the names of both of these programs when completing the survey and therefore, these 2 entrepreneurs in this category have also been included in ITU Seed category.

The distribution of men and women participated in the study can be seen in Table 3. Accordingly, 17 women and 81 men participated in the study. The ratio of men is over 80%. Results confirm proposition 1 which is more men are engaged in technology entrepreneurship compared to women. Also, the ratio of technology women entrepreneurs is 17% which is higher than 5%. This means that women entrepreneurs in technology are increasing.

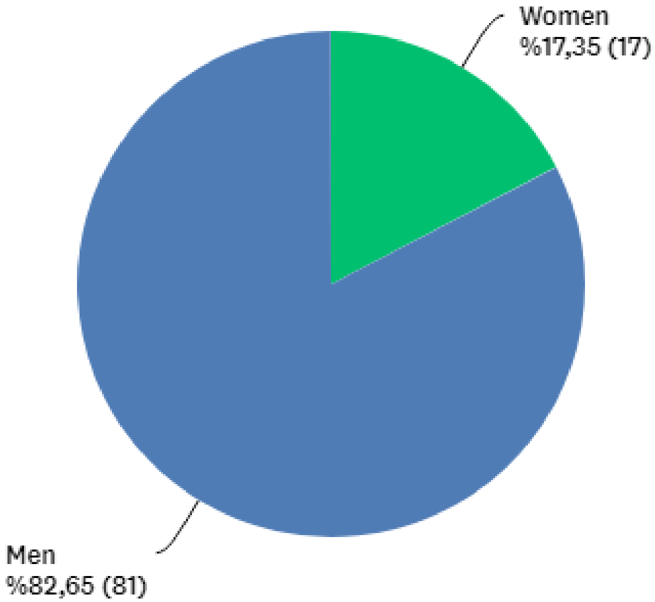


Table 3: Distribution of participants by gender

Entrepreneurs from various age groups participated in the study. The distribution of participants according to their ages can be seen in Table 4. According to this table, it is observed that with 34 participants, the entrepreneurs who completed the survey were mostly in the age range of 26-30 years. This was followed by 20-25 age range with 31 entrepreneurs. The least participating groups in the survey were 41-45 and 46-50 age ranges with 1 entrepreneur. From this sample, it can be concluded that technology entrepreneurs are generally between the ages of 20 and 30 years. Therefore, results confirm proposition 2. After graduating from college, a majority of them work in corporations for a while and then, decide to become entrepreneurs. As can be seen from the table, the number of entrepreneurs decreases as the age progresses. Some of the reasons behind the preference of being an entrepreneur in a younger age may be due to having fewer responsibilities. As people age, responsibilities increase or being an entrepreneur may require more sacrifice. Also, as age progresses, people may find it difficult to leave their existing careers to start from scratch because they have already reached a certain point in their careers.

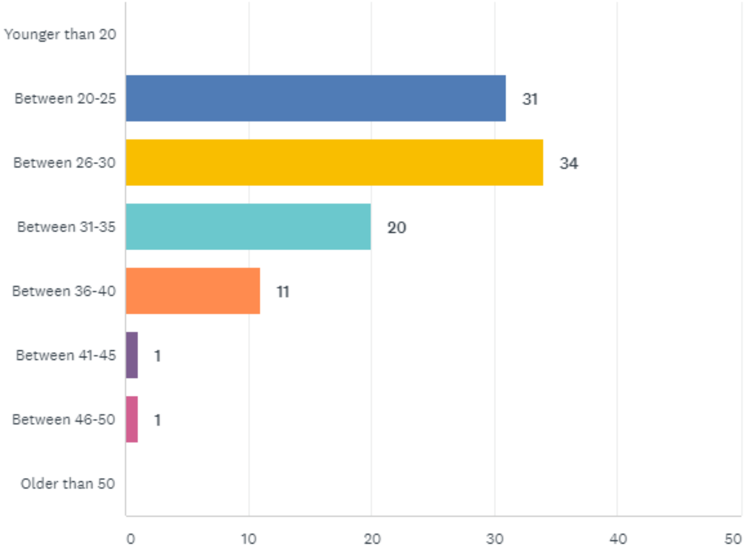


Table 4: Distribution of participants by age

Mainly undergraduate graduates have participated in the study. 63 out of 98 participants have undergraduate degrees and 21 out of 98 have graduate degrees. From this, it can be concluded that technology entrepreneurs are mainly very educated and results confirm proposition 3. Table 5 below shows the educational status of all entrepreneurs participated in the survey.

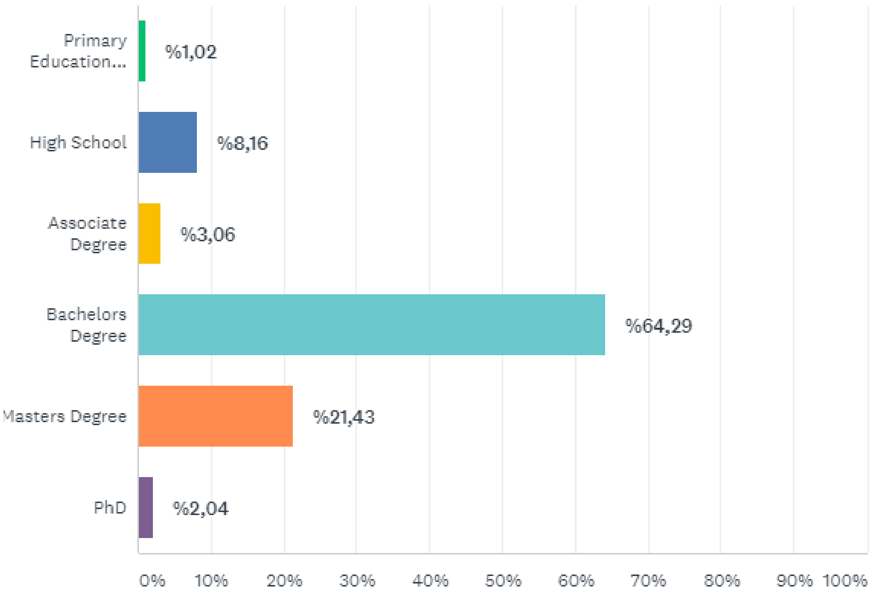


Table 5: Educational status of participants

Most of the entrepreneurs participated in the survey have work experience in other companies. There are only 12 people who have participated in the survey but have no professional work experience. The work experience of the remaining 86 participants is shown in Table 6. Another result that can be understood from this table is that 44 of the respondents have 1 to 5 years of work experience. This, in fact, overlaps with the result we see in Table 4. That is, technology entrepreneurs decide to become entrepreneurs after they have completed the university and then work in various companies for a few years to gain experience. Therefore, results confirm proposition 4.

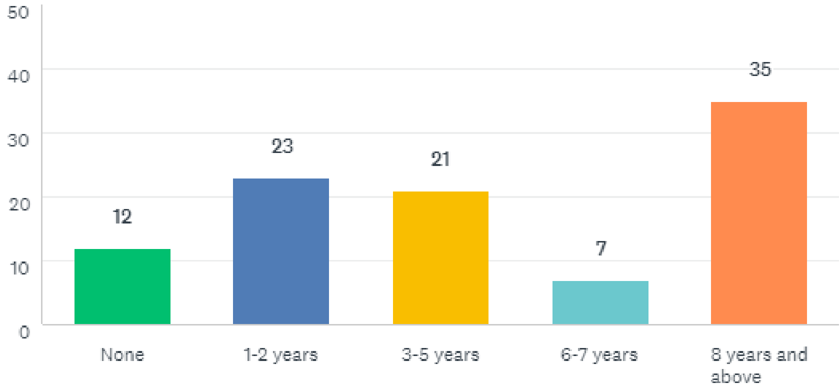


Table 6: Work experience in other companies

Table 7 shows for how long entrepreneurs are interested in entrepreneurship. According to this study, 14% of the survey respondents had less than 1 year of entrepreneurship experience and almost no experience. The vast majority of the respondents, 54%, have 1-2 years of entrepreneurship experience. This shows that this is the first startup company they have started. Finally, 31% of the participants in the survey have over 3 years of entrepreneurship experience.

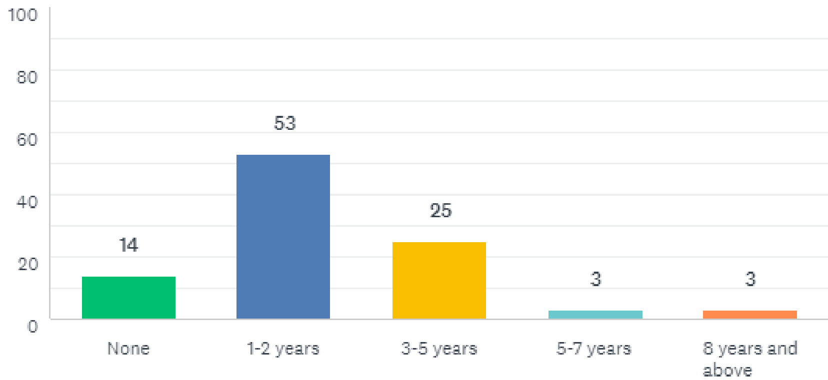


Table 7: Work experience as an entrepreneur

43% of the respondents have entrepreneurs in their families, i.e. mother, father or siblings. 56% of the participants have no entrepreneurs in their families. In Table 8, the distribution of this can be seen. However, the results fail to confirm proposition 5 which is people who have an entrepreneur in their immediate families are more likely to become technology entrepreneurs.

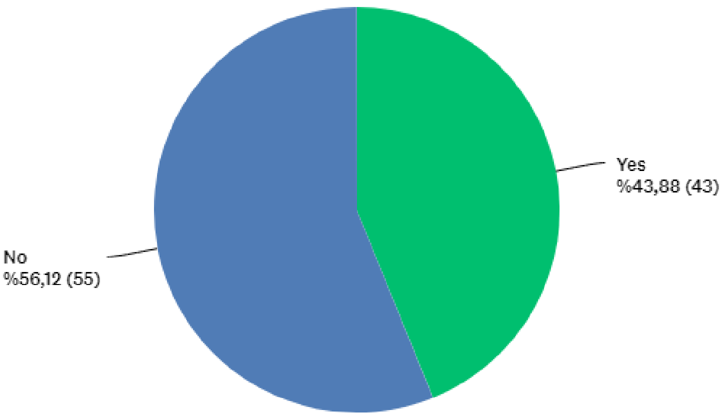


Table 8: Having entrepreneurs in the family

58% of entrepreneurs participating in the survey have people around their immediate vicinity that they ask for their opinions. While participants who have entrepreneurs in their families are 43%, the percentage of people that they ask for their opinions and ideas is 58%. This shows that even if participants' family members are not entrepreneurs, they receive ideas and opinions from them. The distribution of this can be seen in Table 9 below.

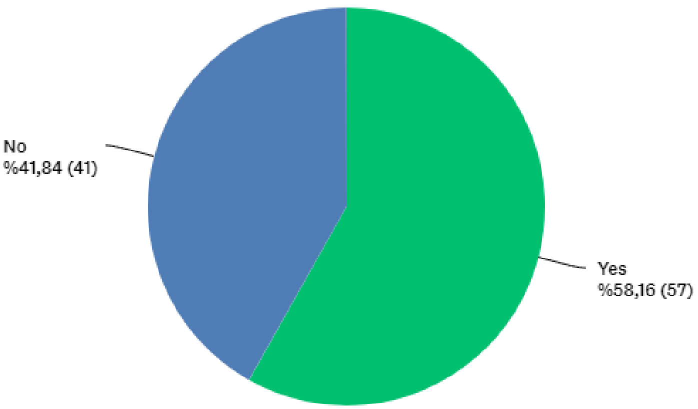


Table 9: Participants who have family members that they ask for their opinions

Although entrepreneurs need to take care of their startups in order to grow their businesses, there are also some entrepreneurs engaged in businesses outside of their ventures to earn money and continue their livings. As can be seen from Table 10, this is not the only source of income for 42% of entrepreneurs and for the remaining 58%, their ventures is the only source of income.

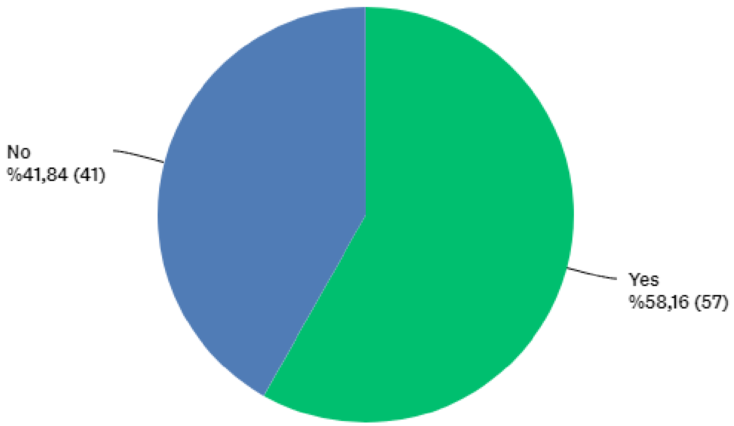


Table 10: Entrepreneurs with a single source of income

There are many reasons why participants decide to become entrepreneurs. According to Table 11, 38 of the participants responded that they chose entrepreneurship to be the boss of their own businesses, 13 to make more money, 17 to serve the community, and 3 to be famous. There are a variety of reasons for the remaining 27 participants to choose entrepreneurship. Some of these reasons are; being obligated to become an entrepreneur due to unemployment, to have a more comfortable working environment, to overcome challenging tasks, to bring out innovative products, to make a difference in the world, to realize their dreams, to be free, to do the work that they like and be happy, to provide added value to the country.

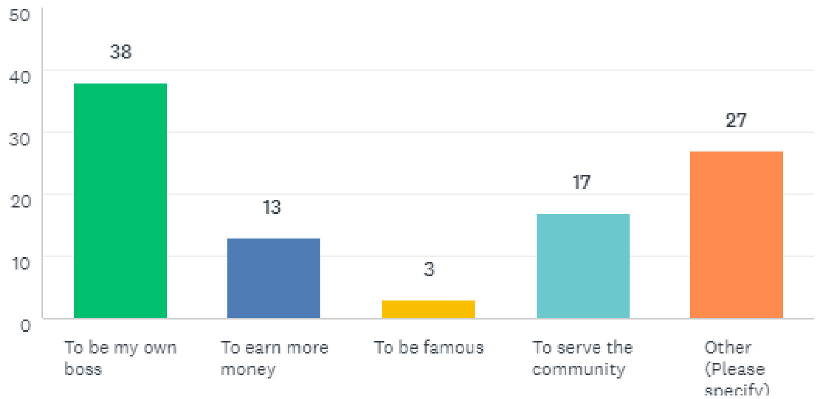


Table 11: Main sources of motivation to become an entrepreneur

According to Table 12, 69 of the entrepreneurs who participated in the survey have founded their companies and 29 of them have not founded yet. When asked why they did not found a company, entrepreneurs have mainly stated that they have not started sales or have not completed their products yet. A small number of entrepreneurs reported that they were waiting for the support decision of Tubitak (The Scientific and Technological Research Council of Turkey) to be finalized.

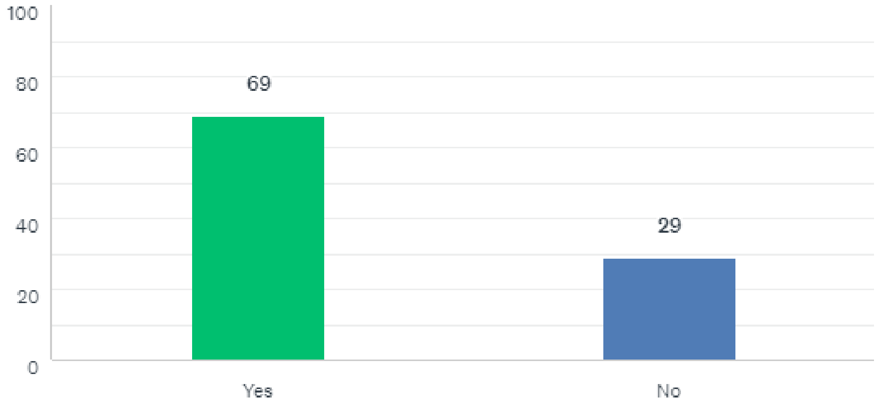


Table 12: Entrepreneurs who are incorporated and not incorporated

Of the 69 entrepreneurs who founded a company, 42 stated that they have founded their companies before joining the accelerator program. The remaining 27 mentioned that they have established their companies after joining the accelerator program and that the support provided by the accelerator program was effective for them to become incorporated. The distribution of this can be seen in Table 13.

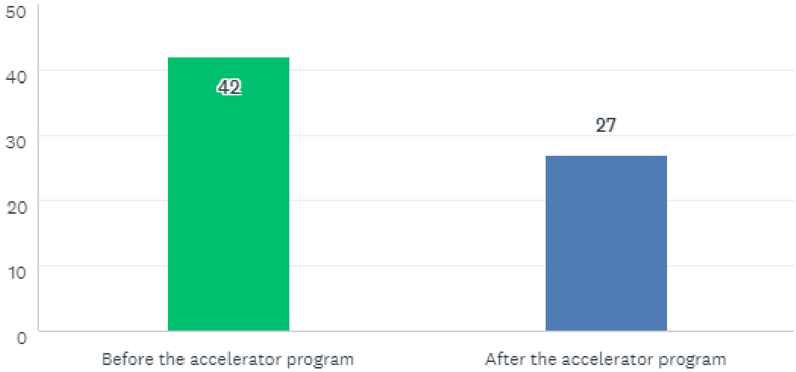


Table 13: When entrepreneurs established their companies

Conclusion

This study makes a frequency analysis of how human demographics such as age, gender, previous education, work experience and family background affect them to become entrepreneurs. This study is applied to the entrepreneurs attending chosen accelerator programs in Turkey. A key finding from this study is that entrepreneurs who are attending in these accelerator programs are generally male, young, well-educated, have few years of professional work experience and come from a family without entrepreneurship experience. This finding is understandable due to young people are more willing to take risks since they haven't much to lose and a good education helps them to follow the latest trends and innovations. Finally, work experience helps them to gain the necessary skills and knowledge to manage a business.

This study has limitations. First of all, literature about accelerator programs is very limited. Especially, in Turkey, there are almost no studies about entrepreneurs attending accelerator programs. Secondly, due to this study focuses on a specific area, data were scarce. Finally, it was very difficult to reach entrepreneurs who graduated from the programs and therefore, mainly entrepreneurs currently attending the programs were represented in this study.

Future studies can study entrepreneurs in other regions and compare them with each other. There are cultural differences between Turkey and other countries. Thus, these differences may affect accelerator programs and entrepreneurs attending these programs. Also, further comparative analysis on entrepreneurs can be done to find out firm survival in addition to measure which entrepreneurs get the most benefit from which supports and how entrepreneur demographics affect the support they receive from accelerator programs.

References

[1] Adkins, D. (2002). A brief history of business incubation in the United States. National Business Incubation Association.
[2] Albort-Morant, G., & Oghazi, P. (2016). How useful are incubators for new entrepreneurs?. Journal of Business Research, 69(6), 2125-2129.
[3] Berglann, H., Moen, E., Røed, K., Skogstrøm, J.F., 2011. Entrepreneurship: origins and returns. Labour Econ. 18, 180–193.
[4] Blanchflower, D. G., & Meyer, B. D. (1994). A longitudinal analysis of the young self-employed in Australia and the United States. Small Business Economics, 6(1), 1-19.
[5] Bruneel, J., Ratinho, T., Clarysse, B., & Groen, A. (2012). The Evolution of Business Incubators: Comparing demand and supply of business incubation services across different incubator generations. Technovation, 32(2), 110-121.
[6] Cáceres-Carrasco, F. R., & Guzmán-Cuevas, J. (2010). Functional and productive dependence: New characteristics for the analysis of enterprises from a macroeconomic view. International Entrepreneurship and Management Journal, 6(2), 117-130.
[7] Christiansen, J., 2009. Copying Y Combinator: A framework for developing seed accelerator programmes. Thesis(MBA), University of Cambridge.
[8] Clarysse, B., Wright, M. and Van Hove, J., 2015. A look inside accelerators. London, Nesta.
[9] Cohen, S. and Hochberg, Y.V., 2014. Accelerating startups: The seed accelerator phenomenon.
[10] Davidsson, P. and Honig, B. (2003), "The role of social and human capital among nascent entrepreneurs", Journal of Business Venturing, Vol. 18 No. 3, pp. 301-31.
[11] Fallows, J. (1985), "The case against credentialism", The Atlantic Monthly, December, pp. 49-67.
[12] Hechavarria, D. M., & Reynolds, P. D. (2009). Cultural norms & business start-ups: the impact of national values on opportunity and necessity entrepreneurs. International Entrepreneurship and Management Journal, 5(4), 417.
[13] Ilhan Ertuna, Z., & Gurel, E. (2011). The moderating role of higher education on entrepreneurship. Education+ training, 53(5), 387-402.
[14] Gurel, E., Altinay, L. and Daniele, R. (2010), "Tourism students' entrepreneurial intentions", Annals of Tourism Research, Vol. 37 No. 3, pp. 646-69.
[15] Lalkaka, R., & Bishop, J. (1996). Business incubators in economic development: an initial assessment in industrializing countries. New York, NY: United Nations Development Programme.
[16] Laukkanen, M. (2000), "Exploring alternative approaches in high-level entrepreneurship education: creating micro-mechanisms for endogenous regional growth", Entrepreneurship and Regional Development, Vol. 12 No. 1, pp. 25-47.
[17] Levesque, M., & Minniti, M. (2006). The effect of aging on entrepreneurial behavior. Journal of Business Venturing, 21(2), 177-194.
[18] Marangoz, M., 2016. Girisimcilikte guncel konular ve uygulamalar [Current topics and applications in entrepreneurship]. 1st edition, Inkilap Kitabevi Yayincilik, Istanbul, ISBN: 978-605-333-567-2.
[19] Mian, S., Lamine, W. and Fayolle, A., 2016. Technology business incubation: An overview of the state of knowledge. Technovation. 50, 1-12.
[20] Miller, P. and Bound, K., 2011. The startup factories: The rise of accelerator programmes to support new ventures. Nesta.
[21] Mintzberg, H. (2004). Managers not MBAs.
[22] Montes Rojas, G. V., & Siga, L. (2009). On the nature of micro-entrepreneurship: evidence from Argentina. Applied Economics, 41(21), 2667-2680.
[23] Oktem, M. K., Aydin, M. D., & Ekinci, S. (2007). The Role and Importance of KOSGEB in Improving the Entrepreneurship in Turkey. Sosyoekonomi, 5(5).
[24] Ozkasikci, I., 2013. Dijital cagda girisimcilik ekosistemi [Entrepreneurship ecosystem in digital age]. 1st edition, Butik Yayincilik, Istanbul, ISBN: 978-605-5154-30-1.
[25] Pauwels, C., Clarysse, B., Wright, M., & Van Hove, J. (2016). Understanding a new generation incubation model: The accelerator. Technovation, 50, 13-24.
[26] Peterman, N.E. and Kennedy, J. (2003), "Enterprise education: influencing students' perceptions of entrepreneurship", Entrepreneurship Theory and Practice, Vol. 28 No. 2, pp. 129-44.
[27] Robinson, P.B. and Sexton, E.A. (1994), "The effect of education and experience on self-employment success", Journal of Business Venturing, Vol. 9 No. 2, pp. 141-56.
[28] Ronstadt, R. (1984), Entrepreneurship: Text, Cases and Notes, Lord, Dover.
[29] Shapero, A. (1980). Are business schools teaching business. Inc., January.

[30] Sigh, S. P., Reynolds, R. G., & Muhammad, S. (2001). A gender-based performance analysis of micro and small enterprises in Java, Indonesia. Journal of Small Business Management, 39(2), 174.

[31] Sungur, O., & Dulupcu, M. A. (2013). Survival Performance of Tenant Firms in Business Incubators (ISGEMS) in Turkey. Mehmet Akif Ersoy University Journal of Institute of Social Sciences, 5(8), 1-25.

[32] Thach, L., & Kidwell, R. E. (2009). HR practices in US and Australian family wineries: cultural contrasts and performance impact. International Entrepreneurship and Management Journal, 5(2), 219-240.

[33] Thomas, M. K. (2009). The impact of education histories on the decision to become self-employed: a study of young, aspiring, minority business owners. Small Business Economics, 33(4), 455.

[34] van Huijgevoort, T., 2012. The 'Business Accelerator': Just a Different Name for a Business Incubator. Thesis (Bachelor), Utrecht School of Economics, Utrecht, The Netherlands.

[35] Women Who Tech. (2017). *Infographic | Women Who Tech*. [online] Available at: https://www.womenwhotech.com/womenintechinfographic [Accessed 19 Nov. 2017].

[36] Wu, S. and Wu, L. (2008), "The impact of higher education on entrepreneurial intentions of university students in China", Journal of Small Business and Enterprise Development, Vol. 15 No. 4, pp. 752-74.

Economic Growth Though Competitive Advantage and Specialization: the Example of Winemaking in Moldova

Prof. Dr. Tatiana Pîşchina
ASEM

Romeo Fortuna

Abstract

This article addresses growth through economic specialization based on completive advantage. Winemaking is one of the key branches of Moldova's economy, which stands for about 20 percent of Moldova's GDP. It has high potential in terms of contribution to qualitative economic growth. About 90 percent of Moldovan wine is intended for export to countries like Great Britain, Germany, Czech Republic, Poland, Greece, Scandinavia, US, Japan and China, and only 10 percent for local consumption. Winemaking is one of Moldova's specialties, which enjoys long-lived traditions and vivid history of Moldova's wineries, including Milesti Mici registered in 2005 as world's biggest winery by Guinness World Records. The concept of this study suggests that economic growth must be induced through competitive areas of specialization, which are present in any economy. Substantial investments are required to develop those areas. Structurally, winemaking branch in Moldova is comprised of small and medium enterprises flexible and open to innovation, which is a strong prerequisite to develop those areas into drivers of economic growth eventually resulting into new jobs, higher export, higher GDP, better living conditions. Winemaking alone cannot be the answer to Moldova's economic problem. Yet, this study highlights the importance of focusing on competitive advantage and specialized growth to create qualitative internally-driven economic growth, particularly important for nations struggling within current socio-economic affairs.

Keywords: Economic Growth, Competitive, Advantage, Specialization, Winemaking, Moldova

Introduction

Competitive Advantage and Specialization

The character and implications of globalization to the modern world, as well as its controversy (Birdsall, 2006; Stiglitz, 2012; Lenzner, 2011) require a fresh approach of economic growth particularly when it comes to developing nations. Such economies are in constant balancing act between national interests supported by the national authorities, on the one hand, and the international perspective carried by such organizations as World Trade Organization, International Monetary Fund, World Bank and others. Balancing of economic interests concerns such areas as structural priorities between various branches of the economy, as well as economic specialization. Specialization policy, in its turn, defines the effectiveness of production allocation between industries and various branches of the economy and other financial activities, therefore, affects economic growth and optimization of development potential in context of opportunities and pressures posed by globalization (Pischina, 2007, p.81). Wise specialization decisions should be balanced through the principles of comparative advantage, the principles which theoretically define basic dimensions and logic of specialization (Porter, 1985). As the result, specialization can contribute to the effectiveness and increases in productivity, to the optimization of balance of payments, and finally to the competitiveness of national economy. Slow pace of economic growth is often explained by insufficient participation in international trade. The theory of comparative advantage states that national consumption can be boosted not only by means of expanding or strengthening the internal factors, but also though participation in international trade and specialization within international division of labor, which expands the boundaries of national production capacities. Thus, the policy of concentration on the industries and products that form competitive advantage of a nation positively contributes to the structure of the demand, the structure of external trade and production factors of the trading partners, and finally, to the rate of economic growth.

Economic effectiveness with which individual nations are able to produce various goods is changing overtime. Movements in allocation of resources and technologies lead to the movements in specialization, and therefore, to changes in relative effectiveness of production of individual economies. For instance, innovation in research development and production of synthetic fibre and artificial rubber radically altered the structure of production resources whereby increasing relative manufacturing effectiveness of those products and goods produced on their basis.

It is generally accepted that the more a factor is specialized (concentrated) in export production, the more it benefits from foreign trade. Conversely, the higher the share of the factor in the products competing with imports, the more it loses in trade. It is also believed that owners of neutral factors (approximately equally represented in both export and import substitution industries) generally benefit from foreign trade, as the country's aggregate gain from foreign trade is accompanied by an expansion in demand for these factors, especially if they can move between the sectors of the economy.

Modern economists largely modify the classical theory. The theory of factors forms the basis for quantitative models and schematics of comparative costs, carried out in the works of Clement and Springerborg (2001), Clement and Skocpol (1979), as well as P. Elsworth, C. Kindleberner, J. Mide, R. Harrod and others. According to their theories, international trade is based on rational mutually beneficial principles profitable for all participating actors. Perhaps true for the developed economies, the same is not necessarily applicable to their developing counterparts. Developing and developed nations are usually characterized by major differences in the living standards, as well as effectiveness in production and labour. Conditional upon those differences, the benefits of foreign trade for the developed economies increases, whilst profitability gains on import of the developing ones are usually limited, coupled with the fact that foreign debt for those trading partners usually increases.

Thus, developing economies should be specifically careful to observe and exploit their own national specific advantages. This means that the goals and gains from specialization directly relate to the abilities and limitations defined by the national peculiarities, the level of its economic development, as well as its socio-economic policies. In addition, regional component helps to identify both strengths and weaknesses of the national economy, and to define economic branches that may have competitive advantages.

A relatively small number of market economy laws operate in specific or somewhat peculiar economic circumstances unusual for the economic behavior in which they normally apply, especially in conditions of uncertainty of individual economies in transition, showing new, previously unknown properties. Thus, the approach to growth creation and structural transformations for the developing nations must be designed carefully, and somewhat differently, in order to avoid creating economic structures harmful and often incompatible with the peculiarities of a given society and economy. Similar aspects were described in-depth in several papers by the author (Pischina, 2001, 2007, 2007a).

For the developing nations, it is important to take into account the principles of an integrated, systemic approach. According to this principle, we propose to consider all processes, including specialization processes. Objectively, the economy of each country is part of a single global economy, which in its essence is a large closed planetary economy. The processes occurring in any part of this whole are interrelated, interdependent and affect each other and socio-economic interests of one another.

Economic strategy for developing countries must involve the definition of their niche in context of globalization that is based on reasonable considerations taking into account specialization and being able to exploit its advantages for obtaining certain benefits. Developing countries should learn how to effectively develop in conditions of international competitiveness, while preserving their uniqueness primarily in specialization of industrial and economic branches (Pischina, 2007, 2007a).

Specialization: The Example of Winemaking in Moldova

Winemaking is one of Moldova's specialties, which enjoys long-lived traditions and vivid history of Moldova's wineries, including Milesti Mici registered in 2005 as world's biggest winery by Guinness World Records. The concept of this study suggests that economic growth must be induced through competitive areas of specialization, which are present in any economy. The most important branches of the specialization of the Republic of Moldova are viticulture and winemaking. This set of industries forms 20 percent of the gross domestic product (GDP) of the country. The Republic of Moldova is one of the 70 nations with sophisticated wine-growing and winemaking complex, and the only country in the world that exports over 90 percent of the wines produced. Viticulture and winemaking have been the main activity of Moldovan population for many decades. According to the International Organization of Vine and Wine (OIV), the Republic of Moldova ranks 20th among the world's leading wine producers and as the 13th global wine exporter.

Table 1: Wine Production in the Main Producing Countries (excl. juice and musts), 2017

Unit: mhl	2013	2014	2015	2016 Provisional	2017 Forecast	2017/2016 Variation in volume	2017/2016 Variation in %	Ranking
Italy	54.0	44.2	50.0	50.9	39.3	-11.6	-23%	1
France	42.1	46.5	47.0	45.2	36.7	-8.5	-19%	2
Spain	45.3	39.5	37.7	39.3	33.5	-5.8	-15%	3
United States (2)	24.4	23.1	21.7	23.6	23.3	-0.3	-1%	4
Australia	12.3	11.9	11.9	13.1	13.9	0.8	6%	5
Argentina	15.0	15.2	13.4	9.4	11.8	2.4	25%	6
China*	11.8	11.6	11.5	11.4	11.4	0.0	0%	7
South Africa	11.0	11.5	11.2	10.5	10.8	0.3	2%	8
Chile	12.8	9.9	12.9	10.1	9.5	-0.7	-6%	9
Germany	8.4	9.2	8.9	9.0	8.1	-0.9	-10%	10
Portugal	6.2	6.2	7.0	6.0	6.6	0.6	10%	11
Russia*	5.3	4.9	5.6	5.6	5.6	0.0	0%	12
Romania	5.1	3.7	3.6	3.3	5.3	2.1	64%	13
Brazil	2.7	2.6	2.7	1.3	3.4	2.1	169%	14
Hungary	2.6	2.4	2.8	2.8	2.9	0.1	3%	15
New Zealand	2.5	3.2	2.3	3.1	2.9	-0.3	-9%	16
Greece	3.3	2.8	2.5	2.6	2.5	-0.1	-5%	17
Serbia*	2.3	2.3	2.3	2.3	2.3	0.0	0%	18
Austria	2.4	2.0	2.3	2.0	2.4	0.4	23%	19
Moldova	2.6	1.6	1.6	1.5	1.8	0.3	20%	20
Bulgaria	1.7	0.7	1.3	1.2	1.2	0.0	-2%	21
Georgia*	1.0	1.1	1.3	1.1	1.1	0.0	0%	22
OIV World Total(3)	**290.1**	**269.5**	**274.7**	**268.8**	**246.7**	**-22.1**	**-8%**	

(1): Countries for which information has been provided with a wine production of more than 1 mhl
(2): OIV estimate based on UDSA info
(3): OIV estimate: mid-range estimate. Range for evaluation of 2017 world production: from 243.3 mhl to 250.1 mhl

Source: OIV

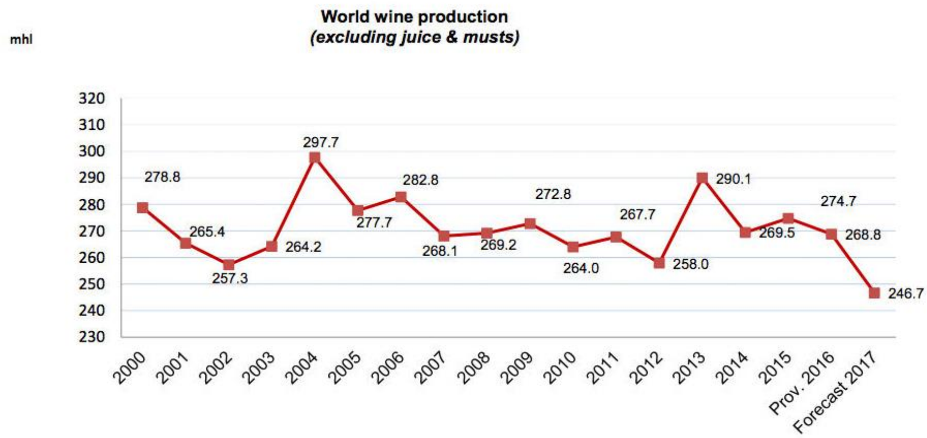
In 2017, Moldovan wines were exported to 42 countries for almost $104 million, exceeding $93 million in 2015. Most wines from the Republic of Moldova were sold in Belarus (20 percent), as well as in China (9.5 percent), Romania (7.5 percent), followed by Russia, Ukraine Czech Republic. Moldovan wines won about 300 medals at international competitions, 60 percent out of which were gold.

From the 1960s to approximately 1980s Moldova's plantations of vineyards and assortment of manufactured products expanded. At that time, Moldova was the main supplier of wines to USSR, when every second bottle of wine, and every third bottle of sparkling wine in the Soviet Union was produced in either in Moldova or using Moldovan wineries. In the heyday of winemaking industry, the territory covered with vineyards in Moldova was more than 220 thousand hectares, where roughly 1.1 million tons of grapes were harvested, and more than 42 million hectoliters of wine were produced (*Wine-making and Viticulture, 2017).*

In the mid-1980s, Moldova's winemaking industry experienced a rough period under the so-called 'dry law' as part of the national fight against the addiction to alcohol. Dozens of hectares of grapevine, as well as valuable wine, were destroyed in that period. Production areas were reduced more than 3 times, and priceless stocks of wine, crops and winemaking technologies were destroyed. Handling of the matter by the authorities resulted more or less into a national tragedy, encompassing cultural, but most importantly economic damage from conglomerates to single households whose income was in producing and selling wine (*Wine-making and Viticulture, 2017*).

Today the total area of vineyards in Moldova is 147 thousand hectares, including 113 thousand hectares of commodity plantations. Over 95 percent are privately owned. Currently, Moldovan winemakers produce over a hundred of various types of grapes, covering the European varieties to about 70 percent, Caucasian varieties to about 14 percent, as well as local varieties of about 16 percent. In 2017, Moldova produced 8 million hectoliters of wine, which is 20 percent increase over 2016, that is while the global wine production trend is negative, as seen in the Table 2 below.

Table 2: Trends in Global Wine Production



Source: OIV

International Vine and Wine Organization (OIV) notes that global wine production decreased by 8.2 percent in 2017, reaching 246.7 million hectoliters, the lowest level since 1961. The global decline in wine production is caused by various factors, including unfavorable weather conditions in three major wine producers in Europe: Italy, France and Spain. According to the estimates of OIV, Italy's production decreased by 23 percent to 39.3 million hectoliters, France's production decreased by 19 percent to 36.7 million hectoliters, and in Spain - by 15 percent to 33.5 million hectoliters. The statistics, however, exclude China, which is the 7th global winemaker.

In 2002, Moldovan government adopted the Program for the Restoration and Development of Viticulture and Winemaking for 2002 - 2020 (Government Decision No. 1313 of 07.10.2002), with the aim to strengthen and integrate viticulture and winemaking. The initiative helped to start revitalizing the industry and the branch of winemaking. Many winemaking enterprises emerged, investing not only in modern technologies and equipment, but also in planting vineyards, helping to form an agro-industrial winery complex – cluster. The rebirth of winemaking started to positively affect the economy as a whole. In this way, small and medium-sized enterprises emerged as the driving force behind the development of the winemaking cluster, as well as the entire economy of the Republic of Moldova. Those often family-owned companies support and develop the traditions of viticulture and winemaking, and also are among the main generators of job-creating and subsequently economic growth.

Small enterprises have certain advantages in comparison with the large ones. For example, they are less inert compared to large enterprises, more adaptive to innovative technologies. In a market characterized by intense competition, small and medium-sized enterprises are quickly adaptable and able to respond in a more flexible way to structural, market and economic changes. However, small and medium-sized enterprises have their vulnerabilities. They are at risk of financial strain, shortage of production capacities, and relatively small research base. Yet, not only in Moldova, but globally, small businesses are at the forefront of the wine industry, combining innovations with tradition. For example, in France, small to medium sector accounts for half of annual wine production, 54 percent of vineyards and 77 percent of permanent workers. That is to say, in Europe, 210 thousand small wineries united in national associations, which formed the European Confederation of Independent Wine-Growers (CEVI). In Australia and New Zealand, 80 percent of all wine producers are small. Among them there are many enterprises producing organic wines. Their role is not only in promoting wine, wine tourism and other activities associated with winemaking, but also in creating jobs. Thus, the role of such enterprises in the total economy, especially a developing economy like Moldova, cannot be overestimated. Nevertheless, the amount of small wine producers in Moldova is still relatively small.

Challenges of Moldova's Wine-making Cluster

The EU regulatory framework assumes a definition of small wine producers with the criterion being the volume of production (on average 1000 hectoliters per year). In most winemaking economies special legal norms have been established to support small wine producers. General rules have been adopted to ensure fair competition in the industry. Taxation and the licensing costs are reduced, registration is simplified, and subventions and special funds for promotion are established. Similarly, in the United States, taxation for the small enterprises that produce less than 250 thousand gallons (950 thousand liters) is normally reduced. In Slovenia, an enterprise that has no more than 1 hectare of vineyards and produces less than 80 hectoliters of wine per year is considered small. The amount of sanctions for various violations depends on the manufacturer's category, and promotion subventions for small and medium-sized wineries reach 52 thousand euros per year for three consecutive years (MSWPA, 2010).

Unfortunately, Moldova's legislation does not assume a separate regulation supporting small enterprises and does not contain differences for small wineries. In general, the legal framework presents many obstacles. On the one hand, for over five year, the state allocated partial compensations for the planting of vineyards (including involving small enterprises in the process), but on the other hand it did not provide their owners with formal opportunity to produce and sell wines made from the crops grown on these plantations. Nevertheless, small wineries are carriers of tradition and quality. They form a real potential, which should be both supported and exploited.

In particular, small wineries find it difficult financially to fulfill the conditions for obtaining a license. The cost of the license for all wineries in Moldova is the same, standing for 20 thousand lei per year (the amount is one of the largest in the world), which contradicts the principles of fair competition. The conditions include owning own warehouse with an area of at least 500 square meters with fully digitalized accounting system (often the area of the whole enterprise is smaller) and own production capacities, including equipment for processing wines with cold, heat, filters, bottling line, laboratory with licensed personnel, trade-marks, labels approved for the respective product range. In general, most mandatory requirements are irrelevant in conditions of market economy. In many European economies, such as France, Spain, Italy, Austria, smaller winemakers in particular do not need a license for wine production. In Australia and New Zealand the license is only needed for export. Instead, other regulation models are used for registration in the wine-growing and winemaking industry, for instance, through the obligation to register plantations in the Vineyard Cadaster and wine production in the Register of Wine Producers.

Small producers are exposed to greater risks, not only financial, but also in terms of exposures, such as to climate conditions. In order to support smaller enterprises so important for economic growth, the state must share the risk and minimize exposure.

Moldovan winemaking is very attractive for potential foreign investors. A significant number of projects are being implemented in this particular industry branch. Every year the total number of wineries in the Republic grows, increasing from 120 in 2002 to 165. New plants are created not only with the help of companies and their external trading partners, but also attracting loans from both Moldovan and foreign banks and funds. Investors from France, Germany, Russia, the Netherlands, Belgium and the US recognize the potential of the wine industry of the Republic of Moldova and establish joint ventures with local companies.

Presently, Moldova's winemaking industry is focused on the efforts of the dedicated specialists, the enterprises and the state as a whole on the new vineyards, on control of the quality of raw materials, training of the specialists in line with modern production technologies, while acquisition and application of modern equipment takes place.

Moldova, which is part of the WTO, has all relevant laws regulating the activities of the industry. The wine is produced in conjunction with the European classification: high quality with a name reflecting duly controlled place of origin (VDO) and (VDOC). Moldova's wines are known in the CIS countries, as well as in the Baltic States, England, Ireland, Germany, Holland, Israel and other countries. As already mentioned, about 90 percent of wine production is intended for export, and only 10 percent is sold on the domestic market. The volume of exports in recent years is estimated at 1.3 to 2 billion lei (90-150 million US dollars). However, the Republic of Moldova has not yet managed to reach its pre-economic crisis sales volumes.

Objectively, the potential of the Republic of Moldova to develop viticulture and winemaking and to improve the quality of the wine to the level of highest global standards is quite large. In case of winemaking industry unique in its organizational structure, investments are needed in innovation of technology supporting wineries, crops, tools, in other words, the entire value chain to achieve highest quality of the end product at relevant profitability. Structurally, winemaking branch in Moldova is comprised of small and medium enterprises, which are flexible and open to innovation, which is a strong prerequisite to develop those areas into drivers of economic growth eventually resulting into new jobs, higher export, higher GDP, better living conditions. The activities associated with attracting the investments, the emergence of new plants and modernization of the old ones, with an emphasis on increasing the share of production of high-quality wines, will not only increase export volumes, but can also help conquer new markets and occupy new price positions. In addition, wine tourism, including winery tours and promotion of Moldovan wine in conjunction with other events will help to raise the image of Moldova as a country in general.

Conclusion

Specialization is a powerful tool for solving social, economic, environmental and energy security problems, as well as demographic changes, and limitations though natural resources. For the Republic of Moldova, it is an opportunity to strengthen the economy, which will allow Moldovan companies to compete internationally. Conversely, Moldova may continue its journey as a weak economy, and exporter of cheap highly qualified labor that the country itself is unable to take advantage of. Therefore, it is absolutely crucial to create common focus on exploitation of competitive advantages and specialization of the economy, at the same time supporting small and medium size enterprises to carry out activities building up to long-term economic growth.

In order to develop socio-economic potential of the nation, it is necessary to identify and use supporting mechanisms to reorient the production structure to specialization areas and to the international markets. This study highlights the importance of focusing on competitive advantage and specialized growth to create qualitative internally-driven economic growth, particularly important for nations struggling within current socio-economic affairs. As for specialization, winemaking is one important area the Republic of Moldova is known for. It is necessary for Moldova to focus specifically on realizing its competitive advantages, developing and strengthening traditional branches of specialization, in particular, viticulture and winemaking, to which its international partners can certainly contribute through investments and various partnerships. Implementation must be supported by the state, as only common effort will allow the tradition of winemaking to turn into profitable business.

The European Union, as one of Moldova's crucial trading partners, should more actively support initiatives aimed at the existing and the new businesses due to the benefit for the citizens of the Republic of Moldova and to the European community as a whole that those businesses will create. Winemaking alone cannot be the answer to Moldova's economic problem. Specialization and support for small and medium businesses operating across economic branches step by step would help reverse current negative trends of economic stagnation and brain drain. Investment and support must be provided in synergy between public and private sectors. Technology, human capital and financial and other highly profitable sectors remain crucial to address. Thus, the example of Moldova has broader relevance and is interesting for other developing economies, as well as for the representatives of international governmental and private sector organizations.

References:

[1] Birdsall, N. (2006). Rising inequality in the new global economy, International
[2] Journal of Development Issues, Vol. 5 Iss: 1, pp.1 – 9.
[3] Clement M., R. Springborg R., Globalization and the Politics of Development in the Middle East, Cambridge University Press, 2001.
[4] Clement M ., Skocpol T, States and social revolutions : a comparative analysis of France, Russia, and China, New York : Cambridge University Press, 1979.
[5] Lenzner, R. (2011). In Forbes. (Retrieved November 2016):
[6] http://www.forbes.com/sites/robertlenzner/2011/11/20/the-top-0-1-of-the-nation-earn-half-of-all-capital-gains/Porter, Michael, E. (1985), Competitive Advantage: Creating and sustaining superior performance, NY: Free Press, 1985 (Republished with a new introduction, 1998).

[7] Pischina, T.V. (2001), Macroeconomics – Main Aspects of Transitional and Market Economy, Chisinau, Eurika Publishing, 2001.
[8] Pîşchina, T. V. (2007), Structural Economic Priorities in Time of Globalization: Methodologies, Principles, Experience (Teza de Dr. Habilitat în Economie cu titlu de manuscript C.Z.U.: 339.9(043.2)), Chisinau, 2007, 260 p.
[9] Pischina, T. (2007a). Problems And Mechanisms For Improving The Structure Of Foreign Trade In Context Of Strengthening Global Integration Processes. Chişinău, ASEM, Vol.1.pp.266-271.ISBN 978-9975-75-117-9.
[10] Stiglitz, J. E. (2012). The Price of Inequality, W. W. Norton & Company, 448 pp. ISBN 978-0-393-08869-4.
[11] MSWPA, Moldovan Small Wine Producers Association (2010), https://www.winemoldova.com/presses/view/2 accessed in January 2017.
[12] Wine-making and Viticulture, 2017, online article www. vinmoldova.md/index.php?mod=content&id=34 accessed in January 2017.

An Empirical Analysis on the Relationship between Health Care Expenditures and Economic Growth in the European Union Countries

Çiğdem Börke Tunalı
* Associate Professor, Department of Economics, Faculty of Economics, Istanbul University, Istanbul, Turkey.

Naci Tolga Saruç
Professor, Department of Public Finance, Faculty of Economics, Istanbul University, Istanbul, Turkey.

Abstract

This paper empirically investigates the relationship between health expenditure and economic growth in the European Union countries over the period 1995-2014. By using the Dumitrescu-Hurlin Test (Dumitrescu and Hurlin, 2012) which is developed to test Granger causality in panel datasets (Lopez and Weber, 2017), it is found that there is a unidirectional relationship between these variables and gross domestic product (GDP) per capita Granger causes health expenditure per capita. After determining the direction of the relationship between health expenditure per capita and GDP per capita we estimate the short run and the long run effects of GDP per capita on health expenditure per capita by using Mean Group (MG) and Pooled Mean Group (PMG) estimators which are developed by Pesaran and Smith (1995) and Pesaran, Shin and Smith (1999) respectively. According to the estimation results, GDP per capita has a positive effect on health expenditure per capita both in the short run and the long run.

Keywords: Health care expenditures, Economic growth, Panel Granger causality analysis, European Union

1. Introduction

Health is one of the significant factors which can have dramatic effects on economic performance of a country. Increasing health care expenditure leads to higher social security, safety and welfare and hence, it improves labour efficiency (Mladenovic et al., 2016).

There are quite a few studies which investigate the impact of health/health care expenditure on economic growth in the existing literature. These studies generally find that health/health care expenditure has a positive influence on economic growth (see for instance; Rivera and Currais, 2003; Bloom et al., 2004 and LI and Huang, 2009). However, the number of studies which analyse the causality between health care expenditure and economic growth is very low. Unlike previous analyses, in this study we examine the causality between health care expenditure and economic growth in the European Union countries over the period 1995-2014. Moreover, after determining the direction of causality between these variables we estimate the short run and the long run effects of GDP per capita on health expenditure per capita.

The remainder of the paper is structured as follows: in section 2 we present a brief literature review, in section 3 we explain our methodology and data, in section 4 we discuss the results of our empirical analysis and finally in section 5 we conclude.

2. Literature Review

Although there is a vast literature which investigates the effect of health on economic growth the number of studies that focus on the direction of the relationship between health expenditure and economic growth is very low. Here, we briefly summarize the results of recent literature which examine the relationship between health and economic growth.

Rivera and Currais (2003) investigate the influence of health investment on productivity in OECD countries over the period 1960-2000. The authors estimate an Augmented Solow Model by using ordinary least squares and two stages least squares estimators and find that health expenditure has a positive effect on economic growth (Rivera and Currais, 2003).

Bloom et al. (2004) analyse the impact of work experience and health on economic growth for a panel of countries by estimating a production function over the period 1960-1990. According to the estimation results, Bloom et al. (2004) conclude that good health has a positive impact on economic growth.

LI and Huang (2009) examine the effect of health and education on economic growth for Chinese provinces between 1978 and 2005 by estimating Mankiw, Romer and Weil (1992)'s model. The results of this analysis show that both health and education positively affect economic growth (LI and Huang, 2009).

Narayan et al. (2010) analyse the relationship between health and economic growth for 5 Asian countries by drawing on panel unit root, panel cointegration with structural breaks and panel long run estimation over the period 1974-2007. According to the empirical results, Narayan et al. (2010) suggest that there is a long run relationship between health and economic growth and health positively influences economic growth.

Hartwig (2010) examines the impact of health capital formation on GDP growth by drawing on panel Granger causality analysis. Hartwig (2010) uses a data set covering the period between 1970 and 2005 for 21 OECD countries and finds that health care expenditure does not Granger cause GDP per capita growth.

Wang (2011) investigates the causality between health care expenditure rise and economic growth for 31 countries by using both panel regression and quantile regression techniques over the period 1986-2007. According to the panel estimation results, Wang (2011) argues that while health care expenditure growth has a positive impact on economic growth economic growth decreases health care expenditure growth. However, the results of quantile regression indicate that the effect of health care expenditure growth on economic growth is positive in countries which have medium and high levels of economic growth (Wang, 2011).

Amiri and Ventelou (2012) examine the relationship between health care expenditure and economic growth in OECD countries by using a new version of Granger causality test suggested by Toda and Yamamoto (1995). In the empirical estimations, a data set for 20 OECD countries which covers the period between 1970 and 2009 is used. According to the estimation results, Amiri and Ventelou (2012) suggest that there is bidirectional causality between health care expenditure and economic growth.

Lago-Penas et al. (2013) analyse the relationship between health care expenditure and income for 31 OECD countries over the period 1970-2009. By estimating the short run and the long run elasticities Lago-Penas et al. (2013) investigate the adjustment process of health care expenditures to changes in GDP per capita and find that health care expenditures are more responsive to cyclical components of GDP per capita than to trend components.

To summarize, we can state that most of the empirical analyses in the existing literature focus on the effect of health/health care expenditures on economic growth and find a positive impact of health on income. However, the number of studies that examine the causality between health expenditure and economic growth is very low. The main contribution of our analysis is to investigate the direction of causality between health expenditure and economic growth empirically. Moreover, after determining the direction of causality we also estimate the short run and the long run effects of GDP per capita on health expenditure per capita.

3. Methodology and Data

In this paper we investigate the relationship between health expenditure and economic growth in the European Union countries. At first, we examine the direction of the causality between health expenditure and economic growth. In order to do this, we use the Dumitrescu-Hurlin Test (Dumitrescu and Hurlin, 2012) which is developed to test Granger causality in panel datasets (Lopez and Weber, 2017). The Dumitrescu-Hurlin Test can be explained by the following linear model (Dumitrescu and Hurlin, 2012):

$$y_{i,t} = \alpha_i + \sum_{k=1}^{K} \theta_i^{(k)} y_{i,t-k} + \sum_{k=1}^{K} \beta_i^{(k)} x_{i,t-k} + \varepsilon_{i,t} \tag{1}$$

In equation 1, x and y are two stationary variables observed for N individuals on T periods (Dumitrescu and Hurlin, 2012). Dumitrescu and Hurlin (2012) suggest testing Homogenous Non Causality hypothesis by considering both the heterogeneity of the regression model and the casual relation. The alternative hypothesis of the Dumitrescu-Hurlin Test allows a subgroup of individuals for which there is no causality and a subgroup of individuals for which there is Granger causality (Dumitrescu and Hurlin, 2012). The null hypothesis of the Dumitrescu-Hurlin Test can be stated as follows (Dumitrescu and Hurlin, 2012):

$$H_0: \beta_i = 0 \qquad \forall i = 1, \ldots N \tag{2}$$

In order to test the null hypothesis Dumitrescu and Hurlin suggest using the average of individual Wald statistics (Dumitrescu and Hurlin, 2012).

After determining the direction of causality between health expenditure and economic growth, we draw on Mean Group (MG) and Pooled Mean Group (PMG) estimators which are developed by Pesaran and Smith (1995) and Pesaran, Shin and Smith (1999) to estimate the short-run and the long-run effects of the variable which Granger causes the other variable. The PMG presumes that long run coefficients are equal across groups but, allows the constants, short run coefficients and error variances to be different (Pesaran, Shin and Smith (1999). When MG estimator is used regressions are estimated for each group separately and then the means of coefficients over groups are calculated Pesaran and Smith (1995).

The MG and PMG estimators can be explained by the following autoregressive distributive lag (ARDL) (p, q_1, …, q_k) panel model (Blackburne and Frank, 2007):

$$y_{i,t} = \sum_{j=1}^{p} \varphi_{i,j} y_{i,t-j} + \sum_{j=0}^{q} \sigma'_{i,j} X_{i,t-j} + \mu_i + \varepsilon_{i,t} \tag{3}$$

In this equation, i= 1, 2, …, N is the number of groups, t= 1, 2, …, T is the number of periods, $X_{i,t}$ is a k x 1 vector of explanatory variables, $\sigma_{i,t}$ are the k x 1 coefficient vectors, $\varphi_{i,j}$ are scalars and μ_i is the group-specific effect (Blackburne and Frank, 2007). By using equation 3 the error correction model can be stated as follows:

$$\Delta y_{i,t} = \theta_i\left(y_{i,t-1} - \vartheta_i' X_{i,t}\right) + \sum_{j=1}^{p-1} \varphi_{i,j}^{*} \Delta y_{i,t-1} + \sum_{j=0}^{q-1} \sigma_{i,j}'^{*} \Delta X_{i,t-j} + \mu_i + \varepsilon_{i,t} \tag{4}$$

In equation 4, $\theta_i = -(1 - \sum_{j=1}^{p} \varphi_{i,j})$, $\vartheta_i = \sum_{j=0}^{q} \sigma_{i,j} / (1 - \sum_k \varphi_{i,k})$, $\varphi_{i,j} = -\sum_{m=j+1}^{p} \varphi_{i,m}$ j= 1, 2, …, p-1, and $\sigma_{i,j}^{*} = -\sum_{m=j+1}^{q} \sigma_{i,m}$ j= 1, 2, …, q-1 (Blackburne and Frank, 2007).

In this equation, θ_i is the speed of adjustment term (error correction term) and it is expected to be statistically significant and negative (Blackburne and Frank, 2007). The vector of ϑ_i' includes long-run relationships among the variables (Blackburne and Frank, 2007).

In our empirical analysis, we use gross domestic product per capita and health expenditure per capita in order to estimate the relationship between health expenditure and economic growth. Both of these variables are in current US Dollars and we draw on GDP deflator of the respective country to calculate the real values of the data. In the estimations, the logarithmic forms of the variables are used. The data set is annual and covers the period between 1995 and 2014 for 28 European Union countries. All of the data is obtained from the World Bank World Development Indicators (World Bank, 2018).

4. Results

Although the order of integration of the variables is not important for the MG (Pesaran and Smith, 1995) and PMG models (Pesaran, Shin and Smith, 1999) so long as the variables are integrated either in I(0) or I(1) the Dumitrescu-Hurlin Test assumes that the variables are stationary (Dumitrescu and Hurlin, 2012). So, we first estimate Im-Pesaran-Shin (Im, Pesaran and Shin, 2003) and Fisher type (Fisher-Augmented Dickey-Fuller (ADF)) (Choi, 2001) unit root tests in order to establish the order of integration of the variables. Table 1 shows the results of these unit root tests.

Table 1: Unit Root Test Results

Variables	Im-Pesaran-Shin	Fisher-ADF Inverse Normal	Fisher-ADF Inverse Logit
GDP per capita	-17.2327***	-9.6563***	-14.6831***
Health Expenditure per capita	-7.4784***	-6.3808***	-9.4002***

Note: *** indicates 1% significance level. The null hypothesis of Im-Pesaran-Shin Test and Fisher-ADF Test states that all panels contain unit roots. An intercept and a trend term are added to the models while estimating the statistics. For Im-Pesaran-Shin Test lag length is determined according to the Akaike Information Criterion.

Source: Authors' estimations.

According to table 1, both GDP per capita and health care expenditure per capita are stationary. So, we can estimate the MG (Pesaran and Smith, 1995) and PMG models (Pesaran, Shin and Smith, 1999) and the Dumitrescu-Hurlin Test (Dumitrescu and Hurlin, 2012).

Table 2 shows the results of the Dumitrescu-Hurlin Test (Dumitrescu and Hurlin, 2012). The results of the Dumitrescu-Hurlin Test indicate that while GDP per capita Granger causes health expenditure per capita there is no Granger causality from health expenditure per capita to GDP per capita. Therefore, it is argued that there is a unidirectional relationship between GDP per capita and health expenditure per capita and the direction of this relationship is from GDP per capita to health expenditure per capita.

Table 2: The Dumitrescu-Hurlin Test Results

Hypothesis	Test Statistic (Z-bar ~)
H_0: GDP per capita does not Granger-cause health expenditure per capita.	3.8082***
H_0: Health expenditure per capita does not Granger-cause GDP per capita.	0.4992

Note: *** indicates 1% significance level. Lag length is determined according to the Akaike Information Criterion.

Source: Author's estimations.

After determining the direction of causality between GDP per capita and health expenditure per capita we estimate the short run and the long run effects of GDP per capita on health expenditure per capita by using the MG (Pesaran and Smith, 1995) and PMG models (Pesaran, Shin and Smith, 1999). Table 3 shows these estimations. Before interpreting coefficient estimates we should determine which estimator is more efficient than the other one. According to the Hausman specification test (Hausman, 1978) result, PMG (Pesaran, Shin and Smith, 1999) is more consistent and efficient estimator than MG (Pesaran and Smith, 1995). So, we will evaluate the coefficient estimates which are obtained by using PMG estimator (Pesaran, Shin and Smith, 1999). The last two columns of table 3 show the coefficient estimates of PMG (Pesaran, Shin and Smith, 1999) model. When we look at these results we find that speed of adjustment term (ec) is statistically significant and negative as expected. Moreover, both the short run and the long run coefficient estimates of GDP per capita are statistically significant and have a positive sign. So, it is stated that GDP per capita has a positive effect on health expenditure per capita both in the short run and the long run. While a 1% percent increase in GDP per capita increases health expenditure per capita by 0.72% in the short-run this increase is 1.10% in the long run.

Table 3: MG and PMG Estimations

Variables	MG Model		PMG Model	
	Long Run	Short Run	Long Run	Short Run
GDP per capita	1.1526*** (0.1504)		1.1001*** (0.0177)	
ec		-0.3198*** (0.0422)		-0.2209*** (0.0402)
ΔGDP per capita		0.5676*** (0.0636)		0.7274*** (0.0647)
constant		-1.7145*** (0.3438)		-0.7860*** (0.1484)
Hausman Test Probablity		0.12 0.7294		

Note: *** indicates 1% significance level. Standard errors are in parenthesis. The chosen lag structure is ARDL(1, 1). Ec is the speed of adjustment term. The models are estimated by using xtpmg routine in Stata. Hausman test indicates that PMG estimator is more consistent and efficient than MG estimator.

Source: Authors' estimations.

In summary, our empirical results indicate that there is a unidirectional relationship between health expenditure per capita and GDP per capita and the direction of this relationship is from GDP per capita to health expenditure per capita. Moreover, when we investigate the short run and the long run effects of GDP per capita on health expenditure per capita we find that GDP per capita has a positive effect on health expenditure per capita both in the short run and the long run.

5. Conclusion

Without doubt, health care expenditure can have dramatic effects on economic performance of a country. In the existing literature, although there are numerous studies which analyse the impact of health/health care expenditure on economic growth the number of studies which focus on the causality between these variables is very few.

In this study, we empirically investigate the relationship between health expenditure and economic growth in the European Union countries over the period 1995-2014. Unlike previous studies, we first analyse the direction of causality between these variables and then, we estimate the short run and the long run effects of GDP per capita on health expenditure per capita.

The results of our empirical analysis indicate that there is a unidirectional relationship between health expenditure per capita and GDP per capita and the direction of this relationship is from GDP per capita to health expenditure per capita. Moreover, we find that GDP per capita has a positive impact on health expenditure per capita both in the short run and the long run. So, we argue that economic growth is a significant determinant of health expenditure in the European Union countries over the period under investigation.

References

[1] Amiri, A., Ventelou, B. (2012). Granger Causality between Total Expenditure on Health and GDP in OECD: Evidence from the Toda-Yamamoto Approach, Economics Letters, 116(3), 541-544.
[2] Blackburne, E. F., Frank, M. W. (2007). Estimation of Nonstationary Heterogenous Panels, The Stata Journal, 7(2), 197-208.
[3] Bloom, D. E., Canning, D., Sevilla, J. (2004). The Effect of Health on Economic Growth: A Production Function Approach, World Development, 32(1), 1-13.
[4] Choi, I. (2001). Unit Root Tests for Panel Data, Journal of International Money and Finance, 20(2), 249-272.
[5] Dumitrescu, E. I., Hurlin, C. (2012). Testing for Granger Non-Causality in Heterogeneous Panels, Economic Modelling, 29(4), 1450-1460.
[6] Hartwig, J. (2010). Is Health Capital Formation Good for Long-Term Economic Growth? -Panel Granger-Causality Evidence for OECD Countries, Journal of Macroeconomics, 32(1), 314-325.
[7] Hausman, J. A. (1978). Specification Tests in Econometrics, Econometrica, 46(6), 1251-1271.
[8] Im, K. S., Pesaran, M. H., Shin, Y. (2003). Testing for Unit Roots in Heterogenous Panels, Journal of Econometrics, 115(1), 53-74.
[9] Lago-Penas, S., Cantarero-Prieto, D., Blazques-Fernandez, C. (2013). On the Relationship between GDP and Helath Care Expenditure: A New Look, Economic Modelling, 32, 124-129.
[10] LI, H., Huang, L. (2009). Health, Education, and Economic Growth in China: Empirical Findings and Implications, China Economic Review, 20(3), 374-387.
[11] Lopez, L., Weber, S. (2017). Testing for Granger Causality in Panel Data, University of Neuchatel, Institute of Economic Research, IRENE Working Paper 17-03, https://www.unine.ch/files/live/sites/irene/files/shared/documents/Publications/
[12] Working%20papers/2017/WP17-03.pdf, 01.01.2018.
[13] Mankiw, N. G., Romer, D., Weil, D. (1992). A Contribution to the Empirics of Economic Growth, Quarterly Journal of Economics, 107(2), 407-437.

[14] Mladenovic, I., Milovancevic, M., Mladenovic, S. S., Marjanovic, V., Petkovic, B. (2016). Analyzing and Management of Health Care Expenditure and Gross Domestic Product (GDP) Growth Rate by Adaptive Neuro-Fuzzy Technique, Computers in Human Behavior, 64, 524-530.
[15] Narayan, S., Narayan, P. K., Mishra, S. (2010). Investigating the Relationship between Health and Economic Growth: Empirical Evidence from a Panel of 5 Asian Countries, Journal of Asian Economics, 21(4), 404-411.
[16] Pesaran, M. H., Shin, Y., Smith, R. P. (1999). Pooled Mean Group Estimation of Dynamic Heterogeneous Panels, Journal of the American Statistical Association, 94(446), 621-634.
[17] Pesaran, M. H., Smith, R. P. (1995). Estimating Long-Run Relationships from Dynamic Heterogeneous Panel, Journal of Econometrics, 68, 79-113.
[18] Rivera, B., Currais, L. (2003). The Effect of Health Investment on Growth: A Causality Analysis, International Advances in Economic Research, 9(4), 312-323.
[19] Toda, H. Y., Yamamoto, T. (1995). Statistical Inference in Vector Autoregressions with Possibly Integrated Processes, Journal of Econometrics, 66(1-2), 225-250.
[20] Wang, K.-M. (2011). Health Care Expenditure and Economic Growth: Quantile Panel-Type Analysis, Economic Modelling, 28(4), 1536-1549.
[21] World Bank (2018). World Development Indicators, http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators, 01.01.2018.

Renewable Energy and Solar Business in the European Union

Noncho Dimitrov

Abstract

The solar business faces major challenges related to the constantly changing regulatory framework, corporate interests and public pressure. Successful adaptation to the high requirements of regulators and competitive alternative energy sources is needed. The solar business is one of the levers with which the European Union has consistently underlined its commitment to international cooperation and the fight against the effects of greenhouse gas emissions. The formation of the internal market in the energy sector requires the elimination of many barriers and trade barriers, the approximation of tax and pricing policies, norm and standards measures, and environmental and safety regulations. This requires the development and implementation of successful strategies by solar energy producers, traders and consumers.

Keywords: solar business, renewable energy sources (RES), European Union (EU), renewable energy, photovoltaic systems

Introduction

The solar business is of great importance for the future of the whole energy sector; its research will allow discovering potential opportunities and possible threats to its development in the member states of the European Union. It needs strategic thinking, which allows outlining possible alternatives and long-term development. It is related to making strategic decisions about its goals and strategies. It aims to reorganize the business and focuses on the creation and implementation of effective strategies. It requires analyzing and forecasting trends in global energy policy with a view to discovering and exploiting the favorable opportunities for photovoltaic development. Also, it helps to reduce its vulnerability and recognizing serious threats. It requires an objective assessment of the potential built in the new sector and integrates the strategic actions of law enforcement and law enforcement authorities in line with the European ones.

Encouraging of that type of business and the renewable energy sources (RES) is one of the main purpose of the energy policy of EU. It aims is to double the share of RES in the total energy consumption and to reach 20% of that consumption in the whole EU (Directive 2011/77/EC and Directive 2009/28/EC). Decision № 1230/2003/EO about "Intelligent Energy – Europe" (IEE) contains measures to promote RES and to increase the energy efficiency. There are sub-programs supporting projects for the development of solar business and expanding cooperation between the EU and developing countries in the field of RES. The Framework Program amounted to more than € 200 million for the period up to 2013. Nevertheless, the European Commission and the European Parliament debated much more amounts.

At the UN Conference in Kyoto in December 1997, the importance of creating a concerted action plan to reduce greenhouse gases (in particular CO_2) has become apparent. The EU has pledged to reduce its CO_2 emissions by 8% over 1990 levels. One of the world's largest emissions trading schemes has been set up.

The renewable energy and the solar business in EU

Although, the energetics falls within the scope of action of the EU, the energy policy remains responsibility of the Member States in accordance with the principle of subsidiarity. At present, the EU is dependent on oil and gas imports. Therefore, the EU's constant concern for increasing the use of RES and reducing the greenhouse effect can be noted.

According to the Comision, the Parliament and the Council of Europe, the energy policy must constitute part of the general goals of EU economic policy, based on market integration and deregulation. In addition, the state intervention must be limited to what is necessary to protect the public interest and prosperity, sustainable development, consumer protection and economic and social cohesion. However, beyond these common objectives, energy policy must pursue specific objectives that reconcile competitiveness, security of supply and environmental protection.

The Commission set the overall framework: "Strategic Energy Review in the EU" which should help to achieve the main goals. Specific proposals have been made, such as the creation of the internal gas and electricity market, ensuring that the EU's internal energy market ensures security of supply and solidarity between Member States and calls for a genuine community debate on different energy sources to address the challenges of climate change changes in a way that is consistent with the Lisbon goals, relying on the Strategic Energy Technology Plan and strengthening the Common Foreign Energy Policy.

On 23 and 24 March, European Consilium called for an Energy Policy for Europe (EPE) and called on the Commission and the Council to prepare a set of actions with a clear timetable in order to be able to adopt a priority action plan.[1] EPE has three main objectives:

Enhance security of supply by developing a common approach to foreign policy and engaging in dialogue with Member States and partners.

Ensuring the competitiveness of European economies and availability of affordable energy by working together with Member States to complete the opening up of the internal market for electricity and gas to all consumers.

Promoting environmental sustainability by enhancing EU leadership by adopting an energy efficiency action plan, continuing the development of renewable energies and implementing the biomass action plan, relying on support for research, development and demonstration activities.

Accept the common energy targets; the EU sets different sector goals, including: maintaining the percentage of solid fuel in total energy consumption; increasing the ratio of natural gas in the energy balance; establishing maximum safety conditions as a prerequisite for the planning, construction and operation of nuclear power plants; increasing the share of (RES). Agreement has been reached that at least a doubling of the share of renewable energy sources in total energy consumption should be made. The Commission should make this objective a concrete measure. There is some opposition to individual measures and many disputes about whether and in what form they are implemented at EU level.

The European Parliament recognizes the crucial importance of RES and shows the importance of setting mandatory targets for 2020, which sends a clear signal to market players and national policy makers, pointing out that RES are the future of EU energy and part of the EU's environmental and industrial strategy. The Commission sets out measures to increase the use of photovoltaic products and businesses, create market-based incentives, and remove barriers to the development of the electricity market from RES. The European Strategy for Sustainable, Competitive and Secure Energy places particular emphasis on RES, the full potential of which will only be realized with a long-term commitment to their development and deployment.

The EU Framework Program for Research covers many energy, research, development and demonstration projects to support energy policy objectives. They aim at improving the level of perception, competitiveness and scope of traditional energy, promoting the perception of new forms of energy for energy-saving and rational use.

The Seventh Framework Program for research, technological development and demonstrations activities of the European Community runs from 2007 to 2013, established research tasks to be carried out to achieve the main objectives of reducing energy consumption. It also proposes wider cooperation and focus on research in this area, including proposals to fund these actions.

In order to remove various barriers and measures and to improve the marketing of the internal market, additional electricity grids were opened on 25 July 1996 for large industrial users.

The increasing dependence of some Western countries on energy imports and their increased energy vulnerability create a favorable environment for future interstate conflict of resources. In order to understand changes in EU energy policy, it is necessary to identify the main challenges for energy development in the Eurozone.

Europe is poor on its own energy resources. Production costs for coal mining on average for Europe are 4-5 times higher than world prices. Oil has two to seven time’s higher production costs than those in the Middle East, for example, with reserves for about 4-5 years. Natural gas accounts for about 2% of the world's reserves, and for limited consumption, it can

[1] Green Energy Handling Agency (www.oem-ag.at)

be extracted for another 20 years. 2% of the world's uranium reserves are in the EU, mostly in France, and the yield may last another 40 years. There is significant RES potential but it is not enough to meet industrial demand.

The main challenge facing the Community remains the increasing dependence on energy resources, but the EU has limited response opportunities. Dependence on imported resources will reach 70% in 2020 and dependence on oil - 90%

The main importer of natural gas is Russia, importer of oil - the Middle East. In addition to this dependence, which requires flexible geopolitical solutions, the environmental consequences of the use of organic fuels are compounded.

The EU is responsible for creating around 20% of the world's carbon dioxide emissions. Notwithstanding all measures and commitments, in 2010-2013, this emission are 20% above and not 8% below the 1990 level, as required by the Kyoto Protocol. In addition to limiting greenhouse gas emissions, significant investment resources must also be provided to meet the limitations of other anthropogenic gases. At the same time, the EU has a share of 15% of the energy consumption in the world; the average annual growth of consumption is 1-2%.

The growth of energy consumption is mainly concentrated in the service and household sector. Industry in the EU is stabilizing its energy consumption thanks to its investment in modernization. This applies to both the old Member States and the newly acceded countries.

Transport remains a significant consumer of energy resources, accounting for about 67% of oil consumption. Forecasts for growth in transport resource consumption amounted to about 16% for cars and 90% for aviation for 50% traffic growth.[1]

EU`s energy policy

Europe's energy policy faces a number of energy challenges, including: growing import dependency, insufficient diversification, high and unstable energy prices, rising global energy demand, security risks affecting producer and transit countries , growing threats related to climate change, slow progress in energy efficiency, challenges related to the use of an increasing share of RES and also the need for greater transparency, further integration and interconnection of energy markets. Energy policy uses a number of measures to achieve a competitive energy market, security of energy supply and the sustainable development of the energy sector.

Strategic changes tend to gradually reduce the role of oil, coal, with natural gas dominating new capacities, the nuclear sector is relatively maintaining its share, and its future depends on several factors - the process of implementing the Kyoto Protocol, competitiveness, public acceptability, the achievement of common nuclear safety standards, etc.

Due to the great importance of gas and oil for the security of the EU's energy supply, the Union has adopted a number of measures to ensure that risk assessments are carried out and that adequate plans for preventive and contingency planning have been developed. A number of regulations on measures to ensure the security of energy supply were adopted in October 2010 to strengthen crisis prevention and response mechanisms. In some, Member States are required to maintain minimum stocks of oil corresponding to the larger of the following two quantities: average daily net imports over a period of 90 days or average daily inland consumption over a period of 61 days.

In response to the crisis in Ukraine in March 2014, the European Council called on the Commission to present by June 2014 a comprehensive plan to reduce the EU's energy dependence. The plan encourages measures to help the EU secure good positions in order to be able to develop the technologies it needs to achieve its policy goals and at the same time to ensure that, its companies can take advantage of the opportunities offered by a new approach to energy.

The European Parliament supports the idea of a common energy policy for solving issues of competitiveness, security and sustainable development. It has repeatedly called for coherency, determination, cooperation and solidarity between Member States in meeting the current and future challenges of the EU internal market and the political commitment of all EU Member States, as well as a strong European Commission initiative to progress towards achieving of the 2020 targets.

Parliament aims at a stronger integration of the energy market and the adoption of ambitious objectives in terms of renewable energy, energy efficiency and greenhouse gas emission reductions. In this context, the EU stresses that the

[1] Communication from the Commission to the European Parliament, The Council and the Economic and Social Committee: Update of the Nuclear Illustrative Programme in the Context of the Second Strategic Energy Rewiew.

new energy policy must support the long-term goal of reducing greenhouse gas emissions by 80-95% by 2050. It also supports the diversification of energy sources and supply routes. In view of Europe's growing dependence on fossil fuels, Parliament welcomed the SET-Plan as it is convinced that it will make a significant contribution to sustainability and security of supply and will which is absolutely indispensable for the achievement of the EU 2020 energy and climate goals.

The Common European Energy Policy can be described as follows: measures to increase energy efficiency, management of the consumption of imported petroleum products, actions to stimulate RES and an open option for the use of nuclear energy. The success of this policy is measured by the specific efforts of the specific countries in the community, the efforts of the energy industry and consumers.

Characteristics of solar business in the EU

The essence of the solar business and the energy produced by RES in the EU countries has in three main directions:

- Fighting climate changes;
- Promoting the creation of growth and jobs;
- Limiting the EU`s external dependence on gas and oil imports.

At the heart of the policy is Europe's main energy goal: by 2020, the EU should reduce greenhouse gas emissions in its energy consumption. This objective will allow the EU to measure progress in redeploying the modern energy sector to one that will respond fully to challenges such as sustainability, competitiveness and security of supply. The goal is to achieve a 30% by 2030 and by 60-80% by 2050. The concerns are not only about climate change, but also about the security of Europe's energy supply and economy and the welfare of its citizens. Achieving the goal can limit the increasing risk to the EU from greater instability and higher oil and gas prices contribute to a more competitive EU energy market and promote technology and employment.

Strategically this means that the EU will take the lead in the world in preparing a new industrial revolution that will benefit both developed and developing countries. In order to achieve this objective, the Commission also proposes to focus attention on a number of energy policy measures:

- improving energy efficiency;
- increasing the share of energy from RES;
- new measures to ensure that the benefits of the internal energy market will reach every consumer;
- increasing solidarity between Member States with a longer-term view of developing energy technologies.

This includes a 10-point energy action plan and a timetable for the measures that the EU will implement to achieve the new strategic goal. In addition, EU Member States must ensure guaranteed access to green electricity producers' electricity systems, including housing and small business installations.

Photovoltaic systems:

The sun is the largest renewable resource for power generation throughout the solar system. Thanks to this, photovoltaic systems have a very high degree of technology and have a very long economic life - up to 30 years.

The widespread use of solar electricity means large equipment on large areas with "sun-harvesting" equipment in the regions where the radiation of our main light and heat source is the strongest. Experts predict that this will be done by 2050. The solar battery should become more efficient, more reliable and above all operate more economically.

In the future, panel coatings will play a crucial role. Thanks to the latest nanoparticle coatings, the size of which is only one millionth of a millimeter, cost savings of 80% can be expected compared to today's silicon technology for the production of photovoltaic systems. The new conception of color-sensitive nanocrystalline semiconductor coatings has led to an increase in efficiency, even in low diffuse lighting. The imposition of photovoltaic modules as a mass product is already a fact. But their price is still not competitive enough. Development and refinement continues to be a difficult process and many of the initial expectations are not met. Nevertheless, over the past 20 years, the cost of solar equipment has fallen by nearly 60%.

Thanks to such strategies and strategic prospects, photovoltaic business helps to avoid CO_2 emissions. The advantages of photovoltaic power generation are obvious. That`s why the EU and the Member States are keen to increase significantly the share of cogeneration in the production of electricity and heat in the coming years.

The strategic prospects in the European Union are mainly geared to a larger market share of panels for solar electricity generation. Many of the leading European companies are converting part of their plasma panel production into solar line production lines. Companies invest hundreds of millions of euros in 2010 to build production lines. Teams are prepared to work on new projects and the companies rely on the results of their research to develop this new business into a profitable business. Industry experts estimate that solar panels will account for 80% of the solar-powered electricity business.

The objectives of European energy are 20% less greenhouse gases than 1990 levels, 20% less energy consumption and 20% share of total energy consumption from renewable energy sources.

The sun is an immense source of energy. However, until today his role in the energy industry was almost negligible in the context of the use of underground natural resources. There is an accelerated depletion of natural resources as well as an increase in the level of toxic pollution. The steadily rising prices of electricity, oil, gas, oil cause a corresponding response. Consumers reduce fuel use and scientists are looking at ways to develop alternative energy sources, new and effective ways to meet energy needs. In the new energy sector, massive use of solar energy practically has no geographical and climatic constraints.

Solar energy becomes the main source of electricity. The sunlight technologies are not something new. Modern, sophisticated technologies uses sunlight energy everywhere - from illuminating premises in buildings to powering vehicles. In many European countries, solar systems are proven effective and are present in almost every home or business. The consumption of solar energy systems will increase especially in Japan and Germany. The initial investments are justified by the high efficiency in reducing energy costs and it fully satisfy the need of energy. An important aspect of solar systems are their ecology. According to experts, using of sunlight as an energy source will increase drastically in the next years. Other even thinks that the Sun will become a major energy source until 2050. Support for the use of solar energy is also boosted in southern European countries such as Spain, Italy and Greece. In these countries, governments are increasingly aware that the sun's energy can be used to protect the environment and energy dependence from other countries.

Growth is already a fact - after 2009 photovoltaic business grew by more than 70% and reached a global volume of 4 GWp and the sector was over EUR 16 billion. Average annual growth over the past 5 years is about 50%.

Compared to other non-energy business, the return on photovoltaic power plants is longer and therefore the profits are lower. At the expense of the lower profit in the production of ecological electricity, the market risk for the realization of the production is 0, because the latest amendments to the Energy Law and the special Law for stimulating the use of renewable energy sources, guarantee 100% preferential price. However, even without preferences, the energy business to produce green energy is less at risk than most other types of business due to the high degree of universality of the commodity - electricity and the liberalization of the market. In a liberalized market, each manufacturer can determine to whom to sell electricity. No doubt, investments in photovoltaic parks and systems as well as in solar parks are the new winning wave for legally guaranteed investments.

Conclusions:

The modern world faces the challenge of energetic and the environment, a challenge that is clear for Europe and shared by all Member States. There is a tremendous need to provide competitive and clean energy in the conditions of climate change, increasing global demand for energy and uncertainties about future deliveries. If a Member State fails to tackle the challenge, it will affect the rest. If problems arise outside the EU, they can affect the whole of the EU. That is why Europe needs a stable energy policy amid a depletion of energy and a growing dependency on raw materials imports. It is likely, most of the oil and gas producing countries in some time to face the inability to increase their own production capacity to the planned level and the supply commitments made because of their limited reserves. Soon the first effects of resource depletion will be felt, the more likely the interruptions in the supply of energy products will endanger the energy and national security of our country. That`s why the solar business is the future.

Work Values as Predictors of Boundaryless Career Attitudes of Generation Y Turkish Higher Education Students

Dr. Ebru Evrensel Inanc
Bilkent University, Business Information Management Department, School of Applied Technology and Management
Ankara, TURKEY

Dr. Elif Ozdilek
Bilkent University, Business Information Management Department, School of Applied Technology and Management,
Ankara, TURKEY

Abstract

As of 2018, business world is hosting Baby Boomers (born between 1945-1964), Generation X (born between 1965-1980), and Generation Y (born between 1981-2000) as employees, and managers. The latest generation, Generation Y, follows different work values and career commitment approaches, compared to previous generations. Now, the focus is on how to capture Generation Y at a workplace for more than several years. Gen Y is known for their job mobility. They are not much interested in long term goals and plans, but rather love to live the moment, in the most desired work place of their own. If their job expectations are not met, they do not hesitate to leave and look for another job. Although they give importance to status, they reject hierarchy. They like to be motivated, do their tasks in an enjoyable environment, and prefer to be the part of the decision-making process, rather than unquestioned compliance with the existing system. They are impatient, have unrealistic self-esteem values, and high egos. They do not consider being permanent in a workplace, and thus considered as "unreliable" by their managers. These factors, together with many more, are enough to alert the business environment, especially Human Resource managers, to look for peculiar ways to make Generation Y commit to their workplace. Since Generation Y is assumed to dominate the business environment in a decade, it is becoming more and more important to understand the reasons for their non-commitment. Thus, this study is designed for Generation Y Turkish higher education students, who are the prospective work force in a couple of years, to understand their work values and how this affects their career attitudes, which will be, to our knowledge, the first in the literature. This study used self-reported online survey methodology. The survey consists of three parts. The first part is about the demographics of the participants. The second part consists of 23 items of Work Values Inventory, and the third part measures the boundaryless career attitudes of the students. In the light of being the first study about the influence of work values on the boundaryless career commitment of the Turkish higher education students, this study revealed some intriguing results. Generation Y Turkish higher education students interest in instrumental work values (pay, hours of work, security, benefits, and work conditions) have little to no influence on their physical and psychological mobility. On the other hand, cognitive (responsibility, advancement, achievement, influence, interest, feedback, meaningful work, use of abilities, independence, company, status, and contribution to society) and affective work values (relations with supervisor, coworkers, recognition, esteem, and opportunity to interact with people) have direct influence on their psychological mobility, but has no affect on their physical mobility. In a decade, Gen Y will dominate the business world. There is no doubt that work values of Generation Y, together with the new emerging career orientations should be understood well, in order to maintain an effective work environment.

Keywords: Generation Y, Turkish higher education students, work values, boundaryless career attitude

Introduction

Generation can be defined as the people who are born within the same time range. Generations differ from each other depending on the social and economic environment they were raised. These differences create variations in their character, business and social lives. The problems caused by different generations being in the same environment are due to the intergenerational perception, method, communication and practice differences. Therefore, interdisciplinary studies should focus on how to define these variations between the generations and, thus creating solutions for the problems arising from generational differences (Arsenault, 2004; Cogin, 2012; Crampton & Hodge, 2011; Solnet, Kralj & Kandampully, 2012).

The studies carried out around the world helped to define categorization of generations based on the culture, historical date ranges, and socio-economic events. Although there are some differences in the date ranges, generally accepted generations are Traditionalists, Silent Generation, Baby Boomers, Generation X, Generation Y and Generation Z. These generations, which carry different characteristics, living together brings along cultural enrichment and collective sharing of conscious; together with conflicts and many problems, especially communication misunderstandings.

Literature revıew

2.1. Generations in the Workplace

In order to understand the features and characteristics of Generation Y, focus group of this study, it is necessary to refer briefly to the generations at the workforce currently. Baby Boomers are the generation born between the years 1946 and 1965. The reason for this generation to be called Baby Boomers is due to the population boost after the II. World War. Incline in the economic prosperity, together with significant changes in the political arena influenced the thinking patterns of Baby Boomers (Yu & Miller, 2005). This generation is known for their high feelings of loyalty, abstinent and hard-working. Baby Boomers prefer to work within a company for years since they believe in the importance of hard work and long working hours (Jorgensen, 2003). As mentioned by Leiter, Jackson, and Shaughnessy (2009), Baby Boomers are self-motivated and do not yearn for appreciation. At the same time, Baby Boomers are known to be workaholic, selfish and authoritarian.

People born between the years 1965 and 1979 are referred to as Generation X. They are in harmony with technology and information, innovative, target oriented and independent (O'Bannon, 2001). Generation X refrains from stressful jobs, and tries to simplify the tasks given (Rodriguez, Green,& Ree, 2003). Considering the first personal computer was introduced during this time; Generation X is known to have the fundamental understanding of technology (Feyerherm & Vick, 2005). However, they are known as being incapable of “catching up”. As mentioned by Eisner (2005), when a member of Generation X becomes a high level manager, the problems are anticipated due to the fact that, Generation Y, pioneer and impatient for a quick promotion, will be working as low to medium level employees who are much more qualified in terms of technologocial developments and innovations.

Generation Y consists of people born between 1980 and 2001. They are the first generation that grew up with the appeal of digital media and two third of this generation was introduced to computer before the age of five. Being able to reach their family, friends, and information any time they want, this generation is known for their optimism (Valentine & Powers, 2013). Compared to other generations, Generation Y has the eldest parents, and was raised in an elementary family concept. Thus, they are accustomed to being the center of attention, and have high expectations. They can define their target precisely, however may lack the perseverance to reach that target. They possess high adaptation potency and are prone to multi-tasking. As well as that, they are known to get easily bored from the work they are performing (Kilber, Barclay, & Ohmer, 2014; Lewis, 2015). This may be due to the fact that, they have high level of thinking and can reach and process information very quickly. Generation Y is willing to embrace the change as well as challenging the future by trying new approaches (Laird, Harvey, & Lancaster, 2015). They are smart, give importance to their freedom, and considered as technology addict, as approximately 15 hours of their daily time is spent on the media and communication technologies (Bolton et al., 2013). They do not like stressful environments (Kilber,Barclay,& Ohmer, 2014).

Generation Y, who are in their early 20s and 30s, demand flexible working hours, more “personal time” in the workplace and constant feedback and career advice from their managers (Laird, Harvey, & Lancaster, 2015). At the same time, they believe that, their managers can learn a lot from them, especially related with the technology. The most significant feature of Generation Y can be considered as preferring a dynamic workplace, and looking for quick promotion. As mentioned by Saxena and Jain (2012), this may be the result of their familiarity with hyper-connectivity introduced to them by technological advancements. Compared to other generations, Generation Y is known for their lack of loyalty and commitment to the workplace and their job, and has difficulty in understanding the hierarchical structure of an organization (Krahn and Galambos, 2014). This is why they are not much impressed with status and title a traditional hireararchical structure offers. Tulgan and Martin (2001) claim that, since they got used to being included in the decision-making process by their families as they grew up, they can not comprehend the concept of hierarchy. Generation Y believes that every employee in the organization, regardless of their status, should be informed about the organization and job related issues and ones who have a good solution to any problem should be given a chance to express him/herself. Since they get used to receiving instant replies through Facebook and Twitter like social media, they expect the same instancy in the workplace from their managers, and when that doesnot happen, they are frustrated. According to a study carried out by Tulgan (2009), 80% of them expect feedback from their managers on a regular basis. They do not like to wait for six months or a year for feedback related with their work. Generation Y mostly prefers flexible work hours and flexible working environment, even flexible rewarding system. They believe that, as long as the task they are assigned to is completed, it shouldnot be important whether it was done at the office or at home (Cogin, 2012).

2.2. Work Values Concept

Work values concept is referred to as one of the most significant topics in organizational settings currently. In a global, competitive and fast-changing business world, human resources gain the attraction it deserves. That is the reason organizations put emphasis on the value systems of individuals. The values possessed about the work is considered as “work values” and guides the individuals about what is right and wrong, what is appropriate or inappropriate on the process of realizing the mission of the organization.

As mentioned by Warr (2008), work values influence employee behaviors, and experiences directly, thus help to unfold the operational values set. At the same time, work values of an individual, determines the work expectations, job performances and even colleagues in a direct and indirect manner. Empirical and theoretical studies reveal that, if there is a match between the work values of an individual and values of the organization, it helps to increase the organizational performance, as well as have positive influence on the commitment and satisfaction of the employee.

In 1950s, Donald Super, Rene Dawis and Lylod Lofquid carried out studies related with the reflection of personal values to work values (Leut and Hansen, 2011). An individual, being aware of his/her personal values, and transforming it to the career choice is the basis of work values concept. Schein (1990; 2007) defined work values as a whole that includes an individual’s skills, interests, basic values, and needs.

2.2.1 Cognitive, Affective and Instrumental Work Values

There are various categorization of work values in the literature (Dawis & Lofquist, 1984; Lyons, Higgins, & Duxbury, 2009; Schwartz, 1999; Super, 1970). Elizur (1984) cretaed 24 items of work values list and conceptualized these items in three main dimensions; that are cognitive, affective and instrumental. According to Elizur (1984), cognitive work values can be defined as the belief system that is based on appropriate behaviours, like success. These values; rather than being material or social, can be referred to as psychological outcomes. Cognitive work values include success, promotion, feedback, status, contributing to society, being influential on the work and organization, possibilities of personal development and being able to use knowledge and skills at work. Affective work values include social relationships and consist of friendly co-workers, recognition and appreciation at work, and being able to meet and interact with others. Instrumental work values is related with material sources like pay, working hours, safety in the workplace, and clean and comfortable work environment (Elizur, 1984).

2.3. Career Attitudes

Career can be defined as the successive work experience an individual has over the years (Arthur, Khapova, & Wilderom, 2005). Career also refers to the developmental process that consists of the work and related experiences gained in a single or more various organizations (Baruch & Rosenstein, 1992). Due to the innovations introduced in this era, everything, including the concept of “career”, is changing rapidly. Due to this fact, career is considered to have multi-dimensions, rather than being limited to a single organization. There may be many different opportunities beyond the organization. For example, according to protean career attitude, which is dynamically structured; and formed independently from the organization the individual is working, the employee focuses on the career success that is based on his/her own work values and experiences. This can be explained by self-directed attitude. Here, the employee is motivated by appropriately behaving to reach career, personal targets and principles. The career tenure is more important than the physical age. In order to be successful, the individual has to make necessary adjustments in his/her technological knowledge to comprehension, from job safety to employability, and from organizational career to protean career; since career is a continuing personal journey. Another new trend in career attitudes, and which is the interest of this paper, is “boundaryless career attitude“.

2.3.1 Boundaryless Career Attitude

Boundaryless career attitude was first mentioned by Arthur (1994). Boundaryless career attitude refers to an individual's different career paths in different organizations. This is about the boundless probabilities in a career; and how they might benefit from being aware of and pursuing these opportunities. In the boundaryless career approach, individual intelligence (individual being aware of the roles and tasks necessary for the job), and industrial intelligence (individual being aware of the career conditions, when to move forward and when to stop in terms of his/her position) always interact.

Boundaryless carreer defines an approach that is open to change in physical and psychological context; in other words it is an approach that does not carry the features of organizational career (Arthur & Rouesseau, 1996). Boundrayless career does not involve a commitment to a single organization; instead it is about multiple career changes. Boundaryless career attitude happens as a result of ending their career development within an organization. This might be due to leaving the company voluntarily or to be forced to resign. The concept of boundaryless career attitude is examined in two sub dimensions; "psychological mobility" and "physical mobility" (Elizur, Borg, Hunt, & Beck, 1991). According to Sullivan (1996), boundaryless career consists of six factors; moving beyond occupational borders, moving beyond organization, shifting in the employment relations, building social and career networks from other career and sectors, shifting between the roles, and move beyond the limits within the role.

Psychological mobility refers to the concept of unlimitedness within the mind of an employee (Sullivan & Arthur, 2006). An individual may show psychological boundaryless career attitudes if that person takes support from internal or external networks, if there exists new career opportunities to be explored, and if the organization allows horizontal mobility within the company (Clarke, 2009). However, an individual may continue to work in the same organization in spite of adapting the idea of boundaryless career attitude. An employee, who is inclined to boundaryless career attitude, is motivated by commitment, autonomy and attention. As the individual's need to commitment increases, the individual internalizes the organization more, and will not tend to change his/her current organization. An interaction opportunity that helps to boost the motivation for the employee determines the level of commitment, and thus the individual continues to work for the same organization. At the same time, need for autonomy motivates the individual to move beyond the boundaries, and together with commitment to the organization, helps to develop positive and satisfying interpersonal relations. Boundaries can not be imposed to an individual who is in need for autonomy, since these people prefer to organize the tasks they feel fit to them, and that enables them to use initiative.

According to Sullivan and Arthur (2006), physical mobility refers to an individual's physically changing job, organization and country. Sources of motivation for an individual who has the tendency towards physical mobility; are pay, status and promotion. Additionally, if an individual seeks for variety and novelty, this would influence his/her motivation at work. If the organization is open to innovation and change; this would help the individual to become more commited to the workplace, and thus this would create a barrier for the physical mobility. For an employee who has tendency towards physical mobility, job stability is not motivating at all. As a result, these types of individuals are motivated by instrumental resources such as pay, status, promotion and need for attention; rather than employment reliance.

2.4. The Relationship between Work Values and Boundaryless Career Attitude

When the literature is analyzed, it can be seen that there are no studies that focused on the influence of work values of an individual on the career attitudes he/she possesses. Thus, to our knowledge, this study will be the first to study the relationship between work values and career attitudes.

Work values determine what type of features an individual expects from the career journey. These expectations have to be related with career approach that individual possesses. As mentioned by Mignonac and Herrbach (2003),work values also influence career anchors. Abu-Saad and Isralowitz (1997), examined the work values of higher education students, and concluded that male students scored higher on values like pay and independence, whereas female students scored higher on values such as cooperation, and contributing to others.

As mentioned by Posner (2010), individuals who choose their careers depending on their work values, tend to be more successful in their jobs compared to the ones who donot choose their careers based on their work values. Work values such as creativity, cooperation, pay, promotion, safety, contributing to society, and personal development are shaped in early years with experience and the impact of environment. According to several authors, if an employee finds the exact match of possessed work values within an organization, this would increase the commitment of the employee to the organization (Kristoff, 1996).

Methodology

3.1. Research Model

The proposed research model for this study is shown below:

- Cognitive Work Values
- Affective Work Values
- Instrumental Work Values

→

- Psychological Career Attitude
- Physical Career Attitude

Fig. 1. Research Model of the study

3.2. Hypotheses

H_1: There is a positive correlation between cognitive work values and psychological boundaryless career attitude

H_2: There is a positive correlation between affective work values and psychological boundaryless career attitude

H_3: There is a positive correlation between instrumental work values and psychological boundaryless career attitude

H_4: There is a positive correlation between cognitive work values and physical boundaryless career attitude

H_5: There is a positive correlation between affective work values and physical boundaryless career attitude

H_6: There is a positive correlation between instruemental work values and physical boundaryless career attitude

3.3. Sample and data collection

The sample group of this study is higher education students in Ankara, capital city of Turkey. The respondents were informed about the study via e-mail and asked to fill an on-line self-reported survey.The survey was displayed in the academic web page of the author and could be accessed for one-month period. Totally 201 students completed the survey. There were no incomplete or missing data. %37,3 of the respondents (N=75) are female students, whereas %62,7 (N=126) of the respondents are male students.

3.4. Measures

3.4.1 Work Values Scale

In order to assess work values, the respondents were asked to rank the work values proposed by Elizur (1984) on a 6 point Likert scale (1=not important, 6=very important). Elizur et al. (1991) mentioned that, these work values are based on several theories such as; hierarchy of needs, existence needs theory (appreciation, prestige, personal development), achievement needs theory (cooperation, achievement), intrinsic motivators theory (being able to use skills and abilities, a meaningful job, independency) and, job characteristics model. Thus, the work values inventory proposed by Elizur (1991) was based on the above mentioned theories, and thus all items represent Vroom's (1964) expectancy theory components. The scale consists of 23 items.

3.4.2 Boundaryless Career Attitudes

Boundaryless career attitude was assessed by using the scale developed by Briscoe, Hall & Frautschy DeMuth (2006). The scale consists of 12 items, and the respondents were asked to answer to the extent they agree to the statements on a 5 point Likert scale (1=to little or no extent, 5=to a great extent).

Results

4.1. Descriptive statistics.

Table 1 lists the means, standard deviations (SD), and Cronbach alpha reliability coefficients for the variables.

Table 1. Descriptive Statistics, Alpha coefficients and correlations

Variable	Mean	S.D	Alpha Coefficients
2.Cognitive WV	5.06	0.71	0.89
3. Affective WV	5.44	0.73	0.80
4. Instrumental WV	5.20	0.67	0.72
5. Psychological CA	3.84	0.77	0.77
6. Physical CA	2.65	0.85	0.80

4.2. Preliminary Analyses

Before testing the hypotheses, first the measurement model was tested by confirmatory factor analysis (CFA) to evaluate the factor structure of the scales and to determine how well the measurement model fits to its data (Bollen, 1989).

4.2.1. Measurement model with CFA.

To test the validity of the scales AMOS 22 program was used. As a first step, the data were screened for assumptions of CFA.

For the Work Values (WV) scale, CFA results revealed that the 3-factor model provided a poor fit with the data initially. As a result for the inspection of modification indices for WV items, 4 out of 23 items (three for cognitive, one for affective) were deleted from the model and covariance terms were added between items 1 & 2. The CFA is conducted with the remaining 19 WV items and provided a relatively more satisfactory fit to the data (x2= 350.246, x2/df = 2.54, GFI = 0.85, CFI = 0.95 and RMSEA = .073). All estimated loadings were significant.

For the Career Attitudes (CA) scale, CFA results revealed that the 2-factor model didnot provide an adequate with the data initially. After conducting the inspection of modification indices for CA items, 3 out of 12 items (three for psychological) were deleted from the model. The CFA is conducted with the remaining 9 CA items and provided a relatively more satisfactory fit to the data (x2 = 49.645, x2/df = 1.909, GFI = 0.95, CFI = 0.96 and RMSEA = .067). All estimated loadings for the scale were significant.

4.2.2. Hypothesis Testing

Structural equation modeling (SEM) is used to test the proposed hypotheses. AMOS 22 program is used for the analyses. The results are shown in Fig. 2*.

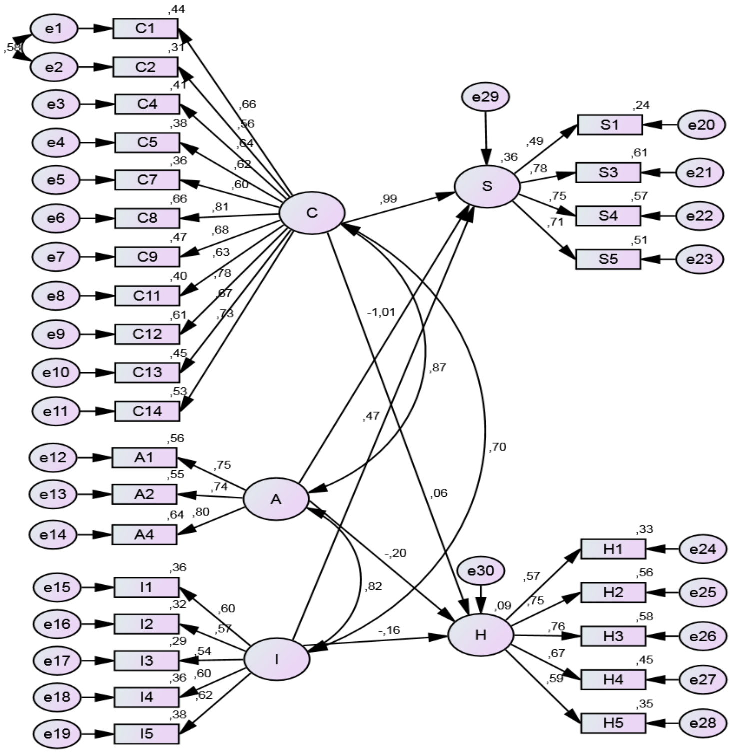


Fig 2. Results of the hypothesized model.

**: C= Cognitive Work Values, A= Affective Work Values, I= Instrumental Work Values, S= Psychological Boundaryless Career Attitude, H= Physical Boundaryless Career Attitude*

Fit indices for the model reveal that the model is acceptable in terms of structure. The results are displayed in Table 2.

Table 2. Structural Model Fit Indices

	X^2	df	X^2/df	GFI	CFI	RMSEA
Fit Indices	702,863	340	2,067	0,85	0,95	0,073
Model Fit*			≤3	≥0,90	≥0,97	≤0,05
Acceptable Fit Values*			≤4-5	0,89-0,85	≥0,95	0,06-0,08

* Resource: Steiger, 1990

Table 3. Structural Equation Model Coefficients

Variables	Standardized β	Standard Error	p	R^2
Cognitive WV – Psychological CA	0,99	3,237	0,001	0,36
Affective WV – Psychological CA	-1,01	-2,305	0,021	
Instrumental WV – Psychological CA	0,47	1,751	0,080	

Cognitive WV – Physical CA	0,06	0,277	0,7 82	0,09
Affective WV – Physical CA	-0,20	-0,663	0,5 07	
Instrumental WV – Physical CA	-0,16	-0,791	0,4 29	

Table 3 shows the standardized β coefficients, standard error, p and R^2 values for SEM. As it can be seen in Table 3, among the direct effects, CWV affects psychological career attitudes (β =.99, $p<0.05$) and AWV has an influence on the psychological career attitudes (β =1.01, $p<0.05$) significantly. Thus, hypotheses 1 and 2 were supported.

On the other hand, there exist no relation between instrumental work values and psychological career attitudes ($p<0.05$). Therefore, hypothesis 3 was rejected. Additionally, no direct effect between the work value dimensions and physical career attitudes ($p<0.05$) was found. Thus, hypotheses 4, 5 and 6 were also rejected.

Discussion

This study was carried out in order to explore whether work values of Generation Y Turkish higher education students acts as a predictor of their prospective career attitude orientations. Although the literature consists of studies that inspect work values of higher education students; the researchers usually analyzed this topic in terms of its influence on work outcomes; such as organizational commitment, and turnover intentions. Additionally, the concept of “new career orientations”, that includes boundaryless career attitude has quite recently emerged (Arthur & Rousseau, 1996,; Sullivan & Arthur, 2006), and this topic has mostly been studied in terms of evaluation of its dimensions. When the literature is analyzed, there is no study that examined the influence of three aspects of work values (cognitive, affective, and instrumental) as proposed by Elizur (1991) on the boundaryless career attitude that consists of physical and psychological mobility of the employees.

In the light of being the first study, to our knowledge, about the influence of work values on the boundaryless career commitment of the Turkish higher education students, this study revealed some intriguing results. Generation Y Turkish higher education students interest in instrumental work values (pay, hours ofwork, security, benefits, and work conditions) have little to no influence on their physical and psychological mobility. On the other hand, cognitive (responsibility, advancement, achievement, influence, interest, feedback, meaningful work, use of abilities, independence, company, status, and contribution to society) and affective work values (relations with supervisor, coworkers, recognition, esteem, and opportunity to interact with people) have direct influence on their psychological mobility, but has no affect on their physical mobility. Additionally, work values of the students have no influence on their physical mobility aspect of career attitudes.

5.1.1. Limitations and Implications for Future Research

Although Wolf, Harrington, Clark, and Miller (2013) found sample size requirements ranging from 30 (Simple CFA with four indicators and loadings around .80) up to 450 cases (mediation models) for Structural Equation Modeling, analyzing the same topic with higher number of participants might yield different results. Additionally, since this study is carried out in one city only (Ankara), the results cannot be generalized to bigger populations.

If this study can be conducted in different countries, then the results can be compared to make further assumptions about the influence of work values on the career commitment. Since Turkey is a collectivistic culture, this may explain the reluctance of employees' intensions of physical mobility, as collectivistic cultures are known for their member interdependence (Hartung, Fouad, Leong, & Hardin,2010). This study can be replicated in an individualsitic culture, such as Canada or United States of America, to compare the results from Turkish sample.

Conclusion

Both organizations and managers, together with the co-workers that come from different generations, should try to adapt to the expectations of Gen Y. Otherwise managing the Gen Y employees, and attracting and/or keeping them in the organization would not be easy.

Managers should enhance their leadership skills, in the light of the expectations from Gen Y employees, and thus get the chance to work with a creative and well-motivated team. Managers should include Gen Y employees to the decision-making process, implement a democratic decision-making mechanism, get rid of the top and bottom barriers with this generation and let Gen Y employees have autonomy in their tasks and responsibilities. In order to keep Generation Y in their organization who put affective work values, such as relationship with managers and co-workers and interaction with other people, on top of other factors, the managers should be a role-model for them by identifying the technical and managerial deficiencies of the employees, transferring them to the Gen Y employees in a constructive way, and finally creating road maps for their development opportunities. In the past traditional organizations, the employees were trying to gain the attention of their managers, and make the manager like them. However, this started to be mutual with the inclusion of Generation Y to the business life. Otherwise, Gen Y will simply prefer physical mobility, to work with a more appropriate manager who can understand his/her needs. Thus, a manager who created negative influences on Gen Y, might experience hard times finding employees, even if the organization is attractive for the employees.

Researches show that newly graduated Gen Y, will change jobs/organizations in every 2,4 years (Lyons, Schweitzer, Ng, & Kuron, 2012). Additionally the researches reveal that the cost of filling in the position of an employee who left the job, is equal to his/her one or two year worth salary. Thus, the tendency of Gen Y towards physical and psychological mobility affects the organizations in a negative way. In order to avoid this, organizations should encourage systematic internal job rotation, should create flexible work environment, and flexible rewarding system where Gen Y employees can enjoy their job and interact with their co-workers in a relaxed and fun environment. It may seem paradoxical that on the one hand the business environment is getting more and more automized and mechanical, companies are compelled to create a more humanitarian business environment where employees can feel themselves at home. The concept of 'sense of belongingness' may seem to be too difficult to achieve for Gen Y, hence corporations should try to understand what their priorities and expectations are and whether their personal values are overlapping with the corporate values or not, so that it will be more probable to create 'us' feeling.

As a conclusion, generations change, together with their unique characteristics, expectations and sources of satisfaction from business life. It is inevitable that organizations should adapt to the changing environment, where Gen Y is expected to dominate with its 75% presence within ten years. In this change, there is no doubt that work values of Generation Y, together with the new emerging career orientations should be understood well.

Reference List

[1] Abu-Saad, I., & Isralowitz, R. E. (1997). Gender as a determinant of work values among university students in Israel. *The Journal of Social Psychology,137*(6), 749-763.

[2] Arsenault, P. M. (2004). Validating generational differences: A legitimate diversity and leadership issue. *Leadership & Organization Development Journal, 25*(2), 124-141.

[3] Arthur, M. B. (1994). The boundaryless career: A new perspective for organizational inquiry. *Journal of Organizational Behavior, 15*, 295–306

[4] Arthur, M. B., Khapova, S. N., & Wilderom, C. P. (2005). Career success in a boundaryless career world. *Journal of Organizational Behavior, 26*(2), 177-202.

[5] Arthur, M. B., & Rousseau, D. M. (1996). *The boundaryless career*. Oxford: Oxford University Press.

[6] Baruch, Y., & Rosenstein, E. (1992). Human resource management in Israeli firms: Planning and managing careers in high technology organizations. *International Journal of Human Resource Management, 3*(3), 477-495.

[7] Briscoe, J. P., Hall, D. T., & DeMuth, R. L. F. (2006). Protean and boundaryless careers: An empirical exploration. *Journal of Vocational Behavior, 69*(1), 30-47.

[8] Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods & Research, 17*(3), 303-316.

[9] Bolton, R. N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., ... & Solnet, D. (2013). Understanding Generation Y and their use of social media: A review and research agenda. *Journal of Service Management, 24*(3), 245-267.

[10] Clarke, M. (2009). Plodders, pragmatists, visionaries and opportunists: Career patterns and employability. *Career Development International, 14*(1), 8-28.

[11] Cogin, J. (2012). Are generational differences in work values fact or fiction? Multi-country evidence and implications. *The International Journal of Human Resource Management*, *23*(11), 2268-2294.

[12] Crampton, S. M., & Hodge, J. W. (2011). Generation Y: Unchartered territory. *Journal of Business & Economics Research, 7*(4), 1-6.
[13] Dawis, R.V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment*. Minneapolis, MN: University of Minnesota Press.
[14] Eisner, S. P. (2005). Managing Generation Y. SAM Advanced Management Journal, 70(4), 4-15.
[15] Elizur, D. (1984). Facets of work values: A structural analysis of work outcomes. *Journal of Applied Psychology, 69*(3), 379-389.
[16] Elizur, D., Borg, I., Hunt, R., & Beck, I. M. (1991). The structure of work values: A cross cultural comparison. *Journal of Organizational Behavior,12*(1), 21-38.
[17] Feyerherm, A., & Vick, Y. H. (2005). Generation X women in high technology: Overcoming gender and generational challenges to succeed in the corporate environment. *Career Development International, 10*(3), 216-227.
[18] Hartung, P. J., Fouad, N. A., Leong, F. T., & Hardin, E. E. (2010). Individualism-collectivism links to occupational plans and work values.*Journal of Career Assessment, 18*(1), 34-45.
[19] Jorgensen, B. (2003). Baby Boomers, Generation X and Generation Y: Policy implications for defence forces in the modern era. *Foresight, 5*(4), 41-49.
[20] Krahn, H. J., & Galambos, N. L. (2014). Work values and beliefs of 'Generation X' and 'Generation Y'. *Journal of Youth Studies, 17*(1), 92-112
[21] Kilber, J., Barclay, A., & Ohmer, D. (2014). Seven tips for managing Generation Y. *Journal of Management, 15*(4), 80-91.
[22] Laird, M. D., Harvey, P., & Lancaster, J. (2015). Accountability, entitlement, tenure, and satisfaction in Generation Y. *Journal of Managerial Psychology,30*(1), 87-100.
[23] Leiter, M. P., Jackson, N. J., & Shaughnessy, K. (2009). Contrasting burnout, turnover intention, control, value congruence and knowledge sharing between Baby Boomers and Generation X. *Journal of Nursing Management,17*(1), 100-109.
[24] Leuty, M. E., & Hansen, J. I. C. (2011). Evidence of construct validity for work values. *Journal of Vocational Behavior, 79*(2), 379-390.
[25] Lewis, R. (2015). Generation Y at work: Insight from experiences in the hotel sector. *International Journal of Business and Management, 3*(1), 1-17.
[26] Lyons, S., Higgins, C., & Duxbury, L. (2009). Work values: Development of a new three- dimensional structure based on confirmatory smallest space analysis. *Journal of Organizational Behavior, 31*(7), 969–1002.
[27] Lyons, S. T., Schweitzer, L., Ng, E. S., & Kuron, L. K. (2012). Comparing apples to apples: A qualitative investigation of career mobility patterns across four generations. *Career Development International, 17*(4), 333-357.
[28] Maxwell, G. A., & Broadbridge, A. (2014). Generation Y graduates and career transition: Perspectives by gender. *European Management Journal,32*(4), 547-553.
[29] Mignonac, K., & Herrbach, O. (2003). Managing individual career aspirations and corporate needs: A study of software engineers in France. *Journal of Engineering and Technology Management, 20*(3), 205-230.
[30] O'Bannon, G. (2001). Managing our future: The Generation X factor. *Public Personnel Management, 30*(1), 95-110.
[31] Posner, B. Z. (2010). Another look at the impact of personal and organizational values congruency. *Journal of Business Ethics, 97*(4), 535-541.
[32] Rodriguez, R. O., Green, M. T., & Ree, M. J. (2003). Leading Generation X: Do the old rules apply?. *Journal of Leadership & Organizational Studies, 9(*4), 67-75.
[33] Saxena, P., & Jain, R. (2012). Managing career aspirations of Generation Y at work place. *International Journal of Advanced Research in Computer Science and Software Engineering, 2*(7), 114-118.
[34] Schein, E. H. (1990). *Career anchors: Discovering your real values*. San Diego, CA: Pfeiffer & Company
[35] Schein, E. H. (2007). Foreword: Career research – Some personal perspectives. In H. Gunz & M. Peiperl (Eds.), *Handbook of career studies* (pp. ix–xiii). Thousand Oaks, CA: Sage.
[36] Schwartz, S.H. (1999). A theory of cultural values and some implications for work. *Applied Psychology: An International Review, 48*, 23–47.

[37] Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25*(2), 173-180.
[38] Solnet, D., Kralj, A., & Kandampully, J. (2012). Generation Y employees: An examination of work attitude differences. *Journal of Applied Management and Entrepreneurship, 17*(3), 36.
[39] Sullivan, S. E. (1999). The changing Nature of careers: A review and research agenda. *Journal of Management, 25*, 457–484.
[40] Sullivan, S. E., & Arthur, M. B. (2006). The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behavior, 69*(1), 19-29.
[41] Sullivan, S. E., & Baruch, Y. (2009). Advances in career theory and research: A critical review and agenda for future exploration. *Journal of Management,35*(6), 1542-1571.
[42] Super, D.E. (1970). *Work Values Inventory.* Boston, MA: Houghton- Mifflin.
[43] Tulgan, B. (2009). *Not everyone gets a trophy: How to manage Generation Y*. New York: Jossey-Bass.
[44] Tulgan, B., & Martin, C. A. (2001*). Managing Generation Y: Global citizens born in the late seventies and early eighties*. Massachusetts: Human Resource Development Press.
[45] Valentine, D., & L. Powers, T. (2013). Generation Y values and lifestyle segments. *Journal of Consumer Marketing, 30*(7), 597-606.
[46] Warr, P. (2008). Work values: Some demographic and cultural correlates. *Journal of Occupational and Organizational Psychology, 81*(4), 751-775.
[47] Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models an evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement, 73*(6), 913-934.
[48] Yu, H. C., & Miller, P. (2005). Leadership style: The X Generation and Baby Boomers compared in different cultural contexts. *Leadership & Organization Development Journal, 26*(1), 35-50.

Perceived Effectiveness and Fairness of Obesity Taxes in Turkey

Işıl Ayas
Assistant Professor, Department of Public Finance, Faculty of Political Science, Sakarya University, Sakarya, Turkey.

Naci Tolga Saruç
Professor, Department of Public Finance, Faculty of Economics, Istanbul University, Istanbul, Turkey.

Abstract

The problem of obesity has been significantly increasing in Turkey in recent years. The obesity taxes which have been applied in the USA and Europe are also discussed widely in Turkey. The most important factor for the success of these kind of taxes is the reaction of the public towards the obesity taxes. This study is aimed to measure and analyze public opinions about the obesity taxes in Turkey. Using quota sampling for various variables 716 people have been selected from 7 major cities in 7 different regions. The questionnaires employed several 5-point Likert-scale statements, multiple answers and open-ended questions. Cronbach's Alfa which shows the reliability of the study is found to be 0,76. The general acceptability of obesity taxes measures as 2.74 out of 5 points. Logistic regression was carried out in order to find the factors significantly effecting public acceptability. Amongst the various variables (income, age, gender, education level, marital status, work sector and BMI) included in the model only income was found to be affecting acceptability in a statistically significant way. Thus 1 categorical increase in income increases the acceptability of taxes by 1,546. The public acceptability of obesity taxes was the lowest compared to other policies, such as educating people about foods and health, calorie labelling, regulating unhealthy food advertising, banning the sale of junk food in schools and work places, and increasing the places that people can exercise such as parks). The most effective polices were found to be educating people about foods and health, regulating advertisements and banning the sale of unhealthy foods in schools and work places respectively. The perceived most dangerous products were found to be chips, cola and fast food. However, people indicated that they will not reduce the demand of these goods even if obesity taxes are applied on these items. The most important perceived reasons for obesity increase in society was found to be the rise of fast food restaurants, unhealthy eating and inactivity.

Keywords: Obesity taxes, Survey, Public Acceptability

1- Introduction

There have been many studies in the literature which indicate that obesity taxes reduce the conception and calorie intake (Waterlander et al., 2014: 32; Zhen et al., 2014: 1; Briggs et al., 2013: 14; Finkelstein et al., 2013: 219; Powell et al., 2013: 110). Ruff and Zhen (2015: 350) also found that taxes on sugar drink was an effective strategy to fight against obesity. On the other hand, many studies pointed out that for an effective obesity tax, the rates should be determined rather high (Franck et al., 2013: 1949; Powell et al., 2009: 57; Fletcher et al.,2010: 967; Powell and Chaloupka, 2009: 229). In this paper a brief literature review is followed by the findings. In conclusion part, the results of the study are discussed briefly.

2- Literature Reviews

Many authors indicated that obesity taxes would provide an incentive for people to consume healthier foods (Flecther et al., 2013: 10, Yen et al., 2004: 309). However, others argue that even obesity taxes are succeeded in a reduction in consumption of taxed goods, they would not be affective on obesity rate (Fletcher et al., 2013: 10; Lopez and Fantuzzi, 2012: 2859; Zhen et al., 2011: 175). Jou and Techalehakij (2012: 83) indicated that three main factors determine the success of sugary drink tax are obesity rate in the population, consumption level of sugary drinks and current taxes on sugary drink. They pointed out that if the obesity rates and consumption of sugary drinks were high, so taxes would be effective. On the other hand, if the tax burden on sugary drinks were already high then the effect would be limited. Many studies found that when revenues from obesity taxes used for the fight against obesity problems, the support for the tax would increase (Franck et al., 2013: 1949; Pomeranz, 2012: 75).

Some authors argued that obesity taxes would affect the production which would result in a higher unemployment rate. However, these claims are not supported in some studies (Powell et al., 2014: 672).

There have been many studies (majority in the USA) in order to investigate attitudes towards obesity taxes. Main findings of these studies indicate that most people are against such taxes. In only one out of eight studies there were more supporters of the tax than there were non-supporters.

3- Study

This study is aimed to measure and analyse public opinions about the obesity taxes in Turkey. Using quota sampling for various variables 716 people have been selected from 7 major cities in 7 different regions. The questionnaires employed several 5-point Likert-scale statements, multiple answers and open-ended questions.

50 per cent of participants were female and 51 per cent were married. The mean age of the participant was 37.

Table 1 indicates response to some of the statements about the perceived acceptability of obesity taxes.

Table 1. Response to the statements about the acceptability

Statements (%)	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	No opinion
1. I would support obesity taxes on soda drinks.	24	34	9	14	19	0
2. Obesity tax on high sugared food would be effective to reduce obesity.	19	36	12	13	14	0
3. The price of fresh fruit vegetables, meat and fish are more expensive than high calorie process foods.	27	36	21	9	6	1
4. Obesity tax on fatty food would be effective to reduce obesity.	17	36	18	18	9	2
5. Applying obesity tax on high calorie food would affect public health positively.	16	36	18	18	11	1
6.Soda tax's effects would be negative on people with low income.	23	37	18	13	7	2
7. Obesity tax's effects would be positive on public health.	18	33	19	19	9	2
8. Obesity tax can be educational on the dangers of obesity.	18	35	17	18	10	2
9. Obesity tax would have a limited success on reduction of consumption of high calorie foods.	10	39	25	17	6	3
10. The price of process food are cheaper than healthy foods.	21	42	19	10	6	2
11. Obesity tax can damage the economy.	14	23	20	20	18	5
12. I would support obesity taxes, if the revenues obtained from such taxes are used to fight against for obesity.	24	39	16	11	8	2
13. Obesity taxes are fair.	19	36	18	17	8	2
14. Tax could be applied as a tool to improve public health.	16	36	20	16	11	1
15. Obesity tax means too much government intervention to the private lives.	15	31	22	17	14	1
16. Obesity tax affects the producers of these goods in a negative way.	15	39	20	18	6	2
17. The main purpose of obesity tax is to provide revenues for budget rather than fight for obesity.	18	33	19	16	12	2
18. Obesity taxes cannot tackle the problem of obesity.	21	30	22	14	11	2
19. Obesity taxes may lead to unemployment on the sector that was applied.	18	30	20	18	10	4
20. Obesity taxes would be effective to reduce illnesses as a result of obesity.	13	34	20	21	10	2
21. Reducing taxes on healthy foods would be effective to fight against obesity.	27	36	19	12	4	2
22. I would suspect that revenues from obesity taxes can be used for public expenditure rather than fighting for obesity.	22	34	21	14	6	3

23. Specific taxes would be more appropriate that ad-volorem taxes.	13	28	30	19	8	2
24. Obesity is a very important problem in Turkey.	33	38	16	8	4	1
25. Obesity tax should increase with increasing calorie of food and drinks.	17	33	21	17	10	2

Almost 3 out of 4 people think that obesity is a serious problem in Turkey. Sixty-three percent support the obesity tax if the revenues are used for the fight against obesity.

Cronbach-Alfa coefficient of the scale found to be 0,78 which shows that the scale is reliable. In order to measure perceived acceptability of obesity taxes 19 statements have been employed with a Cronbach-Alfa coefficient of 0,76. The general acceptability of obesity taxes was 2,74 out of 5 points. So, the perceived acceptability of obesity taxes is in the middle.

A logistic regression has been run to find out which socio-demographic variables affect the perceived fairness of obesity taxes. The dependent variable used was the answer to the statement of "Obesity taxes are fair." While people answered "strongly agree" and "agree" categorized as fair group, participants who have chosen to "disagree" and "strongly disagree" grouped as an unfair. Undecided and no idea answers were not involved in the analysis.

Table 2. Logistic Regression Coeeficient

Coeeficient				
		Chi-square	df	Sig.
Step 1	Step	20,013	7	0,006
	Block	20,013	7	0,006
	Model	20,013	7	0,006

Table 3. Hosmer and Lemeshow Test

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	8,663	8	,317

Table 4. Variables

		B	**S.E.**	**Wald**	**df**	**Sig.**	**Exp(B)**
Step 1[a]	Income	,436	,106	16,842	1	,000	1,546
	Age	-,088	,070	1,611	1	,204	,915
	Sex	-,217	,167	1,689	1	,194	,805
	Education	-,186	,132	1,975	1	,160	,830
	Marital Status	-,105	,127	,688	1	,407	,900
	BMI	,035	,104	,114	1	,736	1,036
	Sector	,014	,133	,011	1	,915	1,014
	Cons.	-,121	,590	,042	1	,837	,886

Only the variable income has a statistically significant result, according to this 1 level increase in income leads to 1,546 increase in the probability of perceiving tax as fair.

4-Conclusions

The perceived support for obesity taxes are in the medium and people with higher income perceived the obesity taxes as fairer. When revenues are used for the fight against obesity, support for obesity taxes increases. Most participants indicated that low income group would be affected adversely because of obesity taxes. The perceived most dangerous products were found to be chips, cola and fast food. However, people indicated that they will not reduce the demand of these goods even if obesity taxes are applied on these items. The most important perceived reasons for obesity increase in society was found to be the rise of fast food restaurants, unhealthy eating and inactivity.

References

[1] Briggs, A. D., O. T. Mytton, A. Kehlbacher, R. Tiffin, M. Rayner and P. Scarborough, (2013), Overall and Income Specific Effect on Prevalence of Overweight and Obesity of 20% Sugar Sweetened Drink Tax in UK: Econometric and Comparative Risk Assessment Modelling Study, *BMJ: British Medical Journal,* 347, 14.

[2] Finkelstein, E. A., C. Zhen, M. Bilger, J. Nonnemaker, A. M. Farooqui and J. E. Todd, (2013), Implications of A Sugar-Sweetened Beverage (SSB) Tax When Substitutions to Non-Beverage Items are Considered, *Journal of Health Economics*, 32(1), 219-239.

[3] Fletcher, J. M., D. E. Frisvold, and N. Tefft, (2010), The Effects of Soft Drink Taxes on Child and Adolescent Consumption and Weight Outcomes, *Journal of Public Economics*, 94(11), 967-974.

[4] Fletcher, J. M., D. Frisvold and N. Tefft, (2013), Substitution Patterns Can Limit the Effects of Sugar-Sweetened Beverage Taxes on Obesity, *Preventing Chronic Disease*, 10,1-3, http://dx.doi.org/10.5888/pcd10.120195

[5] Fletcher, J. M., D. Frisvold and N. Tefft, (2013), Substitution Patterns Can Limit the Effects of Sugar-Sweetened Beverage Taxes on Obesity, *Preventing Chronic Disease*, 10,1-3, http://dx.doi.org/10.5888/pcd10.120195

[6] Franck, C., S. M. Grandi and M. J. Eisenberg, (2013), Taxing Junk Food to Counter Obesity, *American Journal Public Health*, November; 103(11): 1949–1953.

[7] Jou, J. and W. Techakehakij, (2012), International Application of Sugar-sweetened Beverage (SSB) Taxation in Obesity Reduction: Factors that May Influence Policy Effectiveness in Country-Specific Contexts, *Health Policy*, Sep;107(1):83-90. doi: 10.1016/j.healthpol.2012.05.011.

[8] Lopez, R. A. and K. L. Fantuzzi, (2012), Demand for Carbonated Soft Drinks: Implications for Obesity Policy, *Applied Economics*, 44(22), 2859-2865.

[9] Pomeranz, J. L., (2012), Advanced Policy Options to Regulate Sugar-sweetened Beverages to Support Public Health, *J Public Health Pol*, 33, 75-88.

[10] Powell, L. M., Z. Zhao and Y. Wang, (2009), Food Prices and Fruit and Vegetable Consumption among Young American Adults*, Health & Place*,15 1064–1070.

[11] Powell, L. M. and F. J. Chaloupka, (2009), Food Prices and Obesity: Evidence and Policy Implications for Taxes and Subsidies, *Milbank Quarterly*, 87(1), 229-257.

[12] Powell, L. M., J. F. Chriqui, T. Khan, R. Wada, and F. J. Chaloupka, (2013), Assessing the Potential Effectiveness of Food and Beverage Taxes and Subsidies for Improving Public Health: A Systematic Review of Prices, Demand and Body Weight Outcomes, *Obesity Reviews,* 14(2), 110-128.

[13] Powell, L. M., R. Wada, J. J. Persky and F. J. Chaloupka, (2014), Employment Impact of Sugar-Sweetened Beverage Taxes, *American Journal of Public Health*, April, Vol. 104, No. 4, pp. 672-677. doi: 10.2105/AJPH.2013.301630

[14] Ruff, R.R. and C. Zhen, (2015), Estimating the Effects of a Calorie-based Sugar-sweetened Beverage Tax on Weight and Obesity in New York City Adults Using Dynamic Loss Models, *Annals of Epidemiology*, 25 350-357.

[15] Waterlander, W. E., N. Mhurchu C., I. H. Steenhuis, (2014), Effects of a Price Increase on Purchases of Sugar Sweetened Beverages, Results from a Randomized Controlled Trial, *Appetite,* 78C 32–39.

[16] Yen, S.T., B-H. Lin, D.M. Smallwood, M. Andrews, (2004), Demand for Nonalcoholic Beverages: The Case of Low Income Household, *Agribusiness*, 20, (3),309-321. July 2004.

[17] Zhen, C., I. F. Brissette and R. R. Ruff, (2014), By Ounce or By Calorie: The Differential Effects of Alternative Sugar-Sweetened Beverage Tax Strategies, *Am. J. Agr. Econ.*, doi: 10.1093/ajae/aau052.

[18] Zhen, C., M. K. Wohlgenant, S. Karns and P. Kaufman, (2011), Habit Formation and Demand for Sugar-Sweetened Beverages, *American Journal of Agricultural Economics*, 93(1), 175-193.

The Relation Between Corporate Social Responsibility and Bank Reputation: a Review and Roadmap

Antonio Lorena
University "Magna Graecia" of Catanzaro,

Department of Legal, Historical, Economic and Social Sciences – Italy

Abstarct

Over the past decades, scholars have paid greater attention to relation between Corporate Social Responsibility (CSR) and corporate reputation. However, despite a growing interest in this area, such linkages have remained relatively unexplored in the banking industry and the precise relationship is not clear. Moving from these considerations, this study proposes a systematic review of peer-reviewed scientific literature aiming to: 1) list, 2) classify and 3) compare existing studies. The review was carried out using the following databases: ISI Web, Google Scholar, and SSRN. I investigate a number of publishing academic works, summarizing main approaches, results and insights. I also provide a roadmap for future study and offer research questions about critical areas of this stream of research. The paper contributes to the ongoing international debates, and the preliminary results are encouraging.

Keywords: Corporate Social Responsibility, reputation, bank

1 - Introduction

Over the past decades, scholars have paid greater attention to the relation between corporate social responsibility (CSR) and corporate reputation (Forcadell & Aracil, 2017).Recently, an increasing number of financial institutions are accepting the idea that there is room to increase their social and environmental responsibilities.The banking sector's commitment to more sustainable practices has interesting implications.The relationships between CSR and reputational risk in the banking sector can be interpreted via social-political theories, which recognize CSR as a tool available to companies to increase their legitimacy toward stakeholders and to improve their transparency toward investors (Carnevale & Mazzuca, 2014).Diverse stakeholders are requiring financial institutions to improve their social and environmental performance.As a result, some banks are developing CSR programs, corporate environmental responsibility (CER) policies, and management systems to reduce potential social and environmental risk, and improve their reputation and performance (Jo et al., 2015).However, despite a growing interest in this area, such linkages have remained relatively unexplored in the banking industry and the precise relationships are not clear (Lee et al., 2016).Moving from these considerations, this study proposes a systematic review of attempts in peer-reviewed scientific literature to analyze and synthesize past studies on the relationships between CSR and reputation in the banking sector.The aim of this study is to provide a complete picture of the research on these relationships by listing, classifying, and comparing existing studies.The review was carried out using the following databases: ISI Web, Google Scholar, and SSRN. I investigate a number of published academic works, summarizing the main approaches, results, and insights.I also provide a roadmap for future study and offer research questions about critical areas of this stream of research.The paper is structured as follows: in section 2 methodological details are provided; section 3 show a descriptive analysis; section 4 provides a discussion on the findings of the literature review; and in section 5 conclusions and future research directions are provided.

2 - Research methodology

A good systematic review should make it easier for practitioners to understand the research by synthesizing the extensive primary research papers from which it was derived (Tranfield et al., 2003).According to Mulrow (1994), "Systematic literature review is a fundamental scientific activity.Researchers use the review to identify, justify, and refine hypotheses."Its aim is a conceptual consolidation of a fragmented body of research.A systematic review can be seen as especially appropriate to conceptually assess and map the state of the art of a nascent field (Hoon, 2013).My review was carried out following Tranfield et al.'s (2003) three-stage procedure: planning, execution, and reporting.

2.1 - Planning

During the planning stage, primarily I identified key data sources, keywords, and search terms; finally I defined the initial selection criteria.The academic contributions were identified on the three most relevant existing databases: ISI Web of Knowledge, Google Scholar, and SSRN.The ISI Web of Knowledge database was chosen as a database of record, as it is one of the most comprehensive databases of peer-reviewed journals in the social sciences (Crossan & Apadyn, 2010).ISI Web of Knowledge is widely recognized as the most reliable, from a scientific point of view, for research scholars and academics (Paunescu, 2014).According to Harzing (2010), ISI Web of Knowledge is most often used to search for publications and citations for individual academics and has a complete coverage of citations in the more than 11,000 journal that are listed in it, going back to 1900.Furthermore, the study was carried out by integrating two further "open access" databases (SSRN and Google Scholar), with the explicit aim of providing better coverage of the research topics.Due to the fact that my research topic is fairly young, I also searched the SSRN for recent working papers.The review was undertaken using the following search strings: "corporate social responsibility and bank and reputation"; "CSR and bank and reputation"; "corporate social responsibility and reputation and banking industry"; "CSR and reputation and banking industry". For all databases, the search options are provided in Table 1.

Table 1

Database	Search options
ISI Web of Knowledge	Search in: topic
	Document type: article
	Citation databases: all
	Date range: all years to March 2018
	Language: English
Google Scholar	Search in: anywhere in the article
	Date range: all years to March 2018
SSRN	Search in: title, abstract & keywords
	Limit to: all SSRN Networks
	Date range: all dates to March 2018

2.2 - Conducting a review and reporting

The last stage of my systematic review process, execution and reporting, consists of three steps: (1) data collection: list and group the academic publications by databases and keywords; (2) reporting and descriptive analysis; (3) data extraction and data synthesis.First, all databases were searched using combinations of the selected keywords.The initial sample of all databases was of 44,463 results.Then, the titles and abstracts of the articles found were reviewed for an initial analysis of their relevance to the research questions, and those that were not relevant were excluded.All duplicate articles, within and across databases, were discarded.The results of these initial steps are reported in Table 2 with keyword combinations and databases.After this process, 131 potentially relevant articles were retained and included in the full-text research.

Table 2

Keywords	SSRN	ISI Web	Google Scholar	SSRN + ISI Web + Google Scholar
CSR Reputation Bank	5	13	10	

Corporate Social Responsibility Reputation Bank	7	16	9	
CSR Reputation Banking Industry	1	8	35	
Corporate Social Responsibility Reputation Banking Industry	3	10	14	
Total results	16	47	68	131

The aim of this last step was to identify the main articles that deeply investigate the relationship between CSR and corporate reputation in the banking industry.To ensure a comprehensive list, the cited references in the identified academic papers were screened as a secondary source, but did not yield many additional papers.At the end of the process only 33 papers remained, constituting the final list of works analyzed in this study.

In the second stage, I provide a descriptive analysis of the final sample relating to distribution across the time period and journal, year of publication, and research methodologies applied.Lastly, the different studies were grouped and listed as in Appendix 1.The studies have been synthesized and categorized according to the research methodology applied.These data included author(s), year of publication, title, research methodology (quantitative, qualitative, or mixed methods), purpose of the study, and results.The works that stood out from the extraction process were used to sum up the main approaches, results, and insights.

3 - Descriptive analysis

3.1 - Distribution across time and main journals

Table 3 reports the names of the publications where the reviewed studies have been published.The journals where most studies included in the review have been published are *Journal of Business Ethics*, *Journal of Corporate Social Responsibility and Environmental Management*, and *International Journal of Bank Marketing.*All other journals contain one article each.The remaining works, five articles, are published as book chapters or papers given at international conferences.

Table 3

Publication name	Number of articles
Journal	
Journal of Business Ethics	4
Journal of Corporate Social Responsibility and Environmental Management	3
International Journal of Bank Marketing	2
Social Responsibility Journal	1
Journal of Transnational Management	1
Stanford Journal of Law, Business & Finance	1
Journal of Customer Behaviour	1
Journal of Business & Finance	1
Corporate Communications	1
Journal of Financial Services Marketing	1
Service Business	1
BRQ Business Research Quarterly	1
International Marketing Review	1
Management Sciences Letters	1
Economic Modelling	1
International Journal of Corporate Finance and Accounting	1
Public Relations Review	1
International Journal of Economics, Commerce and Management	1
International Journal of Economics and Financial Studies	1

World Academy of Science, Engineering and Technology	1
Liberec Economic Forum	1
uwf Umwelt Wirtschafts Forum	1
Books	4
International conferences	1
Total	33

Table 4 depicts the number of studies over time.The first study that analyzes the relationship between CSR and reputation in the banking sector dates back to 2005.Since then, there has been a fluctuating, but overall growing, trend in the number of studies published each year, with a quite rapid increase over the past four years.The peak of growth was reached in 2013 and 2015, with seven publications.

Table 4

Year	Number of articles
2005	1
2009	2
2011	2
2012	2
2013	7
2014	2
2015	7
2016	5
2017	5
Total	33

3.2 - Research methodologies applied

Table 5 reports the partitioning of studies based on research methodologies applied, divided into qualitative, quantitative, and mixed methods (employing both qualitative and qualitative methods). The results show that 5 studies (corresponding to 15%) are quantitative in nature and 15 (corresponding to 46%) are qualitative, whereas 13 (corresponding to 39%) are mixed methods.All quantitative studies used linear regression analysis.Most of the qualitative studies (7, corresponding to 47%) adopted case studies, whereas 5 of them (corresponding to 33%) adopted a literature review; content analysis (2, corresponding to 13%) and interview survey (2, corresponding to 7%) are the less adopted forms.Most of the mixed methods (7, corresponding to 54%) adopted a questionnaire and structural equation modeling, whereas 4 of them (corresponding to 31%) adopted a survey and structural equation modeling.Among these studies there are other mixed methodologies adopted, survey and maximum likelihood estimation and questionnaire and linear regression analysis, which correspond to 7.5% each.

Figure 1. Percentages of studies using different types of methodology

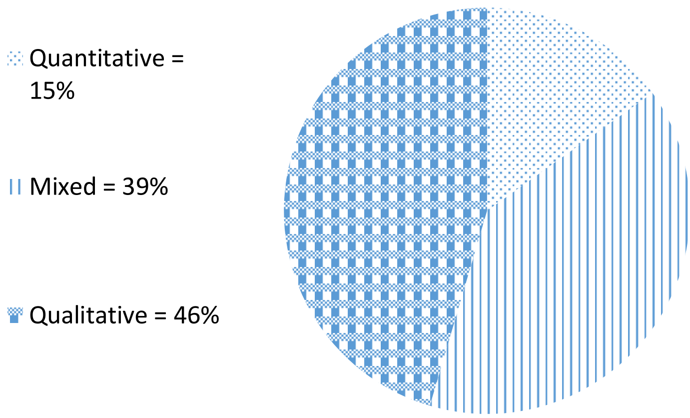


Table 5

Research methodology	Number of articles
Quantitative methodology	5
Linear regression analysis	5
Qualitative methodology	15
Case study	7
Literature review	5
Content analysis	2
Interview survey	1
Mixed methods	14
Questionnaire and structural equation modeling	7
Survey and structural equation modeling	4
Survey and maximum likelihood estimation	1
Questionnaire and linear regression analysis	1
Total	33

4 - Discussion

This concluding section will point out the most important findings of the research and some directions for future research.To sum up, the different studies were grouped and listed as in Appendix 1.The analysis of these works reveals interesting aspects that are discussed below.

4.1 - Quantitative research methodologies

The most-used methodology was quantitative, with five studies looking at the relations between CSR, reputation, and performance.According to the reputation-building hypothesis, good environmental management may provide firms with better reputations that subsequently help increase firm performance (Konar & Cohen, 2001).Dell'Atti et al. (2017), adopting a multiple econometric approach, highlighted that bank reputation is positively related to accounting performance and is negatively related to leverage and riskiness.The authors show positive relationships between reputation and social performance and negative relationships between reputation, corporate governance, and environmental performance.This last result is due to the fact that in the banking sector there is still no strong focus on the environmental impacts of banking activity.On the other hand, Sneekes et al. (2016) show that banks that perform highly on CSR indicators behave more transparently with regard to the presentation of earnings.Banks that engage in CSR activities to improve their reputation use managerial discretion to show socially desirable earnings numbers.For banks that value their reputation, pursuing societal trust is more important than the fulfilling of self-interest.In addition, bank managers should pursue CSR practice as a long-term survival strategy to enjoy different benefits, including enhanced reputation (Shen et al., 2016).Forcadell and Aracil (2017) show that banks' efforts to build a reputation for CSR benefits performance.Nevertheless, in periods of crisis, these efforts do not contribute to improved returns.According to the authors, investments in CSR can be justified as a way to boost both corporate reputation and firm performance, because CSR is a mechanism that contributes to restoring a tarnished reputation.In line with the reputation-building hypothesis, Jo et al. (2015) highlight that good environmental management provides firms with a reputational advantage that leads to increased marketing and financial performance.A major contribution of these quantitative studies is empirically testing the relationship between CSR and reputation and its impact on economic performance in the banking sector.In addition, these studies look at managerial behavior and its impact on banks' reputation.

4.2 - Mixed research methodologies

All studies in this section were developed by subjecting customers or employees to a survey, interview, or questionnaire, validating the results with specific statistical models.Studies that apply mixed methodologies firstly show that the relationships between CSR and reputation depend mainly on the perceptions that customers and employees have toward the socially responsible policies implemented by banks (Pérez & Del Bosque, 2013; Ruiz et al., 2014; Pérez & Del Bosque, 2015).Among these, five studies show the same results but on five different areas of the world, respectively India, Chile, Iran, China, and the Basque Country (Mulki & Jaramillo, 2011; Saeednia & Sohani, 2013; Fatma et al., 2015: Zhao et al., 2016; Aramburu & Pescador, 2017).Banks not developing a CSR strategy in the current competitive scenario will surely face serious difficulties in recovering from the financial crisis and will quite surely undermine their own corporate image and reputation (Pérez & Del Bosque, 2015).According to Shen et al. (2016), "CSR is one of the approaches that can enhance the reputation of banks and acquire a greater sense of trust from customers.CSR is particularly important for the banking industry because banks sell intangible products to individuals who may not be equipped with financial knowledge.Banks sell financial products that mostly have similar risk and returns, resulting in difficulty distinguishing these financial products from one another.Brand recognition among banks helps differentiate financial products, particularly in wealth management."From the analysis of the studies presented in this section, it emerges that the aforementioned positive relations between CSR and the degree of loyalty and customer satisfaction exist also in relation to the maintenance and retention of employees.Mushtaq (2013), in a study on Pakistani banks, revealed that there is a positive impact of CSR on employee retention and corporate reputation.Encouraging employees to remain in the organization for a long period of time can be termed employee retention.It is a process in which employees are encouraged to remain with the organization for the maximum period of time or until the completion of a project (Das & Baruah, 2013).Engizek et al. (2017) focus on the relationships among corporate social responsibility (CSR), overall service quality, company reputation, and affective commitment.The authors show that both CSR and overall service quality influence affective commitment through the mediating role of company reputation.Affective commitment refers to the psychological attachment of an individual to an organization.It is the desire reflecting the extent to which an individual wants to be involved in an organization.It includes a sense of belonging and connection (Gozukara & Yildirim, 2015).In addition, according to Ruiz et al. (2014), CSR is a positive antecedent of bank reputation.Traditional corporate reputation models have principally focused on cognitive antecedents, but emotional aspects such as satisfaction and trust have also been shown to be important antecedents of reputation among customers (Raithel et al., 2010).These results have direct implications for CSR and reputation managers, since it has been demonstrated that customers care particularly about all corporate concerns that most directly benefit these stakeholders.These ideas should motivate companies to strengthen their bonds with customers so that the latter are less sensitive to market changes and competitive strategies (Pèrez et al., 2013).

4.3 - Qualitative research methodologies

Most of the qualitative papers show that socially responsible conduct gives rise to positive reputational outcomes that contribute to increasing performance (Decker & Sale, 2009; Ostalecka & Swacha-Lech, 2013; Yen, 2014).Among these, four studies show the same results but on four different areas of the world: Italy, Peru, India, and the USA and Australia (Bihari & Pradhan, 2011; Bowman, 2013; Lambroglia & D'onza, 2015; del Brío & Lizarzaburu, 2017).From these studies it emerges that banks operate within a social environment.The fact that banks are sensitive to the social environment in which they exist leads to increased reputation, and sensitivity to the social environment takes place in the form of supporting activities that benefit the public and are sensitive to the physical environment.Reputation that has emerged in this way contributes greatly to the intangible assets of the business (Okur & Arslan, 2014).With regard to other qualitative papers, three studies explicitly rely on relations between CSR reporting and reputation.According to legitimacy theory, CSR reporting is aimed at providing information that legitimizes a company's behavior by intending to influence stakeholders' and eventually society's perceptions about the company in such a way that the company is regarded as a "good corporate citizen" and its actions justify its continued existence (Guthrie & Parker, 1989).Among these studies, Arshad et al. (2012) examine the effect of Islamic CSR disclosure and corporate reputation as well as performance.The authors argue that CSR activities communicated in corporate annual reports are significantly positively related to corporate reputation as well as firm performance, while Bartlett (2005) demonstrates that adoption of CSR reporting is linked to higher reputation indices in a sample of Australian banks.The literature review presented by Pérez (2015) demonstrates that CSR reporting and corporate reputation are positively correlated.These results highlight that banks are proactively implementing and disclosing CSR activities that meet and strengthen the needs of multiple stakeholders.Other qualitative studies confirm a positive relationship between CSR and reputation in the banking industry (Xifra & Ordeix, 2009).In addition, Xifra and Ordeix (2009) illustrate Banco Santander's management of reputation and propose the bank as a paradigmatic case for the importance of dialogue and reputation during a crisis.Finally, in contrast to the methods and results described so far, I have found works that show conflicting opinions with respect to the results of the field under study.These studies reveal that the motivations behind CSR programs remain driven by profit-led strategies, defining the relationship between CSR and reputation as a paradox and a moral trap (Bowman, 2013; McDonald, 2015; Vogler & Gisler, 2016).

5 - Conclusions and future research directions

This study provides in-depth analysis and synthesis of the body of knowledge so far produced in field of the relations between CSR and reputation.From the analysis of the works of this present review, it stood out that CSR is a multidimensional construct.CSR is of particular relevance in the banking sector because it promotes several competitive advantages, the most important of which is the enhancement of the bank's reputation, which is a determining factor in attracting and retaining customers, increasing employee retention, and yielding better financial results.For the banking sector, CSR practices become a relevant reputation driver that can add value over time.This study has important implications for banks and managers, as well as for scholars.With regard to banks aiming at successfully developing CSR policies, this study highlights the positive relationships between CSR and reputation.Indeed, by developing CSR practices, a bank sends signals aimed at meeting stakeholders' expectations and thus increasing the value of its corporate reputation.From this review it emerges that CSR reporting and corporate reputation are positively correlated.Banks that engage in CSR activities to improve their reputation use managerial discretion to show socially desirable earnings numbers.When investigating how CSR impacts reputation, an important element is managers' ethical integrity.Zhu et al. (2014) conclude that when ethical leadership is weak, an increase in CSR will not be associated with an increase in reputation or performance.Regarding implications for scholars, this study provides a picture of the state of the art that can be a useful starting point for future research in this field.Nevertheless, this study presents some limitations.In this work I used three of the most important databases available (ISI Web of Knowledge, Google Scholar, and SSRN).The latter probably does not intercept all the most important works in the literature.Future studies may use other databases not queried in this paper and at the same time expand the keywords.

Appendix 1

Author, Year, Title	Research Methodology	Purpose	Results

Mixed methodology			
Aramburu, I. A., & Pescador, I. G. (2017). The effects of corporate social responsibility on customer loyalty: The mediating effect of reputation in cooperative banks versus commercial banks in the Basque Country	Survey and structural equation modeling (SEM)	"This study seeks to contribute to the literature by examining the mediating role of corporate reputation on the relationship between perceived corporate social responsibility and customer loyalty.The study also takes into consideration the role played by bank type in mediation effect." (p. 1)	"Corporate reputation partially mediated the relation between corporate social responsibility and customer loyalty.Bank type is shown not to moderate the mediation effect." (p. 12)
Engizek, N., & Yasin, B. (2017). How CSR and overall service quality lead to affective commitment: Mediating role of company reputation	Survey and SEM	"The paper aims to focus on the relationships among corporate social responsibility (CSR), overall service quality (OSQ), company reputation and affective commitment.It investigates whether service quality or CSR is the prime driver of affective commitment.Also, the mediating role of company reputation was examined." (p. 111)	"CSR and OSQ influence affective commitment through the mediator role of company reputation." (p. 111)
Fatma, M., Rahman, Z., & Khan, I. (2015). Building company reputation and brand equity through CSR: The mediating role of trust	Survey and SEM	"The purpose of this paper is to investigate the effect of corporate social responsibility initiatives on the two marketing outcomes – corporate reputation and brand equity, based on the perception of consumers regarding banks in India." (p. 841)	"CSR activities can help banks in building corporate reputation and brand equity directly as well as indirectly.The mediating role of trust is found to be significant between CSR and CR [corporate reputation] and CSR and BE [brand equity].Finally, CSR activities build consumer trust in a company which in turn positively impacts CR and BE." (p. 840)
Mulki, J. P., & Jaramillo, F. (2011). Ethical reputation and value received: Customer perceptions	Survey and SEM	"The authors explore the role played by ethical reputation in amplifying the positive impact of customer value on satisfaction and loyalty." (p. 358)	"Ethical perceptions about the organization amplify the impact of customer value on customer satisfaction and eventually loyalty." (p. 358)
Mushtaq, N. (2013). Paramount role of corporate social responsibility in retaining employees and corporate reputation: An extract from Pakistan's banking sector	Questionnaire and regression analysis	"This study is aimed at finding relationship of CSR with employee retention and corporate reputation." (p. 127)	"Study revealed that there is positive impact of CSR on employee retention and corporate reputation." (p. 126)

Pérez, A., & Del Bosque, I. R. (2015). How customer support for corporate social responsibility influences the image of companies: Evidence from the banking industry	Survey and SEM	"First, this paper is aimed at identifying a classification of customers according to their support for CSR activities in the banking industry.Secondly, the authors analyze how diverse levels of customer support for CSR initiatives influence the way customers process their CSR perceptions." (p. 158)	"The results confirm the relevance of motivational attribution when socially oriented and highly involved customers evaluate CSR." (p. 155)
Pérez, A., & Del Bosque, I. R. (2013). Measuring CSR image: Three studies to develop and to validate a reliable measurement tool	Survey and SEM	"Literature regarding the measurement of CSR image from a customer viewpoint is revised and areas of improvement are identified." (p. 265)	"CSR includes corporate responsibilities towards customers, shareholders, employees and society.The scale is consistent among diverse customer cohorts with different gender, age and level of education." (p. 265)
Pérez, A., & Del Bosque, I. R. (2015). Customer values and CSR image in the banking industry	Survey and SEM	"The authors of this paper aim to describe and test a reliable casual model to understand the way in which customers construct their perceptions of CSR image in the Spanish banking industry." (p. 50)	"The findings of the article allow the authors to anticipate CSR image based on (i) the congruence between the company and its CSR initiatives, (ii) the attribution of motivations for the company to implement CSR and (iii) corporate credibility in developing CSR initiatives." (p. 46)
Pérez, A., Martínez, P., & Del Bosque, I. R. (2013). The development of a stakeholder-based scale for measuring corporate social responsibility in the banking industry	Survey and maximum likelihood estimation	"In this paper a new scale based on stakeholder theory is developed to evaluate customers' perception regarding the CSR performance of their banking service providers." (p. 459)	"CSR includes corporateresponsibilities toward customers, shareholders, employees, society, and all legal and ethical requirements of banking institutions." (p. 459)
Ruiz, B., Esteban, A., & Gutierrez, S. (2014). Determinants of reputation of leading Spanish financial institutions among their customers in a context of economic crisis	Questionnaire and SEM	"This paper develops a bank reputation model, in an environment of economic crisis." (p. 259)	"Banks should focus their reputation strategies to convey reliability and to reinforce the leadership of their managers, paying special attention to consumer satisfaction and trust in order to achieve the maximum optimization of their reputation resources." (p. 259)

Ruiz, B., García, J. A., & Revilla, A. J. (2016). Antecedents and consequences of bank reputation: A comparison of the United Kingdom and Spain	Questionnaire and SEM	"Identify the key antecedents and consequences of bank reputation and whether their relative importance varies across countries." (p. 781)	"The most important cognitive antecedent of banks' reputation is reliability/financial strength.The positive effect of bank reputation on consumer behaviour (loyalty and word of mouth) and the existence of cross-country differences as regards loyalty were also confirmed." (p. 781)
Saeednia, H., & Sohani, Z. (2013). An investigation on the effect of advertising corporate social responsibility on building corporate reputation and brand equity	Questionnaire and SEM	"Empirical survey to measure the impact of CSR on increasing reputation as well as creating brand equity through customer satisfaction." (p. 1143)	"There is a positive impact of CSR on customer satisfaction (β=0.84), a positive relationship between customer satisfaction and firm reputation (β=0.70), and between customer satisfaction and brand equity (β=0.98)." (p. 1143)
Zhao, Y., Zhang, G., & Hou, W. (2016, July). Will CSR pay in the financial sector? An empirical study of a commercial bank's CSR orientation, corporate reputation and customer loyalty in western China	Questionnaire and SEM	"This paper investigates the relationship between commercial banks CSR orientation, reputation and customer loyalty." (p. 1)	"A commercial bank's CSR orientation is significantly correlated to its reputation and customer loyalty, and that its reputation mediates CSR orientation's impact on its customer loyalty." (p. 1)
Qualitative methodology			
Arshad, R., Othman, S., & Othman, R. (2012). Islamic corporate social responsibility, corporate reputation and performance.	Content analysis	"This study examines the effect of Islamic Corporate Social Responsibility disclosure and corporate reputation as well as performance." (p. 643)	"CSR activities communicated in corporate annual reports are significantly positively related with corporate reputation as well as firm performance." (p. 643)
Bartlett, J. L. (2005). Addressing concerns about legitimacy: A case study of social responsibility reporting in the Australian banking industry	Case study	"This paper investigates the relationship between social responsibility reporting and reputation at an industry rather than organisational level through a case study of the Australian banking industry." (p. 2)	"The findings suggest that while the adoption of CSR reporting is linked to higher reputation indices, it is not necessarily adopted as a strategy by members of the entire industry to address questions of legitimacy." (p. 7)
Bihari, S. C., & Pradhan, S. (2011). CSR and performance: The story of banks in India	Case study	"This article maps the corporate social responsibility practices of major players in the Indian Banking sector and their impact on performance and image." (p. 20)	"Banks in India have increased their CSR activities, which also have a positive impact on performance of the business, apart from improving their image and goodwill." (p. 20)

Bowman, M. (2013). Corporate care and climate change: Implications for bank practice and government policy in the United States and Australia	Case study	"The authors investigate whether and how voluntary corporate action on climate change presents a redemptive opportunity for banks; and consider the implications for effective government intervention." (p. 2)	"The data reveal that the overarching lever for corporate change is business case logic, not ethical conceptions of corporate social responsibility. In particular, a new conception of 'corporate reputation' reveals important and subtle implications for how and why banks are motivated to change their behavior." (p. 1)
Decker, S., & Sale, C. (2009). An analysis of corporate social responsibility, trust and reputation in the banking profession.	Interview survey	"The aims of this work are twofold. Firstly, it explores bankers' understanding of and approach to CSR in a global environment and in a variety of contexts. Secondly, bankers' involvement in CSR is analysed from a variety of sociological perspectives." (p. 136)	"Trust, reputational and regulatory risks have made some advancement in embedding CSR through reporting initiatives and at a firm strategic level. Such an approach has shortcomings when the role and place of the banking profession is considered from a wider sociological perspective." (p. 135)
del Brío, J., & Lizarzaburu, E. R. (2017). Corporate reputation and Corporate Social Responsibility and its impact in the financial sector	Case study	"This research seeks to study the influence of Corporate Social Responsibility (CSR) on the reputation of a corporation from a strategic point of view." (p. 91)	"CSR could affect both CR and investor confidence. In addition to this, it has been found that CR could act as a moderating variable between CSR and investor confidence." (p. 91)
Lamboglia, R., & D'Onza, G. (2015). The relationship between CSR communication and corporate reputation in the credit lending process: A qualitative study based on Italian banks	Case study	"The aim of this study is to investigate the relationship between Corporate Social Responsibility (CSR) communication efforts and corporate reputation (CR) in the context of the credit lending process of Italian banks." (p. 129)	"Most of the authors' findings confirm the existence of two-way relationship between CSR action and CR. The interviews indicated that CSR projects increase CR. Simultaneously, reputation is considered as a prerequisite for the credibility of CSR communication, which often offsets the absence of other assurance mechanism." (p. 129)
McDonald, L. M. (2015). Corporate Social Responsibility (CSR) in banking: What we know, what we don't know, and what we should know	Literature review	"The aim of this review is to summarize the accumulated state of knowledge concerning the topic of interest and to highlight important issues that research has left unresolved." (p. 485)	"The studies investigating CSR motivations indicated that banks' CSR programmes remain driven by strategic or profit-driven motives, with only a sub-set of smaller banks having more altruistic motivations." (p. 497)

Ostalecka, A., & Swacha-Lech, M. (2013). Corporate social responsibility in the context of banks' competitiveness	Literature review	"The main aim of the article is to present the idea of corporate social responsibility as a tool for supporting the competitiveness of banking institutions." (p. 425)	"The positive influence of CSR on a bank's competitiveness can occur in the following key areas: enhancing public image and reputation, ethical behaviors, improving relations with employees, strengthening community involvement, building environmental responsibility image and improving organizational governance." (p. 4259)
Pérez, A. (2015). Corporate reputation and CSR reporting to stakeholders: Gaps in the literature and future lines of research	Literature review	"The purpose of this paper is to provide a literature review of the underdeveloped stream of research that analyses corporate reputation as an outcome of corporate social responsibility (CSR) reporting." (p. 11)	"The literature review demonstrates that CSR reporting is especially useful to generate corporate reputation." (p. 11)
Pérez, A., & Del Bosque, I. R. (2012). The role of CSR in the corporate identity of banking service providers	Case study	"The aim of this paper is to analyze the role of corporate social responsibility in the definition of the corporate identity of banking service providers." (p. 145)	"Although companies increasingly integrate CSR into their business strategies, there are some aspects of its management such as its communication or the measurement of its results that detract from its success." (p. 145)
Trotta, A., Cavallaro, G., & Carè, R. (2013). Mapping the relationship between reputation and corporate social responsibility in the banking sector: a comprehensive literature review	Literature review	"The paper explores the nature of the relationship between corporate reputation and corporate social responsibility in the banking industry." (p. 1)	"Finding commonly accepted definitions and generally established metrics of corporate reputation and corporate social responsibility in the banking sector is still problematic." (p. 1)
Vogler, D., & Gisler, A. (2016). The effect of CSR on the media reputation of the Swiss banking industry before and after the financial crisis 2008	Content analysis	"This paper examines the effect of CSR on the media reputation of corporations in crisis periods. As research object the media coverage of the Swiss banking industry before and after the financial crisis 2008 was selected." (p. 201)	"CSR got more important in the media coverage of the banks during the crisis and had a negative effect on media reputation. This research therefore strengthens the notion of the relationship of CSR and reputation as a paradox or moral trap." (p. 201)

Xifra, J., & Ordeix, E. (2009). Managing reputational risk in an economic downturn: The case of Banco Santander	Case study	“The article illustrates Banco Santander's management of reputation and proposes the bank as a paradigmatic case for the importance of dialogue and reputation in these times of turbulence.” (p. 353)	“Banco Santander offers evidence of a paradigm shift in action that offers a model for effectively addressing the economic downturn. The article concludes by suggesting the key role for public relations in managing reputational risk under contemporary conditions.” (p. 353)
Yen, T. T. H. (2014). CRS in banking sector: A literature review and new research directions	Literature review	“This paper intends to develop a literature review on CSR of banks in order to study main areas of research and present status of CRS in the banking sector.” (p. 2)	“This study makes a great contribution to developing a framework for a better CSR understanding about CSR research and CSR status in many countries all over the world in 5 main issues.” (p. 18)
Quantitative methodology			
Dell'Atti, S., Trotta, A., Iannuzzi, A. P., & Demaria, F. (2017). Corporate Social Responsibility engagement as a determinant of bank reputation: An empirical analysis	Regression analysis	“The aim of this study is to empirically test such relationships regarding the banking sector and for the sub-prime crisis period (2008–2012).” (p. 589)	“Bank reputation is positively related to accounting performance and is negatively related to leverage and riskiness profiles. However, while a positive relationship between reputation and social performance exists, relationships between reputation, corporate governance, and environmental performance are always negative.” (p. 589)
Forcadell, F. J., & Aracil, E. (2017). European banks' reputation for Corporate Social Responsibility	Regression analysis	“The aim of this study is to analyze the link between performance and reputation for CSR (RCSR) in European banks listed in DJSI.” (p. 1)	“Banks' efforts to build a reputation for CSR benefits performance. Nevertheless, in period of crisis, these efforts do not contribute to improved returns.” (p. 1)
Jo, H., Kim, H., & Park, K. (2015). Corporate environmental responsibility and firm performance in the financial services sector	Regression analysis	“The authors examine whether corporate environmental responsibility (CER) plays a role in enhancing operating performance in the financial services sector.” (p. 257)	“The reducing of environmental costs takes at least 1 or 2 years before enhancing return on assets. The authors also find that reducing environmental costs has a more immediate and substantial effect on the performance of financial services firms in well-developed financial markets than in less-developed financial markets.” (p. 257)

Shen, C. H., Wu, M. W., Chen, T. H., & Fang, H. (2016). To engage or not to engage in corporate social responsibility: Empirical evidence from the global banking sector	Regression analysis	"This study examines whether or not banks engaging in CSR can bring profits and reduce non-performing loans." (p. 207)	"Regardless of the methods used, CSR banks overwhelmingly outperform non-CSR banks in terms of return on assets and return on equity." (p. 207)
Sneekes, A., Georgakopoulos, G., Sikalidis, A., & Rodosthenous, M. (2016). Do bankers use managerial discretion with regard to CSR and earnings management to rebuild their reputation in the aftermath of the financial crisis?	Regression analysis	"The authors expect that when bank managers recognize the importance of societal trust they use their discretion to regain trust and to rebuild reputation." (p. 14)	"Banks that engage in CSR activities to improve their reputation, use managerial discretion to show socially desirable earnings numbers." (p. 14)

References

[1] Aramburu, I. A., & Pescador, I. G. (2017). The effects of corporate social responsibility on customer loyalty: The mediating effect of reputation in cooperative banks versus commercial banks in the Basque country. *Journal of Business Ethics*, 1-19.

[2] Arshad, R., Othman, S., & Othman, R. (2012).Islamic corporate social responsibility, corporate reputation and performance. *World Academy of Science, Engineering and Technology*, *64*(4), 1070-1074.

[3] Bartlett, J. L. (2005). Addressing concerns about legitimacy: A case study of social responsibility reporting in the Australian banking industry.

[4] Bihari, S. C., & Pradhan, S. (2011). CSR and Performance: The story of banks in India. *Journal of Transnational Management*, *16*(1), 20-3.

[5] Bowman, M. (2013). Corporate care and climate change: Implications for bank practice and government policy in the United States and Australia. *Stan. JL Bus. & Fin.*, *19*, 1.

[6] Carnevale, C., & Mazzuca, M. (2014). Sustainability report and bank valuation: evidence from European stock markets. *Business Ethics: A European Review*, *23*(1), 69-90.

[7] Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of management studies*, *47*(6), 1154-1191.

[8] Das, B. L., & Baruah, M. (2013). Employee retention: A review of literature. *Journal of Business and Management*, *14*(2), 8-16.

[9] Decker, S., & Sale, C. (2009).An analysis of corporate social responsibility, trust and reputation in the banking profession. In *Professionals' Perspectives of Corporate Social Responsibility*(pp. 135-156). Springer, Berlin, Heidelberg.

[10] del Brío, J., & Lizarzaburu, E. R. (2017). Corporate Reputation and Corporate Social Responsibility and its impact in the financial sector. *Journal of Customer Behaviour*, *16*(1), 91-105.

[11] Dell'Atti, S., Trotta, A., Iannuzzi, A. P., & Demaria, F. (2017). Corporate Social Responsibility Engagement as a Determinant of Bank Reputation: An Empirical Analysis. *Corporate Social Responsibility and Environmental Management*, *24*(6), 589-605.

[12] Fatma, M., Rahman, Z., & Khan, I. (2015).Building company reputation and brand equity through CSR: the mediating role of trust. *International Journal of Bank Marketing*, *33*(6), 840-856.

[13] Forcadell, F. J., & Aracil, E. (2017). European Banks' Reputation for Corporate Social Responsibility. *Corporate Social Responsibility and Environmental Management*, *24*(1), 1-14.

[14] Gozukara, I., & Yildirim, O. (2015).Affective commitment and corporate reputation.The effects of attitude toward advertising and trust. *Academic Journal of Economic Studies*, *1*(3), 126-147.

[15] Guthrie, J., & Parker, L. D. (1989). Corporate social reporting: a rebuttal of legitimacy theory. *Accounting and business research*, *19*(76), 343-352.
[16] Harzing, A. W. K. (2010). *The publish or perish book*. Melbourne: Tarma software research.
[17] Hoon, C. (2013). Meta-synthesis of qualitative case studies: An approach to theory building. *Organizational Research Methods*, *16*(4), 522-556.
[18] Jo, H., Kim, H., & Park, K. (2015). Corporate environmental responsibility and firm performance in the financial services sector. *Journal of business ethics*, *131*(2), 257-284.
[19] Konar, S., & Cohen, M. A. (2001). Does the market value environmental performance?. *Review of economics and statistics*, *83*(2), 281-289.
[20] Lamboglia, R., & D'Onza, G. (2015). The Relationship between CSR Communication and Corporate Reputation in the Credit Lending Process: A Qualitative Study Based on Italian Banks. In *The True Value of CSR* (pp. 129-146). Palgrave Macmillan, London.
[21] Lee, K. H., Cin, B. C., & Lee, E. Y. (2016). Environmental responsibility and firm performance: the application of an environmental, social and governance model. *Business Strategy and the Environment*, *25*(1), 40-53.
[22] McDonald, L. M. (2015). Corporate Social Responsibility (CSR) in banking: what we know, what we don't know, and what we should know. The Routledge companion to financial services marketing. *Routledge Companions. Taylor & Francis (Routledge), New York, United States, pp. 485-505.*
[23] Mulki, J. P., &Jaramillo, F. (2011). Ethical reputation and value received: customer perceptions. *International Journal of Bank Marketing*, *29*(5), 358-372.
[24] Mushtaq, N. (2013). Paramount role of corporate social responsibility in retaining employees and corporate reputation: an extract from Pakistan's banking sector. *Journal of Business and Finance*, *1*(3), 126-138.
[25] Okur, M. E., & Arslan, M. L. (2014).Reputation management in global financial institutions.In *Managerial Issues in Finance and Banking* (pp. 173-184).Springer, Cham.
[26] Ostalecka, A., & Swacha-Lech, M. (2013).Corporate social responsibility in the context of banks' competitiveness.
[27] Paunescu, C. (2014). Current trends in social innovation research: social capital, corporate social responsibility, impact measurement. *Management & Marketing*, *9*(2), 105.
[28] Pérez, A. (2015). Corporate reputation and CSR reporting to stakeholders: Gaps in the literature and future lines of research. *Corporate Communications: An International Journal*, *20*(1), 11-29.
[29] Pérez, A., & Del Bosque, I. R. (2015). How customer support for corporate social responsibility influences the image of companies: Evidence from the banking industry. *Corporate Social Responsibility and Environmental Management*, *22*(3), 155-168.
[30] Pérez, A., & Del Bosque, I. R. (2012).The role of CSR in the corporate identity of banking service providers. *Journal of Business Ethics*, *108*(2), 145-166.
[31] Pérez, A., & Del Bosque, I. R. (2013). Measuring CSR image: three studies to develop and to validate a reliable measurement tool. *Journal of business ethics*, *118*(2), 265-286. Pérez, A., &del Bosque, I. R. (2015). Customer values and CSR image in the banking industry. *Journal of financial services marketing*, *20*(1), 46-61.
[32] Pérez, A., Martínez, P., & Del Bosque, I. R. (2013). The development of a stakeholder-based scale for measuring corporate social responsibility in the banking industry. *Service Business*, *7*(3), 459-481.
[33] Raithel, S., Wilczynski, P., Schloderer, M. P., & Schwaiger, M. (2010).The value-relevance of corporate reputation during the financial crisis. *Journal of Product & Brand Management*, *19*(6), 389-400.
[34] Ruiz, B., Esteban, A., & Gutierrez, S. (2014). Determinants of reputation of leading Spanish financial institutions among their customers in a context of economic crisis. *BRQ Business Research Quarterly*, *17*(4), 259-278.
[35] Ruiz, B., García, J. A., & Revilla, A. J. (2016). Antecedents and consequences of bank reputation: a comparison of the United Kingdom and Spain. *International Marketing Review*, *33*(6), 781-805.
[36] Saeednia, H., & Sohani, Z. (2013).An investigation on the effect of advertising corporate social responsibility on building corporate reputation and brand equity. *Management science letters*, *3*(4), 1139-1144.
[37] Shen, C. H., Wu, M. W., Chen, T. H., & Fang, H. (2016). To engage or not to engage in corporate social responsibility: Empirical evidence from global banking sector. *Economic Modelling*, *55*, 207-225.

[38] Sneekes, A., Georgakopoulos, G., Sikalidis, A., & Rodosthenous, M. (2016). Do Bankers Use Managerial Discretion with Regard to CSR and Earnings Management to Rebuild Their Reputation in the Aftermath of the Financial Crisis?. *International Journal of Corporate Finance and Accounting (IJCFA)*, *3*(2), 14-41.
[39] Tranfield, D., Denyer, D., & Smart, P. (2003).Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British journal of management*, *14*(3), 207-222.
[40] Vogler, D., & Gisler, A. (2016). The effect of CSR on the media reputation of the Swiss banking industry before and after the financial crisis 2008. *uwf UmweltWirtschaftsForum*, *24*(2-3), 201-206.
[41] Xifra, J., & Ordeix, E. (2009). Managing reputational risk in an economic downturn: The case of Banco Santander. *Public Relations Review*, *35*(4), 353-360.
[42] Yen, T. T. H. (2014).CRS in bankinh sector-A literature review and new research directions.
[43] Zhao, Y., Zhang, G., & Hou, W. (2016, July). Will CSR pay in the financial sector? An empirical study of a commercial bank's CSR orientation, corporate reputation and customer loyalty in western China.In *Logistics, Informatics and Service Sciences (LISS), 2016 International Conference on* (pp. 1-5).IEEE.
[44] Zhu, Y., Sun, L. Y., & Leung, A. S. (2014). Corporate social responsibility, firm reputation, and firm performance: The role of ethical leadership. Asia Pacific Journal of Management, 31(4), 925-947.

Non-Financial Reporting in Banks: Emerging Trends in Italy

Eugenia Strano

Abdellah Kabli

Eugenia Strano
University Magna Graecia of Catanzaro
Department of Legal, Historical, Economic and Social Sciences Catanzaro – Italy

Abstract

During the last few years, the interest in corporate disclosures of "non-financial information" has grown considerably and several voluntary reporting practices have emerged to capture this type of information outside the traditional financial statements.Non-financial information has become part of mandatory corporate reporting within the European Union through Directive 2014/95/EU, which requires large companies to disclose certain information on the way they operate and manage social and environmental issues. The Directive only applies to large public-interest companies by including listed companies, banks, insurance companies, and other companies designated by national authorities as public-interest entities. This mandatory requirement has been implemented in Italy with Legislative Decree no. 254/2016.By using a multiple case-study approach and by considering a sample of Italian banks, the aim of this work is to analyze emerging disclosure practices on institutional websites.The contribution of the work is twofold: on the one hand, the study investigates how banks use non-financial statements (NSF) to communicate non-financial information to stakeholders; and on the other hand, it offers insights and guidance and encourages future research.

Keywords: non-financial statement (NFS), disclosure, case studies

Introductıon

The role of non-financial information

Non-financial information is becoming increasingly important in business due to the inadequacy of traditional financial reporting to satisfy the growing need of stakeholders for value creation (Consob, 2017; Kristofik, Lament, & Musa, 2016). Currently, the role and function of financial accounting are not sufficient to respond to the needs of stakeholders because "*the financial information explains just the historical performance, while the stakeholders try to predict the firms' performance in future*" (Wadhwa, 2017, p. 2073). Thus, non-financial information concerns long-term issues such as "*climate change, energy efficiency, gender diversity, employee engagement, reputation, innovation, human rights, anti-corruption and bribery matters*" (Consob, 2017, p. 38). It is important to disclose good-quality non-financial information in order to increase the trust of stakeholders (Venturelli et al., 2017; Directive 2014/95/EU 2014) and to influence their behavior (Castaldo et al., 2009). Thus, the quality of non-financial information plays an important role in building socio-economic relations between companies and their environment (Deegan and Unerman, 2011).

According to Murphy and Hogan (2016, p. 43), "*Non-financial measures provide value to both the firm that is disclosing them and the stakeholders that are using them to better understand the firm*". Consequently, the needs of stakeholders in relation to social and environmental issues have stimulated an increase in the volume of non-financial information transmitted by companies to stakeholders. Godfrey, Merrill, and Hansen (2009) underline the importance of non-financial information in regulated markets because it positively increases shareholder value and gains investor confidence (Kristandl & Bontis, 2007).Thus, corporate disclosure allows information asymmetry problems between different types of stakeholders to be limited (Bhasin, Makarov, & Orazalin, 2015; Kristofik et al., 2016).

Recently, the importance of non-financial information has also attracted the interest of European institutions, as shown by Directive 2014/95/EU implementing Legislative Decree no. 254/2016. The European Parliament highlighted the relevance of the disclosure of non-financial information in that it is "*vital for managing change towards a sustainable global economy by combining long-term profitability with social justice and environmental protection*" (Paragraph 3 of the Preamble to Directive 2014/94/EU). Moving from this consideration, our work investigates the frontier of non- financial statements (NFS) in the banking sector in Italy, highlighting how banks move toward this new kind of reporting.

To achieve this, this research, using a multiple case-study approach and by considering a sample of Italian banks, analyzes emerging disclosure practices on institutional websites.

Methodological approach

This work focuses on non-financial information disclosed in the Italian banking industry through a combination of a literature review and selected case studies. The qualitative case study facilitates exploration and understanding of a phenomenon, using several data sources (Baxter & Jack, 2008). Thus, in the first stage of the research, we analyze several studies and documents existing in the literature that concerns the importance of non-financial information reporting. In addition to the literature search, we examine Directive 2014/95/EU and Legislative Decree no. 254/2016, which establish specific requirements in term of disclosure of non-financial information, and we build a table that lists the main requirements of new regulation. In this way, we identify a sample of Italian listed banks, selecting the first eight banks by total assets and market capitalization. The case studies represent qualitative research that allows us to make in-depth, intensive analyses (Hancock & Algozzine, 2016).

In the next stage of the research, we analyze the approach of banks to non-financial information, through direct observation of their official websites. Given the nature of the study, we build a table that incorporates both non-financial reports made available by the sample of surveyed banks and the structure of their official websites regarding the sustainability topic.

An overview of Directive 2014/95/EU

Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 in force since 2017 – amending Directive 2013/34/EU – examines the "*disclosure of non-financial and diversity information by certain large undertakings and groups*" (Directive 2014/95/EU). In particular, the EU Directive imposes the obligation for large undertakings to publish NFS that must contain "*information to the extent necessary for an understanding of the undertaking's development, performance, position and impact of its activity, relating to, as a minimum, environmental, social*

and employee matters, respect for human rights, anti-corruption and bribery matters" (Directive 2014/95/EU – Article 19a, Non-financial statement). This mandatory requirement has been implemented in Italy with Legislative Decree no. 254/2016 relating to reporting information of a non-financial nature, and the Italian securities market regulator – Consob – is responsible for investigating and sanctioning infringements (Consob, 2018a). In more detail, Table 1 lists the main requirements introduced by Legislative Decree no. 254/2016, implementing Directive 2014/95/EU.

Table 1: The main requirements of Legislative Decree no. 254/2016	
Entities obliged	According to Article 16 of Legislative Decree no. 39/2010 (Official Gazette 2010), "public interest entities," such as: issuers of securities traded on Italian or European regulated markets; banks (and other financial intermediaries); insurance companies (and reinsurance companies) are obliged to disclose non-financial information.

Dimensional requirements	The new disclosure requirements apply to "public interest entities" that exceed (Consob 2018b): 500 employees on average during the fiscal year; and at least one of the following thresholds at the end of the fiscal year: €20,000,000 total net asset value; €40,000,000 total net revenues from sales and services.
Contentofnon-financial statements (NFS)	According to Article 19a of Directive 2014/95/EU– in line with Consob (2018b) – NFS include: a brief description of the undertaking's business model; a description of the policies pursued by the undertaking in relation to those matters, including due diligence processes implemented; the outcome of those policies; the principal risks related to those matters linked to the undertaking's operations including, where relevant and proportionate, its business relationships, products or services which are likely to cause adverse impacts in those areas, and how the undertaking manages those risks; non-financial key performance indicators relevant to the particular business. The non-financial information may be contained in the Annual Report or in another separate report, such as the Integrated Report, Sustainability Report, etc.
Reporting standard	Issued by national, international, or supranational authorities. Companies adopt an independent reporting methodology, providing a clear and articulate description of the methodology and the reasons for its adoption (Consob, 2018b).

Source: Our elaboration from Consob (2018b); Official Gazette (2010); Directive 2014/95/EU (2014).

The EU Directive could represent an opportunity for Italian banks to promote sustainable practices and could provide a benchmark for those Italian banks that do not fall under the requirements of the EU Directive, encouraging a synergistic effect.Thus, the EU Directive requires that non-

financial information be disclosed in a structured reporting system and promotes the completeness of information on sustainability (Carini et al., 2018). In the literature the idea was accepted that the regulation improves the quality and comparability of non-financial statements (Degaan 2002), in line with the aim of Directive 2014/95/EU. This idea has been affirmed by several studies that confirm the relationship between mandatory declaration and the quality of non-financial disclosures (Crawford & Williams, 2010; Wang & Li, 2016).

Prior to the entry into force of Legislative Decree no. 254/2016, Italian banks disclosed non-financial information due to pressure from stakeholders, as confirmed in the literature (Logsdon & Lewellyn, 2000; Rasche & Esser, 2006). Thus, Herremans, Nazari, and Mahmoudian (2016) underlined that the diversity in sustainability reporting adopted by companies is based on their relationships with stakeholders.

Non-financial reporting in Italian banks: A focus on institutional websites

This section provides an overview of a sample of Italian listed banks regarding disclosure practices and approaches to non-financial information, after the entry into force of Legislative Decree No. 254 of 2016, which implements the European regulation (Directive 2014/95/EU).

By using a multiple case-study approach, we explore the emerging disclosure of non-financial information on institutional websites and we list non- financial information reports.

According to data available on the Milano Finanza website (https://www.milanofinanza.it/quotazioni/ricerca/capitalizzazioni?pagina=4&refresh_ce), we selected the first eight Italian banks by total assets and market capitalization.

Table 2 lists non-financial reporting by banks and highlights the main changes between mandatory and voluntary reporting.

Table 2 Non-financial reporting in banks

Italian banks	Mandatory reporting	Voluntary reporting
Intesa Sanpaolo	2017 Consolidated Non-Financial Statement (see: http://www.group.intesasanpaolo.com/scriptIsir0/si09/sosteni bilita/eng_wp_sostenibilita.jsp#/sostenibilita/eng_bila ncio_soc iale.jsp)	Stakeholder Engagement 2007–2009 (available for 2010) Stakeholder Engagement in Intesa Sanpaolo (available from 2011 to 2013) Environment Paper (available from 2011 to 2012) The Value of Sustainability (available for 2013) StakeholderEngagementandImprovementObjectives (available from 2014 to 2017) Community Paper (available from 2015 to 2017) Environment Paper (available for 2015) (see: http://www.group.intesasanpaolo.com/scriptIsir0/si09/sostenib ilita/eng_wp_sostenibilita.jsp#/sostenibilita/eng_archi vio_bs.js p)
UniCredit	2017 Integrated Report (see:https://www.unicreditgroup.eu/it/a-sustainable-bank/sustainability-reporting.html?topmenu=INT-TM_SUS03_it102).	Social and Environmental Report (available from 2000 to 2005) Human Resources and Corporate Social Responsibility (available for 2006) Sustainability Report (available from 2007 to 2013) Integrated Report (available from 2014 to 2016) IntegratedReportSupplement(availablefrom2014to 2016) (see:https://www.unicreditgroup.eu/it/a-sustainable-bank/sustainability-reporting.html?topmenu=INT-TM_SUS03_it102)
Mediobanca	On 15 June 2018, the Group makes not available the last non-financial statement	GroupSustainabilityReportinAnnualAccountsand Report (available for 2016) (see:https://www.mediobanca.com/en/sustainability/documents- indexes.html)
Mediolanum	ConsolidatedNon-FinancialStatementinConsolidated Financial Statement 2017 (see:https://www.bancamediolanum.it/corporate/investors/docume nti)	Social Report (available from 2006 to 2014) Sustainability Report (available from 2015 to 2016) (see:https://www.bancamediolanum.it/corporate/responsabilita- sociale)
Ubi	ConsolidatedNon-FinancialDeclarationin2017 Sustainability Report (see:https://www.ubibanca.it/pagine/Sustainability-Report- EN-5.aspx)	Social Report (available from 2007 to 2014) Sustainability Report (available from 2015 to 2016) (see: https://www.ubibanca.it/pagine/Social-Report-archive- EN.aspx)
BPM	Consolidated Non-Financial Statement 2017 (see:https://www.bancobpm.it/investor-relations/financials/?lang=en)	Social Responsibility Report (available from 2008 to 2013) Sustainability Report (available from 2014 to 2015) Sustainability Report (available for 2016) (see:http://www.gruppobpm.it/en-ist/social-responsibility/social-responsibility-reports.html)

MPS	Consolidated Non-Financial Statement in Annual Report 2017 (see: https://www.gruppomps.it/en/investor-relations/financial- results/financial-results-year-2017.html)	Socio-Environmental Report (available from 2001 to 2004) Social & Environmental Report (available for 2005) Social Responsibility in MPS Banking Group (available for 2006) The Social Responsibility of MPS Group (available for 2007) Social Responsibility in the MPS Group (available from 2008 to 2011) Sustainability Report (available for 2012) SustainabilityReportinAnnualReport(availablefrom 2013 to 2014) (see:https://www.gruppomps.it/en/sustainability/report.html)
Banca Generali	Sustainability Report 2017 (see: http://www.bancagenerali.com/site/en/home/sustainability/sus tainability-report.html)	Sustainability Report (available from 2009 to 2016) (see: http://www.bancagenerali.com/site/en/home/sustainability/sus tainability-report/archive.html)

Source: Our elaboration from banks' official websites (last consulted 15 June 2018)

From the exploratory analysis, Table 2 underlines that the sample of Italian banks pay attention to environmental and social issues. Thus, the banks have published several voluntary reports in order to capture this type of information outside the traditional financial statements.

With reference to mandatory reporting – in accordance with Legislative Decree no. 254 of 2016 – each bank makes available an NFS, although they are called different things, and the same for banking institutions (Intesa Sanpaolo, UniCredit, BPM, Banca Generali), which separate NFS from the consolidated financial statement.

The sample of banks through their official websites provide several pieces of data and information about their engagement in the topic of sustainability, as shown in Table 3.

Table 3 Italian banks' official websites

Italian banks	Non-financial information section
Intesa Sanpaolo	There is a Sustainability section. In this part, there is a subsection entitled Consolidated Non-Financial Statement (see:http://www.group.intesasanpaolo.com/scriptIsir0/si09/sostenibilita/eng_bilancio_sociale.jsp#/sostenibilita/eng_wp_so stenibilita.jsp)
UniCredit	There is a Sustainability section. In this part, there is a subsection entitled Reports where the 2017 Integrated Report is made available (see: https://www.unicreditgroup.eu/en/a-sustainable-bank/sustainability-reporting.html?topmenu=INT- TM_SUS03_en098)
Mediobanca	There is a Sustainability section. In this part, there is a subsection entitled Documents where the Group Sustainability Report is made available (see: https://www.mediobanca.com/en/sustainability/index.html)
Mediolanum	There is a Statement and Presentations subsection in the Investor Relations section where the 2017 Consolidated Non- Financial Statement is made available (see: https://www.mediobanca.com/en/sustainability/documents-indexes.html)
Ubi	There is a Social Responsibility section. In this part, there is a Non-Financial Declaration subsection where the Consolidated Non-Financial Declaration is made available in the 2017 Sustainability Report (see: https://www.ubibanca.it/pagine/Sustainability-Report-EN-5.aspx)

BPM	Before the Banco Popolare (BP) and BPM merger, the website is structured as follows: there is a Social Responsibility section in which there is a Social Responsibility Reports subsection (see: http://www.gruppobpm.it/en-ist/social- responsibility/social-responsibility-reports.html) There is a Non-Financial Reports subsection where the Consolidated Non-Financial Statement 2017 is made available (see: https://www.bancobpm.it/sostenibilita/report-non-finanziari/)
MPS	There is a Sustainability section. In this part, there is a Report subsection where the 2017 Consolidated Non-Financial Statement is made available (see: https://www.gruppomps.it/en/sustainability/report.html)
Banca Generali	There is a Sustainability section. In this part, there is a Sustainability Report subsection where the Sustainability Report 2017 is made available (see: http://www.bancagenerali.com/site/en/home/sustainability/sustainability-report.html)

Source: Our elaboration from banks' official websites (last consulted 4 June 2018)

Italian banks' official websites are a key tool to improve the relationship with stakeholders and to create long-term value. Thus, the sample of banks have a specific section on their official websites regarding their social and environmental commitment, where they communicate non- financial information in order to ensure transparency in their relationships with stakeholders.

Conclusions and future line of research

This work investigated the disclosure of non-financial information in banking institutions, which is extremely interesting because it has become part of mandatory corporate reporting. We found it constructive to propose an exploratory analysis of the main challenges in Italian banks – subsequent to the entry into force of Legislative Decree no. 254/2016, implementing Directive 2014/95/EU – as reflected on their institutional websites and in their non-financial reports.

Our exploratory study focuses on a sample of Italian banking groups, and therefore the results cannot be generalized, but they give hints regarding the trends among Italian banks on this issue and are encouraging for further studies in this field. According to the literature, our work suggests that mandatory corporate reporting improves the quality and comparability of non-financial information disclosure, because voluntary disclosure may lack completeness, accuracy, and neutrality. The results show that the large banks are actively involved in corporate disclosure of non-financial information. In greater detail, it is important to underline that the majority of banks have for a long time been paying attention to environmental and social issues, such as Intesa Sanpaolo, Unicredit, and so on.Thus, all this allows us to predict that banks voluntarily disclose several non-financial information reports in order to respond to stakeholders' needs.

As has emerged from the exploratory analysis, it should be noted that all banks voluntarily dedicate a section on their official websites to sustainability to prove their commitment to environmental and social topics.

Concerning future research, the next study could consider a larger sample of banks. In more detail, the use of a larger number of banks, including other European as well as Italian banks, could allow comparison of several banks in order to capture the differences and similarities. Finally, it is important to understand how cooperative banking groups disclose non-financial information to stakeholders.

References

[1] Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The qualitative report*, *13*(4), 544-559.

[2] Bhasin, M. L., Makarov, R., & Orazalin, N. S. (2015). Determinants of voluntary disclosure in the banking sector: An empirical study.

[3] Carini,C.,Rocca,L.,Veneziani,M.,&Teodori,C.(2018).Ex-AnteImpactAssessmentofSustainabilityInformation–TheDirective 2014/95. *Sustainability*, *10*(2), 560.

[4] Castaldo, S., Perrini, F., Misani, N., & Tencati, A. (2009). The missing link between corporate social responsibility and consumer trust: The case of fair trade products. *Journal of business ethics*, *84*(1), 1-15.

[5] Consob (2017). Report on corporate governance of Italian listed companies. http://www.consob.it/documents/46180/46181/rcg2017.pdf/7846a42b- 1688-4f45-8437-40aceaa2b0e3. Accessed 04 June 2018.

[6] Consob (2018a). Regulation implementing legislative decree 254 of December 30 2016 relating to reporting information of a non-financial nature. https://www.google.it/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwi3pKyVrLzbAhUDXsAKHbxwCAoQFggoMAA

[7] &url=http%3A%2F%2Fwww.consob.it%2Fweb%2Fconsob-and-its-activities%2Flaws-and regulations%2Fdocumenti%2Fenglish%2Flaws%2Freg20267e.pdf&usg=AOvVaw0AOiiNj1-85atUHX1ok21I. Accessed on 5 June 2018.

[8] Consob (2018b). Explanatory Report of the results of the consultation, the consequences on the regulation on the activities of businesses and workes and the

[9] interests of investors and savers.https://www.google.it/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwia_brU8rzbA hUmJJoKHR3TAhYQFggqMAA&url=http%3A%2F%2Fwww.bibliotecabilanciosociale.it%2Fwp-content%2Fuploads%2Frelazione- illustrativa.pdf&usg=AOvVaw0oXUBzk0chyRFJ_u1aE0gz. Accessed on 5 June 2018.

[10] Crawford, E. P., & Williams, C.C. (2010). Should corporate social reporting be voluntary or mandatory? Evidence from the banking sector in France and the United States. *Corporate Governance: The international journal of business in society*, *10*(4), 512-526.

[11] Deegan, C. (2002). Introduction: The legitimising effect of social and environmental disclosures–a theoretical foundation. *Accounting, Auditing & Accountability Journal*, *15*(3), 282-311.

[12] Deegan, C. and Unerman , J.(2011). Financial Accounting Theory. Second European Edition, McGraw-Hill.

[13] Directive 2014/95/EU(2014).Directive 2014/95/EUoftheEuropeanParliamentandoftheCouncilof22October2014.https://eur- lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0095. Accessed on 5 June 2018.

[14] Godfrey, P. C., Merrill, C. B., & Hansen, J. M. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic management journal*, *30*(4), 425-445.

[15] Hancock, D. R., & Algozzine, B. (2016). *Doing case study research: A practical guide for beginning researchers*. Teachers College Press. Herremans, I. M., Nazari, J. A., & Mahmoudian, F. (2016). Stakeholder relationships, engagement, and sustainability reporting. *Journal of Business Ethics*, *138*(3), 417-435.

[16] Kristandl, G., & Bontis, N. (2007). The impact of voluntary disclosure on cost of equity capital estimates in a temporal setting. *Journal of Intellectual Capital*, *8*(4), 577-594.

[17] Kristofik, P., Lament, M., & Musa, H. (2016). The reporting of non-financial information and the rationale for its standardisation. *E+ M Ekonomie a Management*, *19*(2), 157.

[18] Logsdon, J. M., & Lewellyn, P. G. (2000). Expanding accountability to stakeholders: Trends and predictions. *Business and Society Review*, *105*(4), 419-435.

[19] Murphy, L., & Hogan, R. (2016). Financial Reporting of Nonfinancial Information: The Role of the Auditor. *Journal of Corporate Accounting & Finance*, *28*(1), 42-49.

[20] OfficialGazette(2010).LegislativeDecreeno.39of27Jenuary2010. http://www.gazzettaufficiale.it/atto/serie_generale/caricaDettaglioAtto/originario?atto.dataPubblicazioneGazzetta=2010-03- 23&atto.codiceRedazionale=010G0057&elenco30giorni=false. Accessed on 5 June 2018.

[21] Rasche, A., & Esser, D. E. (2006). From stakeholder management to stakeholder accountability. *Journal of business ethics*, *65*(3), 251-267. Venturelli, A., Caputo, F., Cosma, S., Leopizzi, R., & Pizzi, S. (2017). Directive 2014/95/EU: Are Italian Companies Already Compliant?. *Sustainability*, *9*(8), 1385.

[22] Wadhwa, P. (2017). Non-Financial Reporting: The Firm and the Stakeholders. *Imperial Journal of Interdisciplinary Research*, *3*(5).

[23] Wang, K. T., & Li, D. (2016). Market reactions to the first-time disclosure of corporate social responsibility reports: Evidence from China. *Journal of business ethics*, *138*(4), 661-682.

Financial Literacy and Level of Financial Competence in Pre-University Students: a Comparison by Academic, Personal and Family Profile

Sergio Camisón-Haba
Universitat de València, Department of Business Administration, Valencia, Spain.

José Antonio Clemente Almendros
Universidad Politécnica de Valencia, Department of Business Administration, Valenia, Spain.

María Isabel Borreguero Guerra
Universidad Miguel Hernández de Elche, Department of Statistics, Mathematics and Informatics, Elche, Spain.

Abstract

The aim of this paper is to diagnose the level of personal financial knowledge of to date pre-university students in the Valencian Community, Spain. This is carried out by means of a double measure, one of which is a novel approach. First, we analyze their level of financial literacy, using the Basic Financial Literacy Test designed by the World Bank in 2012. Second, we determine their level of financial competence, enhancing the abovementioned test to a total of 17 questions, in order to provide a comprehensive view of their understanding of personal finance concepts. Both instruments were fully completed by a total of 1283 pre-university students of the Valencian Community during the 2017/2018 academic year. In both cases, comparisons were made by academic (level of studies, subjects studied and results to date) and personal profile (gender, influence level of their main role model and its activity as entrepreneur). We applied descriptive and inferential analysis techniques, such as Test t, Chi-square, Anova and Krustal Wallis. Obtained results show how groups with different academic background and achievement obtain significantly different results in both financial literacy and competence tests; however, when breaking down different measures of the former academic profile, results are heterogeneous. Finally, we find, with little exceptions, no significant differences between different personal profiles.

Keywords: financial literacy, financial competence, pre-university education, personal finance

Introduction

How transcendental financial decisions are can be denied, as our lives are highly influenced by them in our roles as workers, consumers, investors, savers, entrepreneurs or taxpayers. Everyday matters such as the purchase of an article, require of an analysis of the conditions of sale given by the price, the possible discounts, the relationship between cost and quality and its comparison with competitive products, among other factors, in order to make the most rational decision. All this justifies the need for population to resolve their financial ignorance gaps that have prevented them from making the best decisions.

The adoption of financial decisions requires the possession of a series of skills and the deployment of a certain set of behaviors by the consumer or the investor, in order to obtain satisfying results. The most frequently used concept to appoint the activity or process carried out to achieve these requirements, the resulting product or the level of instruction achieved, is generally that of financial education.

According to what the OECD (2005) outlines in its *"Recommendation on principles and good practices for education and financial awareness"*, financial education is conceived as "the process by which financial investors and consumers improve their understanding of products, concepts and financial risks and, through information, teaching and / or objective advising, develop skills and confidence required to achieve the highest level of awareness of financial risks and opportunities, make informed decisions, know where to turn up for help and carry out any effective action to improve their financial wellness".

However, financial competence reaches a greater magnitude, to the extent that citizens considered financially literate can exhibit different levels of financial knowledge.

The analysis of the existing literature on the impacts of financial education on knowledge and behavior in finance, as well as the contingent variables that influence its effectiveness, allow us to gather the factors that must be taken into account when explaining the level of both literacy and financial competence among citizens.

This paper analyzes several of these personal and academic factors as generating elements of a mayor financial knowledge, measured as financial literacy and financial competence, for pre-university students of the Valencian Community, Spain in the academic year 2017-2018.

Conceptual framework

Both the European Commission (2007d) and the OECD (2008), as well as a flood of subsequent studies (eg, Gnan, Silgoner & Weber, 2007, Stango & Zinman, 2009, Lusardi & Mitchell, 2011a, Caballero & Tejada, 2014, Hospido, Villanueva & Zamarra, 2015), share the enumeration of personal benefits (for all ages and income levels), as well as benefits for the economy as a whole, that emerge from an adequate level of financial education.

Financial education has a positive impact on financial knowledge both in developed (Danes, Huddleston-Casas & Boyce, 1999, Bernheim, Garrett & Maki, 2001, Swinton, DeBerry, Scafidi & Woodard, 2007, Waldstad, Rebeck & MacDonald, 2010, Batty, Collins & Odders-White, 2015, Lührmann, Serra-García & Winter, 2015) and developing nations (Bruhn, de Souza, Legovini, Marchetti & Zia , 2013, Jamison, Karlan & Zinman, 2014, Berry, Karlan & Pradhan, 2015).

These personal benefits are materialized as financial education helps youth developing their savings, investment, critical reasoning and problem-solving skills (Varcoe, Martin, Devitto & Go, 2005, Lusardi & Mitchell, 2009). In addition, it helps to plan savings necessary to cover future needs (for example for retirement) or unexpected situations (Lusardi & Mitchell, 2009, 2011b, Xu & Zia, 2012).

Greater financial knowledge is also associated with prudential behaviors such as the diversification of the investment portfolio or the prevention of over-indebtedness (Christelis, Jappelli & Padula, 2010, Van Rooij, Lusardi & Alessie, 2011, Lusardi & Tufano, 2015), even in young people (Brown, Van der Klaauw & Zafar, 2013). It does also help obtaining products such as mortgages and loans with lower interest and commission costs (Disney & Gatherwood, 2013, Lusardi & Tufano, 2015).

In addition to the abovementioned personal benefits, financial education brings important general economic benefits, which can be spilled in the four classical aspects of economic analysis: allocation of resources, economic stability, economic development and distribution (Domínguez, 2017).

With regard to the allocation of resources, financial education has been recognized as a public good because of its specific characteristics: joint consumption (non-rivalry in consumption) and the impossibility of avoiding its enjoyment by anyone within the territorial scope where the service is offered.

Regarding economic stability, financial education favors greater protection for users of financial services, because greater financial education induces the providers of such services to respect ethical practices and to discard bad practices that reduce the creation of value (Caballero & Tejada, 2014: 120). Research on the effectiveness of previous professional advising for house purchasing among low-income citizens in the United States shows that the consumers of this service have a 13% lower level of delinquency on average (Hirad & Zorn, 2001).

Economic development is enhanced by stimulating the approach of viable business projects by investors better prepared financially and with an entrepreneurial vocation that can result in greater entrepreneurship, in promoting innovation and in higher economic growth (OECD INFE, 2015, Lusardi, 2015). From a macroeconomic point of view, the development of complete, advanced and transparent financial markets stimulates the aggregate growth of the economy. It is well established in the economic literature (Greenwood & Jovanovic, 1990, Levine, 1997, 2005, Beck, Kunt & Levine, 2007) that financial development produces faster growth by improving the capital allocation.

Finally, regarding distribution, financial education helps eliminate or mitigate another market failure: the problems of financial exclusion (Villasenor, West & Lewis, 2016: 18 Atkinson & Messy, 2013, Sánchez & Rodríguez, 2015, Chakrabarty, 2012). Ignorance of basic financial issues considerably reduces the probability of people's participation in financial markets

(Van Rooij, Lusardi & Akessie, 2011). Financial education collaborates in mitigating the high financial costs associated with illiteracy in this area (Lusardi & Mitchell, 2014: 24) and is therefore crucial to the development of more complete, advanced and transparent financial markets, resulting in the reduction of poverty and income inequality among families (Lusardi, Michaud & Mitchell, 2013).

The evaluation of the positive impact of financial education initiatives is, however, extremely complicated because the variables that can measure their effects (such as the delinquency rate or the volume of financing available) are influenced by a broad amount of forces whose individualization is not an easy task. The analysis of the effectiveness of financial education has served to illustrate the factors associated with the acquisition of financial knowledge, which include, together with the educational system, other factors related to the family environment and the personal profile of the students, which may explain 80% of the total variance of the results (Moreno, Campillo & Salas-Velasco, 2015).

Within the personal profile, gender has stood out as a discriminating variable, with men achieving better results both among the adult population (Bucher-Koenen et al., 2014, Lusardi & Mitchell, 2008) and among the youth (Mandell, 2008, Lusardi & Mitchell, 2009, Lusardi, Mitchell & Curto, 2010, INEE, 2014a, b, 2017, Cordero & Pedraja, 2016a).

The family economic context also plays an important role in explaining the financial knowledge of youth, according to international evidence (Lusardi & Mitchell, 2009, Lusardi, Mitchell & Curto, 2010, Lusardi & Mitchell, 2014, Van Rooij et al, 2011, 2012, INEE, 2014a, b).

The type of school (public versus private or concerted) has also been investigated without finding, after considering the specific profile of the students for each center, significant differences in the results achieved in the financial knowledge tests (Mancebón & Pérez, 2014, Cordero & Pedraja, 2016a).

The social environment both in and outside the school has been similarly analyzed because from this environment arises valuable social and cultural capital. The peer effect has been identified as highly explicative of the student's financial knowledge (Cordero & Pedraja, 2016a), increasing the intensity of the effect when the school is below the average performance (Albert, Neira and García-Aracil, 2014). On the other hand, other contextual factors such as the group of friends seem to be less important (Pinto, Parente & Mansfield, 2005).

Finally, the level of financial literacy is influenced by the socioeconomic characteristics of the population, including the level of GDP per capita (Klapper, Lusardi & Oudheusden, 2015). There is a positive relationship between per capita income and financial education, but only for the 50% economies with the highest standard of living. In these economies, 38% of the variation in the financial literacy rate is explained by per capita income.

The debate about the correlation between the degree of financial knowledge and certain practices in the management of personal finances has even led to recognizing problems when establishing the sense of causality (Lusardi, 2011: 45). Hastings, Madrian & Skimmyhorn (2012: 15) and question whether it is financial education that leads to behaviors that generate better economic results, or on the contrary, certain financial behaviors are the ones that leads to a better instruction in the field, as a manifestation of the well-known learning by doing effect. However, Lusardi & Mitchell (2014: 34) reaffirm the thesis that causality flows from financial education to financial behavior, relying on studies based on instrumental variables and experimental-type ones.

Another criticism is done against the early introduction of financial education in the school curriculum based on its limited usefulness, since its distance from the moment of real application will lead to this knowledge to be diluted when its actually needed (McDermott, 2014, Eley, 2014). The supporters of this thesis believe that it would be more fruitful to divert the resources allocated to financial education towards mathematical training (Webb, 2014).

Database

The universe of the empirical study are young people living in the Valencian Community who have completed compulsory and non-compulsory secondary education or a Vocational Training cycle of basic or higher education.

To accurately diagnose their educational level, this students group has been divided into five segments: (a) students who have completed compulsory secondary education (ESO); (b) students who have completed the secondary school cycle through Baccalaureate; (c) students who have completed an cycle of basic Vocational Training; (d) students who have completed a cycle of higher Vocational Training; (e) students who have completed the first two years of a university degree in Social and/or Legal Sciences. This last group of undergraduate students, despite not being studied in this paper, gives us have a balanced sample that allows, in future work, to analyze the evolution of financial education for young people who are taking degrees university students in the field of economic, business or legal sciences.

The selection of the sample has responded to criteria of representativeness in order to achieve a selection proportional to the existing population level by educational cycles and territory. The sample has been stratified taking into account the student population in each training cycle and the weight of them in each of the provinces, as well as the specific weight of each province on the autonomous total.

The size of the sample representative of the population to be studied has been fixed with the following formula, which is the one commonly accepted when the population size is known:

$$n = \frac{k^2 * N * p * q}{e^2 * (N-1) + (k^2 * p * q)}$$

being:

n: sample size.

N: size of the universe.

k: constant that depends on the confidence level (probability of results of the study to be true). This level has been established at 95% (which means that the probability of erring is 5%), corresponding to a value of k equal to 1.96.

e: desired sample error. It represents the difference between the result obtained by asking a sample of the population and the one that would be obtained by asking the total of the universe. The desired margin of error is 3%

p: proportion of individuals within the population that possess the property investigated. This data is generally unknown, taking as a convention the safest option that is: p = q = 0.5.

p: proportion of individuals who do not possess this characteristic, which will be: q = 1-p = 0.5.

Table 1: Students who completed training cycles of primary, secondary and university education in social and legal sciences degrees in each province of the Valencian Community, 2014-15 academic year (Source: Valencian Institute of Statistics, from the Ministry of Education, Culture and Sport. Statistics of non-university and university education)

Province	Number of students who finished the cycle					
	ESO	Baccalaureate *	Basic Vocational Training	Higher Vocational Training *	University Studies Social and Legal Sciences**	Total
ALICANTE	11.620	8.247	4.457	3.894	2.832	31.050
CASTELLÓN	3.658	2.609	1.691	1.376	1.113	10.447
VALENCIA	17.410	11.847	7.017	8.406	4.353	49.033
VALENCIAN COMMUNITY	32.688	22.703	13.165	13.676	8.298	90.530
	% of the total students who finished a cycle					
Province	ESO	Baccalaureate	Basic Vocational Training	Higher Vocational Training	University Studies Social and Legal Sciences	Total
ALICANTE	12,84%	9,11%	4,92%	4,30%	3,13%	34,30%
CASTELLÓN	4,04%	2,88%	1,87%	1,52%	1,23%	11,54%
VALENCIA	19,23%	13,09%	7,75%	9,29%	4,81%	54,16%

VALENCIAN COMMUNITY	36,11%	25,08%	14,54%	15,11%	9,17%	100,00%

* Students who have completed these cycles by distance mode are not included.

** Given that data is not available for students enrolled or graduates according to the year of the degree they are studying or have finished, we have taken as data the students graduated in undergraduate studies of the branches cited in public universities.

According to the information provided by the Ministry of Education, Culture and Sports, the number of students who completed their studies at each level in the 2014-15 academic year (the last one for which complete data was provided on the date of consultation) by provinces is the indicated in Table 1.

Therefore, the population under study is 90,530 young people who had completed some secondary or higher education cycle of the type cited in centers of the Valencian Community. The representative sample size of this universe with the established reliability parameters (95% confidence level with a sampling error of ± 3%) is 1,055 people.

However, it is also desired the sample to be representative of the population distribution by province and training cycle, that is, that corresponds to the specific weights of the students of each cycle on the total of students in each province and with the proportion between students of the different cycles and between the three provinces. Table 3 already gives us that distribution of the universe in percentage terms. Applying these percentages to the chosen sample size, we have obtained the number of surveys to be carried out for each group in total and in each province of the Valencian Community (Table 2).

Table 2: Number of surveys to be carried out according to the sample size and the desired stratification by province and training cycle (Source: own elaboration)

Province	ESO	Baccalaureate	Basic Vocational Training	Higher Vocational Training	University Studies Social and Legal Sciences	Total
ALICANTE	135	96	52	45	33	362
CASTELLÓN	43	30	20	16	13	122
VALENCIA	203	138	82	98	51	571
VALENCIAN COMMUNITY	381	265	153	159	97	1.055

If we also want the sample size for students who follow each training cycle in each province to have a level of significance and a margin of error similar to those of the total sample, in order to compare each segment with the same levels of exigence, it is necessary to increase the number of surveys to be completed by those levels with a lower initial surveys objective. Given this objective, there has been an increase in the number of surveys to be carried out to students in the vocational training cycles in the intermediate and higher levels and to those who study in the social sciences and legal sciences in the three provinces, as well as to the students of the province of Castellón. In order to maintain the significance of the total sample, without the representativeness in each segment deteriorating, it will be necessary to carry out 1,448 surveys, with the sample distribution established in Table 3.

Table 3: Number of surveys to be carried out according to the sample size and the desired stratification corrected by province and training cycle (Source: own elaboration)

Province	ESO	Baccalaureate	Basic Vocational Training	Higher Vocational Training	University Studies Social and Legal Sciences	Total
ALICANTE	135	98	90	76	90	490
CASTELLÓN	43	31	34	27	35	170
VALENCIA	203	140	142	164	138	788

VALENCIAN COMMUNITY	381	269	267	267	264	1.448

The empirical study has required the design of a survey that serves as the basis for the collection of information and the measurement of the variables on which the diagnosis is desired. The questionnaire consists of 71 questions and the average time to complete it was 45 minutes. For the present work, however, only part of this questionnaire has been used. In particular, certain questions regarding the personal, academic and family profile, as well as the questions related to the finance knowledge test. This abbreviated version of the questionnaire can be found in Annex 1.

The questionnaire also incorporates several questions aimed at shaping the personal, familiar and academic profile of the students, as well as their learning strategies and their motivations and expectations. The selection of this group of variables has been inspired by the results of previous research on the determinants of educational performance, as has been done in previous studies (Molina, Marcenaro & Martín, 2015, Cordero & Pedraja, 2016a, b). The characteristics of the educational center (type of school -public or private-, location, size, etc.) have been captured directly from information provided by the institution itself.

The number of valid surveys finally received and processed has risen to 1,607. The sample collected is important and highly significant, if we take into account that the PISA 2012 report was developed on a sample of 1,050 students belonging to 170 educational centers. After the data collection, the database was cleaned, eliminating those observations in which the amount of unanswered questions was greater than 20%. The total number of surveys available after this purification is 1,571, of which 1,282 correspond to pre-university education and are therefore subject to empirical exploitation in this report.

This sample guarantees compliance with confidence levels and established error margins, both for the whole population studied and for the differentiated segments by type of study and province. As can be observed in the sample distribution indicated in Table 4, the number of surveys obtained for each stratum of the sample has exceeded the minimum size pre-set. The results can then be considered a faithful and statistically significant reflection of the universe studied.

Table 4. Number of surveys that make up the final sample and its distribution by level and province (Source: own elaboration)

Province	ESO	Baccalaureate	Basic Vocational Training	Higher Vocational Training
ALICANTE	194	207	98	499
CASTELLÓN	106	87	40	233
VALENCIA	312	377	150	839
VALENCIAN COMMUNITY	611	671	288	1.571

Variables and segmentation

Financial literacy: financial literacy is a dichotomous variable that takes the value 1 when the student has answered correctly, at least, 3 out of the first 5 questions of the test, while taking the value 0 when the number of correct answers is 2 or less.

Financial competence: the level of financial competence corresponds to the percentage of correct answers over the total number of questions, resulting from the division of the number of correct answers between 17.

For the analysis of the data, the database has been segmented based on various criteria. The groups generated have been carried out taking into account two criteria. On the one hand, different groups have been drawn up based on the student's academic profile, being segmented by level of studies to date (compulsory studies / intermediate studies), results obtained to date (excellent / high / medium / low / poor) and for having completed or not each of the subjects presented in the curricula in ESO, Vocational Training and Baccalaureate. On the other hand, the study has been segmented based on the personal profile, by gender, income level of the family, level of influence of the role model and business activity of the latter.

The answers are therefore segmented based on 7 criteria, which constitute the basis for the subsequent analysis of the results obtained, for which the following criteria have been taken into account:

Students with a compulsory level of education are those who have completed Compulsory Secondary Education or a module of Basic Vocational Training, while those with higher education are those who have completed the Baccalaureate or a module of Higher Vocational Training and have therefore gained access to the University.

The study of each of the subjects corresponds to a dichotomous variable that takes value 1 when the student has taken the course and value 0 when this same subject has not been taken.

The level of academic results to date corresponds to the student's response to this same question in the questionnaire, so that it is a subjective variable.

To obtain the level of influence of the role model, students have been asked about the level of implication of their role model in various aspects of their academic life. From the sum of the responses to each of the dimensions, the variable level of influence is constructed. When ordering from highest to lowest, students located in the first tercile are those with a high level of influence, those located in the second correspond to a medium level of influence and those present in the last tercile imply a low level of influence.

The gender, family income level and role model activity as an entrepreneur or not are direct answers of the student in the questionnaire.

Analysis of data and results

The descriptive analysis of the results allows us to obtain the financial literacy level of the surveyed students, which is shown in Table 5: 67% of the students have answered 3 or more questions and are therefore financially literate. Thus, 17% of students have answered all the questions, while 22.4% and 27.6% have answered 4 and 3 questions respectively. With regard the non-literate, 19.3% have answered 2 questions, while 10.1% and 3.7% have scored 1 and no questions respectively.

Table 5: Distribution of students by number of correct answers in questions 1 to 5 of the test and level of financial literacy (Source: own elaboration)

Number of righ answers	Students	(%)
0	48	3,7%
1	129	10,1%
2	247	19,3%
3	354	27,6%
4	287	22,4%
5	218	17,0%
Financial literacy (3/4/5)	859	67,0%

When analysing the results of the questionnaire as a whole, obtaining the results of financial training, a clear decrease in the performance of the students is observed. In fact, only 612 of the 1283 students have appropriately responded more than half of the questions, which would imply passing the evaluation, in an assessment from 0 to 10. This result leads to a level of average financial training of the students of 47.7%, less than 50%. Table 6 shows the distribution of students by number of correct answers and allows to observe that only one of the 1283 students was able to respond correctly all the questions, while 60 students answered correctly 2 or fewer answers, which implies a score barely higher than 1 in the best case.

Table 6: Distribution of students by number of correct answers in questions 1 to 17 of the test and level of financial competence (Source: own preparation)

Number of right answers	Students	Level of Financial Competence	(%)
0	21	0,0%	1,6%
1	12	5,9%	0,9%
2	27	11,8%	2,1%
3	57	17,6%	4,4%
4	75	23,5%	5,8%
5	85	29,4%	6,6%
6	118	35,3%	9,2%
7	139	41,2%	10,8%
8	137	47,1%	10,7%
9	126	52,9%	9,8%
10	127	58,8%	9,9%
11	121	64,7%	9,4%
12	74	70,6%	5,8%
13	72	76,5%	5,6%
14	53	82,4%	4,1%
15	29	88,2%	2,3%
16	9	94,1%	0,7%
17	1	100,0%	0,1%
Average level of financial competence	612	47,70%	

Regarding the success rates by questions, the results allow us to observe how certain aspects of personal finances are widely understood and internalized by the majority of the students, while other concepts present certain success rates that are certainly worrisome. Inflation and the calculation of total and unit costs rise as the best understood concepts, while savings planning, the determination of the risk profile and the hierarchy of financial obligations are the least understood concepts.

Table 7: Success rates by concepts associated with questions (Source: own elaboration)

Concept	Sucsess Rate (%)
Inflation and purchase power	80%
Total costs	74%
Unit costs	69%
Simple interest rate	68%
Diversification and risk managment	60%
Insurances	57%
Payrolls	55%
Compound interest rate	53%
Financial market investment	48%
Capitalization	44%

Saving planning	42%
Obligations priorization	42%
Risk profile	39%
Mortgages	30%
Income tax	29%
Loans	21%
Market prices	17%

To deepen the results, a multivariate analysis of the financial literacy and competence rates of the students has been carried out. Using the generated segments, inferential analyses have been carried out to compare the levels of financial literacy and capacity of the students. The analysis of differences of means has been used to compare the different groups and subjects taken. The assumption of normality was verified using the Shapiro-Wilk test and the assumption of homoscedasticity using the Levene test. A Kruskal Wallis test was carried out to analyse those variables that did not meet the normality condition. For those variables that did meet this condition, an Anova test was carried out, with the subsequent Tukey post-hoc tests. We have worked with Stata 14.2, both for descriptive and inferential analysis, always considering a level of statistical significance of 5%.

This analysis has allowed us to obtain relevant conclusions as well as helps to understand what the particularities and characteristics of the academic and personal environment of the student that are generate groups with significant differences in their level of financial literacy and competence

The analysis of our results reveals a high degree of heterogeneity in the differences found among groups. While on the one hand, the academic profile appears to be a clear determinant of results at the level of financial literacy and competence, on the other hand robust differences between students for different educational levels, subjects taken, or results obtained have been found. Conversely, virtually no significant differences by personal profile have been found, but only by gender. In any case, there are no differences by income levels, role model influence or businessman role. This gives special relevance to the work in the classrooms and the academic training as determinants of the financial literacy and competence of Valencian youth.

However, this variability is not relegated to the differentiation between academic profile and personal profile. There is still evident heterogeneity within the academic profile. Thus, compulsory education students (those who have completed compulsory education or basic vocational training) have literacy and competence rates of 56.7% and 41.4% respectively, while students with intermediate studies (high-school and higher vocational training), increase their results to rates of 76.6% and 55.4% respectively. (8)

Table 8: Descriptions and results of the Kruskal Wallis tests among groups by level of studies (Source: own elaboration)

	Observations	Financial literacy		Financial competence	
		Mean	Standard deviation	Mean	Standard deviation
Compulsory studies	612	0.566	0.495	0.414	0.185
Intermediate studies	671	0.763	0.425	0.554	0.197
Diferrences among segments		-0.196***		-0.139***	

Asterisks indicate the statistical significance at 0.01 (***), 0.05 (**) and 0.10 (*) levels.

This heterogeneity is also present among subjects taken (9), allowing us to obtain certain conclusions and draw future lines of work. While students who have completed the subjects of high-school (Economics in the first year and Business Economics and Fundamentals of Administration and Management in second year) present significantly higher results than those who have not completed these subjects, when analysing the level of compulsory education (ESO) and higher-basic vocational training, certain contradictions arise: some subjects present differences in favour of the students who have taken them, while others present them in favour of those who did not. Additionally, in most cases, these differences are not significant. This heterogeneity leads us to think that there are certain factors associated with students in lower-level education that contaminate the analysis by subject. Differences that can be associated with the lower age and therefore the maturity of the students or the lower interest given to the studies, given that certain of the students surveyed will surely not intend to continue their studies or, in any case, access to the University. A future analysis should introduce these particularities as potential moderating variables.

Table 9: Descriptions and results of the Kruskal Wallis test among groups that have taken or not each subject (Source: own elaboration)

	Observations		Financial literacy		Financial competence	
			Mean	Standard deviation	Mean	Standard deviation
Economy (1st year high-school)	No	805	0.624	0.484	0.454	0.195
	Yes	478	0.744	0.436	0.543	0.207
Diferrences between segments			-0.119***		-.088***	
Business Economics (2nd year high-school)	No	753	0.593	0.491	0.434	0.190
	Yes	530	0.777	0.416	0.563	0.200
Diferrences between segments			-0.183***		-0.129***	
Fundamentals of Administration and Management (2nd year high-school)	No	1092	0.646	0.478	0.470	0.200
	Yes	191	0.801	0.400	0.584	0.200
Diferrences between segments			-0.154***		-0.113***	
Business and Entrepreneurship (vocational studies)	No	1237	0.672	0.469	0.487	0.203
	Yes	46	0.586	0.497	0.483	0.221
Diferrences between segments			0.085		0.004	
Initiation to Entrepreneurial and Business Activity (1st level ESO)	No	1251	0.669	0.470	0.489	0.204
	Yes	32	0.656	0.482	0.404	0.191
Diferrences between segments			0.013		0.085***	
Initiation to Entrepreneurial and Business Activity (4th year ESO)	No	1189	0.678	0.467	0.493	0.202
	Yes	94	0.553	0.499	0.418	0.217
Diferrences between segments			0.125***		0.074***	
Economy (4th year ESO)	No	1010	0.681	0.466	0.500	0.203
	Yes	273	0.626	0.484	0.439	0.200
Diferrences between segments			0.054*		0.061***	

Financial Education (ESO)	No	1273	0.669	0.470	0.487	0.204
	Yes	10	0.7	0.483	0.470	0.186
Diferrences between segments			-0.030		0.017	

Asterisks indicate the statistical significance at 0.01 (***), 0.05 (**) and 0.10 (*) levels.

From the analysis of the differences in the results among groups by academic results obtained to date (Table 10 and Table 11) two main conclusions are obtained. First, there are significant differences globally and among the different groups analysed. Thus, the tests carried out show that the level of financial literacy and competence of students is significantly different for distinct levels of academic results (p-value 0.00 in both cases). However, when performing a post-hoc analysis by pairs, the differences obtained are concentrated in few cases. This gives us the second conclusion: in general terms, we observe how significant differences are shown in favour of students with exceptional results compared to all others and, to a lesser extent, for certain comparisons between students with high results and the rest with lower performance. However, these differences are not exhibited when analysing the results between students of medium and low performance, which indicates that only when the student has a performance significantly higher than the average in their general studies and is, therefore, extraordinary, is able to transfer it to its performance in the financial literacy and competence tests carried out.

Table 10: Descriptive for groups with different levels of academic results to date (Source: own elaboration)

	Observations	Financial literacy		Financial competence	
		Mean	Standard deviation	Mean	Standard deviation
Excellent	88	0.795	0.405	0.580	0.194
High	417	0.729	0.445	0.520	0.202
Medium	706	0.617	0.486	0.459	0.203
Low	69	0.666	0.474	0.458	0.178
Poor	3	1	0	0.549	0.206

Asterisks indicate the statistical significance at 0.01 (***), 0.05 (**) and 0.10 (*) levels.

Table 11: Results of the post-hoc tests among groups with different levels of academic results to date (Source: own elaboration)

	Financial literacy				Financial competence			
	Contrast	Std. Err.. S.d.	Tukey		Contrast	Std. Err. S.d.	Tukey	
			t	P>|t|			t	P>|t|
Medium vs Excellent	-0.177***	0.052	-3.37	0.007	-0.121***	0.022	-5.35	0.000
Low vs High	-0.062	0.060	-1.03	0.843	-0.062	0.026	-2.37	0.124
Medium vs High	-0.111***	0.028	-3.86	0.001	-0.061***	0.0124	-4.96	0.000
Poor vs Excellent	0.204	0.274	0.75	0.946	-0.031	0.118	-0.27	0.999
Medium vs Low	-0.049	0. 058	-0.83	0.920	0.000	0.025	0.02	1.000
Poor vs High	0.270	0.270	1.00	0.855	0.028	0.116	0.24	0.999
Excellent vs High	0.066	0.054	1.21	0.744	0.060	0.023	2.55	0.080
Poor vs Medium	0.382	0.270	1.42	0.618	0.089	0.116	0.77	0.938
Poor vs Low	0.333	0.275	1.21	0.746	0.090	0.118	0.76	0.941
Excellent vs Low	0.128	0.075	1.71	0.425	0.122***	0.032	3.78	0.002

Asterisks indicate the statistical significance at 0.01 (***), 0.05 (**) and 0.10 (*) levels. S.d. means Standard deviation

However, this conclusion could be certainly risky, since from an analysis of the distribution of the answers in question number 5 of the questionnaire (How would you rate your school results so far?), which has been used for the segmentation of the answers, a high bias is observed to indicate high results. Thus, while only 3 students have indicated that they had poor results, a total of 88 have indicated "excellent" results. Moreover, while 417 students have identified their results as "high", only 69 consider them "low". It is logical to think, then, that the measurement of results, of a purely subjective nature, generates a certain bias in the analysis. It is highly probable, in view of the results, that a large part of the students consider that they have obtained results superior to those indicated by reality. Future research to this publication should address this discrepancy using an objective measure of results, such as the average note of the academic record or the university access note.

Just as the student's academic profile has generated significant differences in each of its segmentations, the personal profile points in an opposite direction, showing only significant differences in the groups generated based on the student's gender. In this sense, the results show a level of financial literacy of 63.5% in women and 70.5% in men. This difference is also showed in the level of financial competence, which is reduced to 46.7% in the case of women and 50.9% in the case of men (Table 12). Although it is evident that the capacity of men and women does not present significant differences at the cognitive level, this difference is explained by the traditionally greater interest shown by the male gender in the financial sector. In fact, this difference in the level of knowledge in finance between men and women has already been found recurrently in the literature (Bucher-Koenen et al., 2014, Lusardi & Mitchell, 2008, Mandell, 2008, Lusardi & Mitchell, 2009, Lusardi, Mitchell & Curto, 2010, INEE, 2014a, b, 2017, Cordero & Pedraja, 2016a).

Table 12: Descriptive and results of the means tests according to gender (Source: own elaboration)

	Observations	Financial literacy		Financial competence	
		Mean	Standard deviation	Mean	Standard deviation
Women	639	0.635	0.481	0,467	0,008
Men	641	0.705	0.456	0,509	0,008
Differences between segments		-0,069***		-0,042***	

.

Asterisks indicate the statistical significance at 0.01 (***), 0.05 (**) and 0.10 (*) levels.

When we continue with the analysis of the differences between the different levels of monthly household income (Table 13 and Table 14), we observe how, in no case, there are significant differences. Likewise, when contrasting the influence or implication of the role model (Table 15 and Table 16), which has been classified as high, medium and low depending on whether the student was in the upper, middle or lower third in the distribution of responses to the scale proposed in the questionnaire, no significant difference has been found.

Table 13: Descriptive by groups according to the monthly income level of the household (Source: own elaboration)

	Observations	Financial literacy		Financial competence	
		Mean	Standard deviation	Mean	Standard deviation
From 1000 to 1999 Euros	399	0.656	0.475	0.494	0.202
From 2000 to 2999 Euros	337	0.658	0.474	0.489	0.207
From 3000 to 3999 Euros	188	0.771	0.421	0.492	0.184
From 4000 to 5999 Euros	94	0.680	0.468	0.495	0.205
Less than 1000 Euros	90	0.6	0.492	0.490	0.211
More than 6000 Euros	63	0.634	0.485	0.472	0.235
DK/NA	112	0.642	0.481	0.449	0.210

Table 14: Results of the ANOVA and Kruskal-Wallis test by groups according to the monthly income level of the household (Source: own calculations)

	Financial literacy		Financial competence	
	F	Prob>F	χ^2	Prob>χ^2
Levels of monthly household income	2,01	0,062	5,443	0,488

Asterisks indicate the statistical significance at 0.01 (***), 0.05 (**) and 0.10 (*) levels.

Table 15: Descriptive by groups according to the level of implication of the role model (Source: own elaboration)

	Observations	Financial literacy		Financial competence	
		Mean	Standard deviation	Mean	Standard deviation
High	481	0.681	0.466	0.492	0.205
Medium	415	0.669	0.471	0.490	0.199
Low	387	0.655	0.475	0.480	0.207

Table 16: Results of the ANOVA test by groups according to the level of implication of the role model (Source: own elaboration)

	Financial literacy		Financial competence	
	F	Prob>F	F	Prob>F
Level of implication of the role model	0,35	0,7028	0,43	0,650

Asterisks indicate the statistical significance at 0.01 (***), 0.05 (**) and 0.10 (*) levels.

Finally, the level of financial literacy and competence is analysed based on the activity as a student entrepreneur role model or not (Table 17). It is curious how, both in financial literacy and competence, students with a non-entrepreneur role model have obtained better results. This difference, however, is not significant.

Table 17: Descriptive and results of the Kruskal Wallis tests according to activity as a role model entrepreneur (Source: own elaboration)

		Observations	Financial literacy		Financial competence	
			Mean	Standard deviation	Mean	Standard deviation
Entrepreneur role model?	No	935	0.683	0.465	0.493	0.202
	Yes	341	0.636	0.481	0.476	0.208
Differences between segments			0.047		0.016	

Conclusions and practical and academic implications

The analysis carried out shows relevant conclusions regarding the level of financial literacy and competence of the students of the Valencian Community, adding additional empirical evidence on determining factors in juvenile financial education.

Firstly, it is shown that there are very significant differences among students according to their academic profile. This materializes both in the simpler group division (compulsory studies or intermediate studies) and in the division according to whether or not they have taken certain subjects. Within this second distinction, it is extracted how the students who have taken high-school subjects show a behaviour far superior to those that have not taken them. However, these differences are not always observed among students who have completed ESO or vocational training courses, which leads us to conclude that certain aspects of high-school students, essentially age, maturity and incentive, enable them to absorb from most successful way in terms of finance treated in the classroom.

This conclusion is in full agreement with a critical current against the early introduction of financial education in the school curriculum, which refers to its limited usefulness, since its distance from the moment of real application will lead to the dilution of knowledge acquired when it is going to be used (McDermott, 2014, Eley, 2014). The performance of financial education is also considered in this sense conditioned by the attitude of the student before the subject. Thus, both the self-confidence (Arellano et al., 2014) and the effort (approximated by indicators of perseverance) (Fernández de Guevara, Serrano & Soler, 2014) of the students have been identified as moderating variables of the effect of the instruction on Financial knowledge in the PISA 2012 tests in Spain

With regard to the academic results of the student, it is only verified that those with extraordinary results obtain better results than the rest. When going down to high levels of results, there is still some significant difference, but it disappears in the middle and low levels. This makes us think that we may have to obtain results that are much higher than the average to be able to transfer these more global results to specific financial tests.

With regard to the personal profile, a greater performance is observed in male students. These results point in the same line as the existing literature to date, in which gender has stood out as a discriminating variable, with men achieving better results both among the adult population (Bucher-Koenen et al., 2014, Lusardi & Mitchell, 2008) and the juvenile (Mandell, 2008, Lusardi & Mitchell, 2009, Lusardi, Mitchell & Curto, 2010). We converge to the Spanish evidence in this issue (INEE, 2014a, b, 2017, Cordero & Pedraja, 2016a). We believe that this may be due to the traditionally greater interest of the male sector in the field of finance, both personally and professionally and we believe that it is necessary to enhance the female interest in this field through activities both inside and outside the educational curriculum.

Finally, the family environment, as we have measured it, does not generate groups with significant differences among them in terms of results. Thus, the different segments generated based on the family income level have not shown different results. Likewise, those groups with a higher level of implication in the role model have not done so, nor those in which this role model was an entrepreneur.

In general terms, we detect a great significance of classroom training for the acquisition of financial competences. This has important practical implications for the teachers of both public and private pre-university institutions, since they reinforce the role of formal education as a key determinant for the development of university students with high literacy rates and high levels of financial competence.

Bibliography

[1] Albert, C., Neira, I., García-Aracil, A. (2014). Capital cultural y social: sus efectos en el conocimiento financiero según PISA 2012". En INEE (2014b). Informe español. Análisis secundario. PISA 2012 Competencia financiera, Ministerio de Educación, Cultura y Deporte, Madrid, pp. 5-23.

[2] Arellano, C., Cámara, N., Tuesta, D. (2014). The effect of self-confidence on financial literacy". BBVA Research Working Paper, nº 14/28, Fundación BBVA, Madrid.

[3] Atkinson, A., Messy, F.A. (2013). Promoting financial inclusion through financial education. OECD Working Papers on Finance, Insurance and Private Pensions, n º 34, OECD Publishing, Paris.

[4] Batty, M., Collins, J.M., Odders-White, E. (2015). Experimental evidence on the effects of financial education on elementary school students´ knowledge, behavior and attitudes. Journal of Consumer Affairs, 49(1), pp. 69-96.

[5] Beck, T., Kunt, A.D., Levine, R. (2007). Finance, inequality and the poor. Journal of Economic Growth, 12(1), pp. 27-49.

[6] Bernheim, B.D., Garrett, D.M., Maki, D.M. (2001). Education and savings: The long-term effects of high school financial curriculum mandates. Journal of Public Economics, 80(3), pp. 435-465.

[7] Berry, J., Karlan, D., Pradhan, M. (2015). The impact of financial education for youth in Ghana. National Bureau of Economic Research, Paper No. 21068.

[8] Brown, M.W., Van der Klaauw, J.W., Zafar, B. (2013). Finance education and the debt behavior of the young. Federal Reserve of New York. Staff Report, nº 634, Nueva York.

[9] Bruhn, M., de Souza, L., Legovini, A., Marchetti, R., Zia, B. (2013). Financial education and behavior formation: Large-scale experimental evidence from Brazil. Presentation World Bank, World Bank, Washington.
[10] Bucher-Koenen, T., Lusardi, A., Alessie, R., van Rooij, M. (2014). How financially literate are women? An overview and new insights. National Bureau of Economic Research, Paper No 20793.
[11] Caballero, G., Tejada, F. (2014). Nuevos retos en el sector financiero. Recuperando la confianza". In Fundación de estudios Financieros (2014), Nuevos desafíos del sector financiero: recuperando la confianza y mejorando la cultura financiera, Papeles de la Fundación, nº 52, Madrid.
[12] Chakrabarty, K.C. (2012). Financial literacy and consumer Policies. Panel Discussion on "Financial literacy and consumer protection", Washington, 22th april, BIS Central Bankers Speeches.
[13] Christelis, D., Jappelli, T., Padula, M. (2010). Cognitive abilities and portfolio choice. European Economic Review, 54(1), pp. 18-38.
[14] Comisión de las Comunidades Europeas (2007d). La educación financiera. COM(2007) 808 final, Bruselas.
[15] Cordero, J.M., Pedraja, F. (2016a). La educación financiera y su efecto sobre el conocimiento financiero de los alumnos españoles en PISA 2012. Documento de Trabajo, nº 786, Funcas, Madrid.
[16] Cordero, J.M., Pedraja, F. (2016a). La educación financiera y su efecto sobre el conocimiento financiero de los alumnos españoles en PISA 2012. Documento de Trabajo, nº 786, Funcas, Madrid.
[17] Cordero, J.M., Pedraja, F. (2016b). Exploring the effect of financial literacy courses on student achievement: A cross study approach using PISA 2012 data. Munich Personel RePEc Archive (MPRA), Paper No. 75474.
[18] Danes, S.M., Huddleston-Casas, C., Boyce, L. (1999). Financial planning curriculum for teens: Impact evaluation. Financial Counseling and Planning, 10(1), pp. 25-37.
[19] Disney, R., Gathergood, J. (2013). Financial literacy and consumer credit portfolios. Journal of Banking and Finance, 37(7), pp. 2246-2254.
[20] Domínguez, J.M. (2017). Los programas de educación financiera: aspectos básicos y referencia al caso español. E-pública. Revista electrónica sobre la enseñanza de la economía pública, nº 20.
[21] Eley, J. (2014). Lessons in finance are just beginning. Financial Times, 29 de agosto.
[22] Fernández de Guevara, J., Serrano, L., Soler, L. (2014). Esfuerzo y competencia financiera en España: un análisis con datos PISA. En INEE (2014b), Informe español. PISA 2012 Competencia financiera, Ministerio de Educación, Cultura y Deporte, Madrid, pp. 25-50.
[23] Gnan, Silgoner y Weber (2007). Economic and financial education: Concepts, Goals and measurement. Monetary Policy & The economy. pp 1-22.
[24] Greenwood, J., Jovanovic, B. (1990). Financial development, growth, and the distribution of income. Journal of Political Economy, 98, pp. 1076-1107,
[25] Hastings, J.S., Madrian, B.C., Skimmyhorn, W.L. (2012). Financial literacy, financial education and economic growth. NBER Working Paper Series, WP 18412.
[26] Hirad, A., & Zorn, P. (2001). Prepurchase homeownership counseling: A little knowledge is a good thing. In N. Retsinas & E. Belsky (Eds.), Low-income homeownership: Examining the unexamined goal (pp. 146–174). Washington, DC: Brookings Institution Press.
[27] Hospido, L., Villanueva, E., Zamarro, G. (2015). Finance for all: The impact of financial literacy training in compulsory secondary education in Spain. Banco de España Working Papers, WP 1502/2015, Banco de España, Madrid.
[28] INEE (2014a). Informe español. PISA 2012 Competencia financiera, Ministerio de Educación, Cultura y Deporte, Madrid.
[29] INEE (2014b). Informe español. Análisis secundario. PISA 2012 Competencia financiera, Ministerio de Educación, Cultura y Deporte, Madrid.
[30] INEE (2017). Informe español. PISA 2015. Programa oara la evaluación internacional de los alumnos. Competencia financiera, Ministerio de Educación, Cultura y Deporte, Madrid.
[31] Jamison, J.C., Karlan, D., Zinman, J. (2014). Financial education and Access to savings accounts: Complements or substitutes? Evidence from Ugandan Youth Clubs. National Bureau of Economic Research Papers, No. 20135.
[32] Klapper, L., Lusardi, A., & Van Oudheusden, P. (2015). Financial Literacy Around the World. Standard & Poor's Ratings Services Global Financial Literacy Survey. Washington: Standard & Poor's

[33] Levine, R. (1997). Financial Development and Economic growth: Views and agenda. Journal of Economic Literature, 35, pp. 688-726.
[34] Levine, R. (2005). Finance and growth: Theory and evidence. En Aghion, P., Durlauf, S. (Eds.), Handbook of economic growth. Elsevier, Amsterdan, vol. 1, pp. 865-934.
[35] Lührmann, M., Serra-garcía, M., Winter, J. (2015). Teaching teenagers in finance: does it work?. Journal of Banking & Finance, 54, pp. 160-174.
[36] Lusardi, A. (2011). A framework for evaluating financial education programmes. In OCDE (2011), Improving financial education efficiency. OECD-Bank of Italy Symposium on financial literacy, OECD Publishing, París.
[37] Lusardi, A. (2015). Harnessing financial education to spur entrepreneurship and Innovation". 3rd Global Policy Research Symposium to Advance Financial Literacy, Paris, may.
[38] Lusardi, A., Michaud, P.C., Mitchell, O.S. (2013). Optimal financial knowledge and Wealth inequality. National Bureau of Economic Research Working Paper, No. 18669, Cambridge.
[39] Lusardi, A., Mitchell, O.S. (2008). Planning and financial literacy: How do women fare?. American Economic Review, Papers and Proceedings, 98(2), pp. 413-417.
[40] Lusardi, A., Mitchell, O.S. (2009). How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness. National Bureau of Economic Research Working Paper, No. 15350, Cambridge.
[41] Lusardi, A., Mitchell, O.S. (2009). How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness. National Bureau of Economic Research Working Paper, No. 15350, Cambridge.
[42] Lusardi, A., Mitchell, O.S. (2011). Financial literacy around the World: An overview. Journal of Pension Economics and Finance, 10(4), pp. 497-508.
[43] Lusardi, A., Mitchell, O.S. (2011b). Financial literacy and retirement planning in the United States. Journal of Pension Economics and Finance, 10(4), pp. 509-525
[44] Lusardi, A., Mitchell, O.S. (2014). The Economic importance of financial literacy: Theory and evidence. Journal of Economic Literature, 52(1), pp. 5-44.
[45] Lusardi, A., Mitchell, O.S. (2014). The Economic importance of financial literacy: Theory and evidence. Journal of Economic Literature, 52(1), pp. 5-44.
[46] Lusardi, A., Mitchell, O.S. (2014). The Economic importance of financial literacy: Theory and evidence. Journal of Economic Literature, 52(1), pp. 5-44.
[47] Lusardi, A., Mitchell, O.S., Curto, V. (2010). Financial literacy among the Young. Journal of Consumer Affairs, 44(2), pp. 358-380.
[48] Lusardi, A., Tufano, P. (2015). Debt literacy, financial experiences, and overindebtedness. Journal of Pension Economics and Finance, 14 (4), pp. 332-368.
[49] Mancebón, M.J., Pérez, D. (2014). Alfabetización financiera, competencias matemáticas y tipo de centro. In INEE (2014b), Informe español. Análisis secundario. PISA 2012 Competencia financiera, Ministerio de Educación, Cultura y Deporte, Madrid, pp. 137-164.
[50] Mandell, L. (2008). Financial education in high school. In Lusardi, A. (ed.), Overcoming the saving slump: How to increase the effectiveness of financial education and saving programs. University of Chicago Press, Chicago, pp. 257-279.
[51] McDermott, J. (2014). Teaching finance at school: Wise Investment. Financial Times, 1 de septiembre.
[52] Molina, J.A., Marcenaro, O.D., Martín, A. (2015). Educación financiera y sistemas educativos en la OCDE: un análisis comparativo con datos PISA 2012. Revista de Educación, 369, pp. 85-108.
[53] Moreno, D., Campillo, J.C., Salas-Velasco, M. (2015). Factores asociados al rendimiento en competencia financiera en PISA 2012. Investigaciones de Economía de la Educación, 10, pp. 551-570.
[54] OCDE (2005). Improving financial literacy: Analysis of issues and Policies. OECD Publishing, Paris.
[55] OCDE (2008). Improving financial education and awareness on insurance and private pensions. OECD Publishing, Paris.
[56] OCDE INFE (2015). 3rd OECD/GTLEC Global Policy Research Symposium to Advance Financial Literacy. Harnessing financial education to spur entrepreneurship and Innovation. Summary report. OECD Publishing, Paris.

[57] Pinto, M.B., Parente, D.H., Mansfield, P.M. (2005). Information learned from socialization agents: Its relationship to credit card use. Family and Consumer Sciences Research Journal, 33(4), pp. 357-367.

[58] Sánchez, J.I., Rodríguez, F. (2015). Educación financiera para la inclusión financiera: una hoja de ruta. eXtoikos, nº 17, pp. 17-20.

[59] Stango, V., Zinman, J. (2009). Exponential growth bias and household finance. The Journal of Finance, 64(6), pp. 2807-2849.

[60] Swinton, J.R., DeBerry, T.W., Scafidi, B., Woodard, H.C. (2007). The impact of financial education workshops for teachers on student´s Economic achievement. The Journal of Consumer Education, 24, pp. 63-77.

[61] Van Rooij, M., Lusardi, A., Alessie, R. (2011). Financial literacy and stock market participation. Journal of Financial Economics, 101(2), pp. 449-472.

[62] Van Rooij, M., Lusardi, A., Alessie, R. (2011). Financial literacy and stock market participation. Journal of Financial Economics, 101(2), pp. 449-472.

[63] Van Rooij, M., Lusardi, A., Alessie, R. (2012). Financial literacy, retirement planning and household Wealth. The Economic Journal, 122(560), pp. 449-478.

[64] Varcoe, K.P., Martin, A., Devitto, Z., Go, C. (2005). Using a financial education curriculum for teens. Journal of Financial Counseling and Planning, 16(1), pp. 63-71.

[65] Villasenor, J.D., West, D.M., Lewis, R.J. (2016). The 2016 Brookings Financial and Digital Inclusion Project Report. Advancing equitable financial options. The Brookings Institution, Washington.

[66] Waldstad, W.B., Rebeck, K., MacDonald, R. (2010). The effects of financial education on the financial knowledge of high school students. Journal of Consumer Affairs, 44(2), pp. 336-357.

[67] Webb, M.S. (2014). Financial savvy is not something schools can teach". Financial Times, September 2th.

[68] Xu, I., Zia, B. (2012). Financial literacy around the World: An overview of the evidence with practical suggestions for the way forward. World Bank Policy Research Working Paper, No. 6107.

Applying the Viable System Model to an Organization with CSR Goals: The Case of a Charity Organization

Rayco Rodríguez Reyes
PhD Cand, M.Sc. Business Administration, Faculty of Economics at Rey Juan Carlos University, Madrid, Spain,

Sergio Gallego García
PhD Candidate, Ing. Research area of Productive Systems at UNED University, Madrid, Spain

Manuel García García
Prof. Dr.-Ing., Department of Construction and Fabrication Engineering at UNED University, Madrid, Spain

Abstract

Designing and adapting organizations to secure viability and increase performance is a challenge. Research models often fail to integrate corporate social responsibility (CSR) aspects in the concept development and its implementation. Therefore, the aim of this study is to propose a holistic approach how organizations can be designed, changed and managed considering its implications to service management under a CSR approach. Hereby the Viable System Model was applied. Its structure can be applied to any kind of structured organization and for its management with goals to be achieved in modern society; however focus of the research is the cluster of charity organizations. Goal of the developed model is to be able to react to all potential organizational environments by taking decisions correctly and in the right moment based on the needed information reducing service lead times and manpower allocation as well as increasing the service level. To ensure this, service management tasks were assigned and standardized communication channels were defined. In conclusion this proposed approach empowers organizations to have internal mechanisms to secure viability by pursuing the goal of a high performance CSR approach.

Keywords: Cybernetics, Viable System Model, Service management, Organizational Model, Corporate Social Responsibility, Charity Organization

1. Introduction

Developing organizations capable to deal with the present and future competitiveness needs is a challenge (Schuh & Stich, 2013, p. 2). In addition the complexity of relationships and processes is growing (Placzek, 2007, p. 2). As a result many companies lose competitiveness due to a slow adaptation to their environment. Moreover across all sectors, organizations are in an environment with increasing competitive pressure (Schuh et al., 2011, p. 843). The main factors that favor this situation are the increasing globalization and the resulting competition situation that causes an intense reduction of product life cycles as well as a growing individualization of the final products according to specific customer criteria (Abele & Reinhart, 2011, p. 1). This evolution is combined with the demands of customers who want to be served with shorter delivery times (Tu & Dean, 2011, p.1). Therefore the capability to deal with changing customer requirements, demand volatility and new product launches is acquiring more and more importance for winning competitive advantage (Capgemini, 2010, p. 5). Service industries play an increasingly important role in our overall economy (Kellogg & Nie, 1995, p. 323). In this context there is a need for service management research in order to give methodological answers to the growing service sector (Roth & Menor, 2003, p. 145). However an integrative high performance CSR approach in non-profit organizations is uncovered in practice (Forbes, 2011) and is key for securing viability. To make it possible,

information flows, as interconnection element in organizations, are a key element. Information is needed for policy definition, decision-making, planning, control, coordination, etc. Problems with information flows lead to negativ impact in any organization.

Corporate Social Responsibility is a concept that has attracted worldwide attention and has acquired a new resonance in the global economy. The increasing interest in CSR in recent years is due to globalization and international trade influencing business complexity and creating new demands for greater transparency and corporate citizenship (Suárez Serrano, 2016, p. 4). The CSR concept has been developed over the years by expanding its scope of research compared to historical information, and has been the subject of continuous public debate. Currently, CSR has become an area of scientific research carried out not only by psychologists, philosophers, sociologists and economists, but also by business administration specialists. Most of the research works related to the concept provide an analysis of the idea from various points of view (Elijido-Ten at. al., 2010, p. 1037).

Researchers often fail to integrate Corporate Social Responsibility (CSR) aspects in the organisational concept development and its implementation. Many approaches have been studied in order to solve the problem of organizational alignment with the environment in service companies. However most of them have failed due to several reasons, such as lack of information, coordination or control that leads to take strategic decisions neither at an optimal point in time nor in an optimal way. Therefore the main research objective is to make companies more flexible, so that the company can face any kind of environment because its internal structure and communication enables a fast decision-making to align the company with market conditions. The paper will be based on the Viable System Model (VSM). By applying the Viable System Model, the organization is transformed into an autonomous system capable of adapting to constant environment changes (Beer, 1959, p. 17).

As a sub-type of a service organization we can find the set of non-for-profit organizations, and within those, the charities, defined by five characteristics: formal organisations, private understood as separated from government, not designed for distributing profit, self-governing and voluntary (Nasir et al, 2012, p. 19). Knowing that this type of organization doesn´t include making money as a primary goal, performance monitoring and efficiency are essential to improve its impact on social and economic development of society (Nasir et al, 2012, p. 19-20). In this regard a new concept is needed in practice and therefore this research pursues to fulfill the goal for coordinating the non-profit characterictic with the efficiency needed also for this type of organization to secure its viability and increase its impact.

The research work will help to develop a model supporting the following main hypotheses:

- Thanks to a new conceptual model for service management taking into account the added value to the end-customer the viability of an organization can be assured.
- The Viable System Model provides the necessary structure to determine the interrelationships between areas and parameters that allow them to make continuous improvement possible.
- The CSR goals help a charity organization to increase its value-added and also to improve its image. Both are key for securing viability of the organization.

In the faculty of economics of the Rey Juan Carlos University in collaboration with the research area of productive systems of the department of Construction and Fabrication Engineering at the National Distance Education University (UNED) an approach has been developed to solve the problem of service organization with the help of the Viable System Model. The aim of the research is to propose a self-regulating approach how to design service organizations such as charities fulfilling the goals of Corporate Social Responsibility (CSR) including the economic responsibility by maximizing the efficiency of any service organization.

2. Methodological approach and literature review

In this project the objective is the development of an organizational and service management model based on the CSR concept using the Viable System Model (VSM). The methodology used to reach this goal was the following:

1. Definition of methodological approach.
2. Literature review for:
    a. The Viable System Model
    b. Service management tasks
    c. CSR concept
    d. Charity Organization
3. Conceptual model development:
    a. Development of a target system for an organization and for a service system

b. Service management tasks according to planning horizon levels
c. Definition of recursion levels within a service organization
d. Service management tasks and their classification to the VSM systems
e. Identification of the needed information flows between organization and service recursion levels and within the service management level
f. Applying the model for charity organizations

After having described the methodology, the VSM as a reference model is compared with other approaches. As described in the literature the VSM is an unmatched conceptual and methodological tool for the modeling and design of organizations and its areas with the goal of being viable (Schwaninger et al., 2008, p. 16). Due to this fact and its alignment with the aim of the research the Viable System Model is applied. Applying the VSM means to implement the organizational structure of any viable or autonomous system in a service organization.

To validate the research methodology, research and practical applications were searched. Many authors have used the VSM as basis to describe and develop models how to deal with complex social and industrial challenges. Some of the topics worked are:

- Herold (1991) developed a concept for the organization of a company based on the VSM. In this approach, the general structure of the company is analyzed first by means of a questionnaire (Herold C., 1991, pp. 74-76).
- Erbsen (2012) created a concept for optimizing patient care in disease-oriented centers in university hospitals (Erbsen, 2012).
- Groten (2017) studied how to design integrated distribution networks based on the Viable System Model and compared it versus classical distribution planning concepts by means of simulation (Groten, 2017).
- Gallego (2018) designed a concept for designing manufacturing organizations following lean management principles (Gallego et. al., 2018) and for coordinating production and maintenance management in manufacturing companies (Gallego & García, 2018).

3. Basics of the Viable System Model, service management, CSR principles and of charities

The Viable System Model (VSM)

The Viable System Model (VSM) is a cybernetic management model developed by Stafford Beer (Espejo & Harnden, 1989, p.57). Beer deduced the VSM from the central nervous system of the human being and from the science of cybernetics with the goal to deal with complex systems (Schuh et al., 2011, p.434). As a consequence the minimum requirements that a system must meet to ensure its viability are derived when analyzing the central nervous system (Beer, 1972, p.198).

The VSM is built on three main principles: viability, recursivity and autonomy. Viability is a property of every system that is able to react to internal and external perturbations in order to maintain separate existence (Schuh et al., 2011, p.434). The principle of recursion states that every system has the same structure regardless of which recursion level it is (Malik 2006, p. 275). The principle of relative autonomy describes the degree of freedom in the behavior of a recursion level. In this context, autonomy means that a system can act independently as long as it is coordinated with its management system rules (Gomez, 1978, p. 148). The cybernetic model of every viable system consist always in a structure with five necessary and sufficient subsystems that are in relation in any organism or organization that is able to conserve its identity with independency of its environment (Espejo & Harnden, 1989, pp. 21-22).

Systems 1, 2 and 3 regulate internal stability and try to optimize performance within a given structure and criteria (Beer, 1972, p. 230). System 3 is the coordination center of all internal areas of the company condering the goals for the whole company since systems 1 and 2 can only compare deviations locally (Malik, 2006, pp. 131-132).

System 4 is the strategic system that makes strategic analysis of the external environment and the internal capacity to deal with it and, based on it, takes the necessary strategic decisions (Brecher et al., 2011, p. 435). System 5 represents the normative level that makes the balance between current operations (System 3) against future´s needs (System 4). When there is no balance, System 5 plays the role of judge (Espejo & Harnden, 1989, p. 293). It defines the rules that determine how the global system behaves. It is continuously designing the future of the system through the elaboration and choice of behavioral alternatives. Here the company policy is created, through a close interaction between the management systems, 3, 4 and 5 (Malik, 2006, p. 91). System 5 is the top management and it determines policies and establishes the goals to take decisions (Beer, 1972, p. 253).

Organizational functions and service management tasks

Organizational functions as described from Porter can be divided into primary and support functions, which are activities that described the value chain of an organizarion that are related to its competitive strength. Primary activities are directly concerned with the creation or delivery of a product or service. They can be grouped into five main areas: inbound logistics, operations, outbound logistics, marketing and sales, and service. Primary activities are linked to support activities which help to improve their effectiveness or efficiency. There are four main support activities: procurement, technology development (including R&D), human resource management, and infrastructure (IT systems for planning, finance, quality, information management etc.) (Porter, 1985).

Services can be defined as the ability and willingness of the provider in the form of a performance promise. However, this promise can only be realized by the demand of a customer. This also underlines the nature of services, since the sale of the service happens after the actual creation of the need for the service. A process-oriented perspective defines services as the combination of the provider's performance potential and the external factor introduced by the customer. The external factor can be the customer himself, people, objects or information provided by the customer as well as a combination of these. The realization of the service, which is in the foreground of the process orientation, includes the simultaneous activities of the supplier-side provision and customer-side use (Schuh et al., 2016, p. 6). In an organization the level of service-orientation varies according to a transformation line. As it can be seen in the Figure 1 the transformation line reflects the service scope of a company. The degree of service orientation, the contribution of services to revenue and profits as well as customer loyalty increase with the course of the transformation line (Schuh et al., 2016, p. 44).

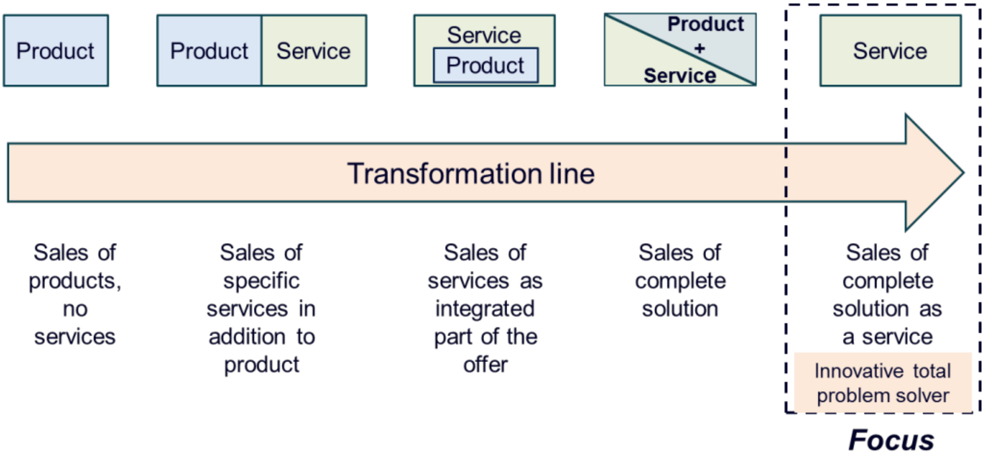


Figure 1: Service orientation and the transformation line

(own elaboration based on Hildenbrand (2006) & Schuh et al., 2016, p. 12)

The strategic perspective of service management pursues the goal of differentiate the services of the organization to build customer loyalty and as a consequence generate more profits (Schuh et al., 2016, p. 12). A basic structure for business models including services consists of the service offer and market addressing model, the service creation model and the revenue model (Schuh et al., 2016, p. 69). The processes of a service organization include the active and supporting value creation activities in the form of business processes and support processes as well as the necessary management processes. The coordination of these different process levels creates an important prerequisite for entrepreneurial success (Rüegg-Stürm, 2003). Moreover, the processes have a time characteristic depending on their horizon of influence. The tasks are assigned according to their temporal relevance at different planning levels. According to the St. Gallen management model, management levels are divided into normative, strategic and operational planning levels (Bleicher, 2004, p. 80). In the past, the main focus was on operational and tactical problems, however to successfully manage logistics in the future, an active strategic planning level is also required (Schuh & Stich, 2013, p. 1).

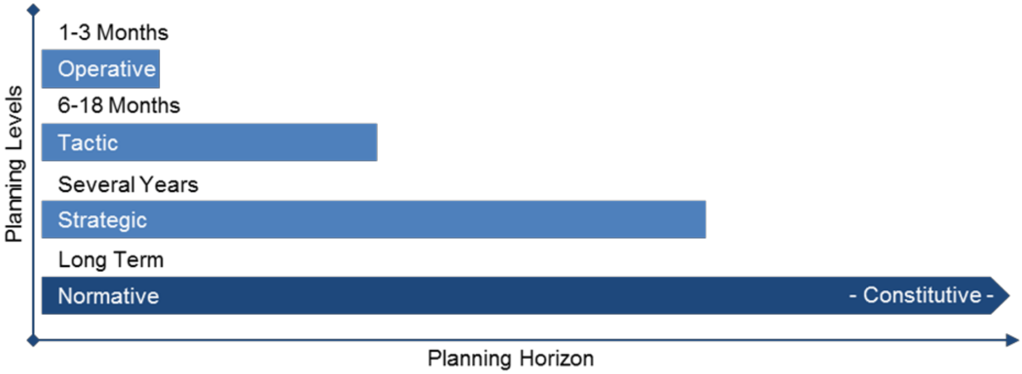


Figure 2: Planning levels and horizons in supply chain management (Bleicher, 2004, p.80).

Corporate Social Responsibility (CSR) concept

CSR term is defined as "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" by the EU commission (EU Comission, 2011). Moreover it can be defined as, "the commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life" (Heemskerk et. al., 2002).

Since 1958 the number of articles on CSR has remained stable over the decades, with an increase since the 1990s, due to efforts to resolve the debate both in practice and in academic research with respect to the relationship of corporate financial performance of the CSR, that is, whether the corporations benefited economically or not with participation in social activities (Jaramillo, 2007, p. 91). In addition, the evolution of CSR research has been classified into three types of studies: before the introduction of CSR, of the results after its introduction and of the CSR related processes such us decision-making, interpretation of group of interests, etc. (Jaramillo, 2007, pp. 87-100).

Meanwhile, the evolution of CSR in other institutional contexts, especially in some emerging economies, is much less understood and deserves academic attention. For example, developments in an emerging economy may follow a path similar to that of the developed economies or differ significantly due to their institutional contexts. With an increasingly interconnected global economy, as well as with the globalization of social practices, CSR visions in different institutional contexts can converge or settle into different equilibria (Martínez, 2014, p. 17).

The dilemma is posed in the role of multinational companies, which increasingly deal with the problems of CSR simultaneously in multiple and diverse institutional environments. This suggests that, at a certain moment, a company may be exposed to multiple institutional logics associated with corporate social practices. A specific challenge faced by multinationals is the way in which they meet the expectations of their various stakeholders across national borders (Herrera et. al., 2013, pp. 55-56).

The utility of following the concept of CSR not only by companies but also by the state is the improvement in competitiveness that has been presented in numerous studies. In this sense, the main studies of international competitiveness show the important role of the CSR in the construction of the competitive advantage of the company, the region and the country. On the other hand, the need to increase the clarity of commercial activity, eliminate corruption and unethical behavior in business and the use of good practices has also been observed (Salamanca & Gutiérrez, 2018, 1539). The CSR concept and its application present the following facts:

- Quantitative benefits: 67% of customers say they are more likely to buy products and services from a company if they know it supports good causes,up 11% from previous year (Forbes, 2011)

- Qualitative benefit: CSR as new element of leadership is making a profound difference in business performance.

The question still remained, however, of reconciling the firm's economic orientation with its social orientation. A step in this direction was taken when a comprehensive definition of CSR was set forth. In this view, a four-part conceptualization of CSR included the idea that the corporation has not only economic and legal obligations, but ethical and discretionary (philanthropic) responsibilities as well (Carroll, 1979). The point here was that CSR, to be accepted as business person, it should be framed in such a way that the entire range of usiness responsibilities are embraced. It is suggested here that four kinds of social responsibilities constitute total CSR: economic, legal, ethical, and philanthropic. Furthermore, these four categories are shown in Figure 3. To be sure, all of these kinds of responsibilities have always existed to some extent, but it has only been in recent years that ethical and philanthropic functions have taken a significant place. Each of these four categories deserves closer consideration (Carroll, 1991, p. 42)

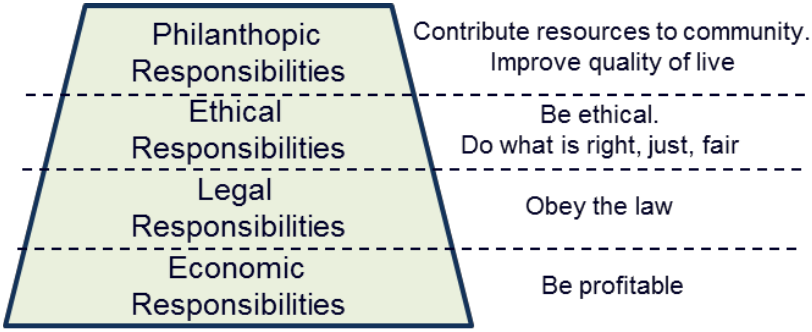


Figure 3: Categories of responsibilities of the CSR concept (Carroll, 1991, p. 42)

To conclude, to implement a CSR strategy in a company's culture and to make people understand the benefits of truly strategic CSR initiatives, senior managers are required to clearly and consistently express their commitment to the strategic initiatives that the organization chooses adopt (Hoque et. al., 2014, p. 33). According to Carroll (1991) “Social responsibility can only become reality if more managers become moral instead of amoral or immoral” (Carroll, 1991, p. 42).

Non-for-profit and charity organizations

When referring to non-for-profit organizations (NFP), everything is covered and can refer to a non-profit organization (NPO) or a charity. Non-profit organizations can do virtually anything except operate for a profit motive. Non-profit organizations range from high profile groups, such as political parties, to small groups of a few people linked by a common interest or cause. They can include commercial groups, professional groups, social clubs and sports organizations (Neely, 2003, p. 3).

The National Council of Non-profit Organizations considers itself an authority in the US, in which, 46 of the 52 states have a centralized NFP partnership that provides accreditation and values best practices. In this regard, the National Council of Non-Profit Organizations affirms that the success of the NFP and also of the NPOs are the best practices of responsibility, transparency, prudent fiduciary supervision, legal, ethical and responsible fundraising (NCN, 2016).

Therefore, the success of the NFP means obtaining financing and then delivering the product / service, while only the latter will necessarily be measured in a company, since it would generate the benefit. In other words, an NFP would not be considered successful if it obtained financing but did not deliver the desired service, but a company would be considered successful if it generated income.

The United States of America concentrates one of the highest rates of charity per capita, both in the financial area, as in the personal time. "In 2015, Americans donated $ 373 billion in private charity. In addition, on an annual basis, 64.5 million adults in the US UU They offered a combined amount of 7.9 billion hours of service "(Lupton & Miller, 2016, p. 98). The charity is a type of institution or business that falls within the category of non-profit organization or NPO. This type of organization is often called a foundation or charity. It can be based on educational, religious activities or even activities of public interest. The law and regulation of the charity depend on the country or region where it has been established and operated. A charity is something that is given to an organization or an individual to help or benefit them (Gautier & Pache 2015, p. 346).

Some charities operate as private organizations and others are public. Private foundations obtain their funds through a family, corporation, individual or any financial source. They mainly use their donation funds to grant grants to people who need it or to organizations involved in charitable activities (Fomrbun & Shanley, 1990, p. 250).

On the other hand, public organizations obtain their grants from the state or central government, as well as from private individuals and organizations. Public organizations help in many activities. For example, public organizations in the US UU they are the American Cancer Society, the World Wide Fund for Nature and many other services. They usually seek contributions from the government. They can be hospitals, churches, institutes for medical research, etc. In our country, the panorama is similar (Fomrbun & Shanley, 1990, p. 250).

In the literature four main motivational categories are described by which companies join charitable projects or donate: maximization of strategic gains, altruistic motivation, political motivation and motivation of administrative utility. In fact, most of the combinations of these four motivations summarize the motives of the companies that carry out philanthropic actions (Campbell & Slack, 2007, pp. 333-334).

Non-profit or charitable organizations, whose primary activities have traditionally been based on the achievement of a social mission, are increasingly adopting practices that are often associated with business (Tuckman & Chang, 2006, p. 630). Since at least the 1980s, charities have generated a substantial part of their income from sales of goods and services, especially in the arts, education and health sectors (Child, 2010, p. 149). And they have experienced a growing shift towards hiring professional managers and adopting formal practices such as strategic planning, independent financial auditing and quantitative evaluation and performance measurement (Bromley & Meyer, 2014, p. 945).

4. Conceptual model development

Development of a target system for an organization and for a service system

The final goal of each organization is to be efficient to maximaze its key parameters. Every service organization is oriented to the management approach based on added value. The increase in the company value will be achieved mainly by increasing the performance of the company (Alexandre et al., 2004, pp. 126-127). The key indicator includes, therefore, the factors of turnover, capital employed and costs (Alexandre et al., 2004, pp. 126-127), which are decisive for the success of the company.These factors are included in the Return-on-Capital-Employed (ROCE) indicator. ROCE is a common feature in business practice and describes the return on a company's capital (see formula below) (Isermann, 2008, pp. 876-877):

ROCE = EBIT / (Capital-Employed) = (Volume of business-Costs) / (Capital employed)

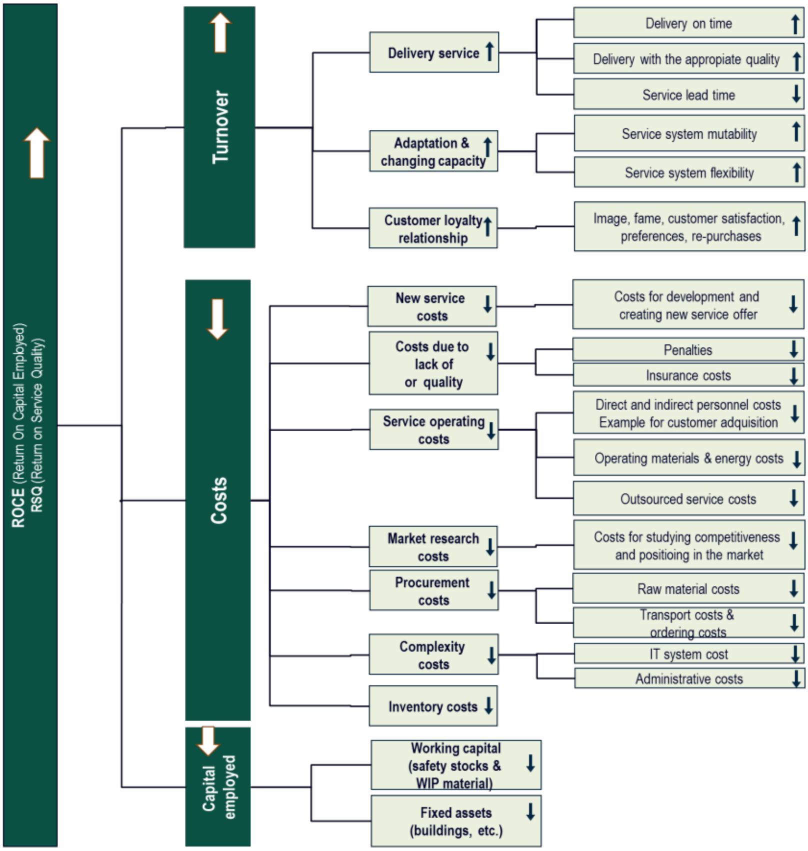


Figure 4: Target system for an organization and for a service system

(own elaboration based on Gallego (2018))

On the other hand a non-profit and charity organization is also oriented on added value to be as efficient as possible trying to execute its final goal of providing a service to the community. Moreover, it has to take into account the level of fullfilment of the needs of society and the level of efficiency in doing so.

Service management tasks according to planning horizon levels

As explained before, planning tasks can be classified into strategic, tactical and operational planning depending on the respective planning horizon. Therefore this classification was performed for the conceptual model based on the literature and derived for a production management model (Gallego & García, 2018):

Strategic management & planning tasks

- Principles, guidelines, culture (1.1)
- Definition of service offer (1.2)
- Organizational structure (1.3)
- Creation of investment program (1.4)
- Service strategy planning & master data (1.5)
- Continuous observation & evaluation of service environment: market & customer analysis (1.6)
- Target system (1.7)
- Service system design & location distribution for specific customer segments & sales channels (1.8)
- Service master program: sales planning, requirements and resources planning (1.9)
- "Make-or-buy" decision-making (1.10)
- Maintaining and creating core partnerships (1.11)

Tactical management & planning tasks

- Creation and configuration of existing and new service processes: core ressources, activities and cooperations (2.1)
- Service requirements planning:
  - Determination of service requirements (2.2)
  - Procurement program (2.3)
  - Service procedure scheduling (2.4)
  - Calculation of capacity needs (2.5)
  - Comparison & adjustment of capacities (2.6)
- Supplier selection (2.7)
- IT systems selection (2.8)
- Technology planning for service processes (2.9)
- Continuous observation & evaluation of internal performance (2.10)
- Offer and order processing (2.11)
- Know-how management for services (2.12)

Operative management & planning tasks

- Planning & control of own services:
  - Calculation of services volume (3.1)
  - Detail scheduling (3.2)
  - Detail planning of resources (3.3)
  - Sequencing of service activities (3.4)
  - Availability check (3.5)
  - Release of service activities(3.6)
- Planning & control in external companies:
  - Order calculation (3.7)
  - Offers collection and evaluation (3.8)
  - Contracting of suppliers (3.9)
  - Release of supplier orders (3.10)
- Orders coordination (3.11)
- Measure and calculation of KPIs (3.12)

Figure 5: Service management tasks associated planning horizons (own elaboration based on Gallego (2018))

Definition of recursion levels within a service organization

A company is assumed as a viable system that is the first level of recursion in which the five systems necessary to ensure viability are found. Therefore, in the course of this research work can be differentiated four levels of recursion:

- The highest level, the service organization (n-1)
- The service recursion level (n). In the same recursion level it can be found finance, human resources, IT, research and development, etc.
- The recursion level of the service unit, for example service units for disasters or for family issues (n + 1)
- The recursion level of specific services such as treatment of divorce within a family, conflictive children, etc. (n
- + 2)

The systems 1 of the recursion level n + 2 are no longer viable systems in contrast to the higher recursion levels, because they do not contain a structure since they are the elements of the service execution. Within this first level of recursion of the service organization, the different functions of a company can be found, such as service management, commercial, finance, research and development, information systems, etc. In this research project, service tasks will be analyzed in detail, recursion level n, but also taking into account the function of system 2 at the company level, n-1, whose function is to coordinate the different functional areas of a company.

System 5 of the service organzation (n-1) defines its legal framework, politics, corporate policy and constitution, ethos and underlying values as well as its leadership philosophy. All of this information is transferred to all functional departments inside the organization including the service management system. Using these common normative values the company receives information from the environment that can be: market standards, legal regulations, new technologies, needs of society or information about competition. Based on these inputs the organization defines its strategy in system 4 of the organization level in continuous communication with system 3 to check if the strategy can be implemented and the internal consequences of its implementation on the stability of the company. System 2 at organization level plays the role of coordinator between the functional areas of the organization trying to solve conflicts between them. Moreover the systems 1 at organization level are all functional areas of every company such as service management.

At the recursion level of service management (n) it is assumed that the different service units will be the respective systems 1 which also contains a viable system in each of these units. The VSM of the service management system within a company is described by the tasks performed by its five necessary systems:

- System 5 establishes the service objectives and communicates them to the other management systems, systems 3 and 4. Goal of system 5 is to secure the existence and to increase profits of the organization.
- System 4 observes and collects essential information from the external environment of the service management system. Its goals area to increase customer loyalty, to position it in the market by creating USP characteristics of the organization to differentiate it from other players by means of a continuous review process of the environment.
- System 3 is responsible for maintaining the internal stability of the model by optimizing the use of internal resources using the information received from system 4 about the clients as well as the information of the different divisions of system 1 obtained through system 2. It would be related to functions such us management of performance, time, ressources, etc. Moreover system 3* allows a quick response to possible emergencies in the service units by acting before information flows through system 2. It is capable to perform actions in real time if something happens outside of normal limits such as making changes in service activities to avoid non-meeting customer expectations.
- System 2 is represented by the functions of coordination between the different service units in daily activities. This system receives all the information of the different service units and acts as a filter so that only the necessary information reaches the system 3. The difference between both is in the time horizons of action. While system 2 performs functions in daily activities, the tactical system optimizes the performance of the internal system over a longer time horizon. System 2 represents the information function that defines the level of interconnection between systems 1 and the level of hierarchical control of system 3.
- System 1: each service unit within the service management system is an operational unit that includes the management of the unit and the division that performs the operational activities. An example could be a disasters service unit that contains different activities for inundations, earthquakes, etc. to be performed. Each system 1, service unit, is in charge of giving priorities in case of multiple disasters.
- Environment: represents all the external factors that influence the service management system of an organization. The environment is represented by the demands of customers, new service technologies, market standards, delivery times, service products, strategies and performance of competitors for example to help in making decisions about future an development of USP (Unique Selling Proposition) of the organization, etc.

The diagram shows the environment of the entire service management system as well as of service unit:

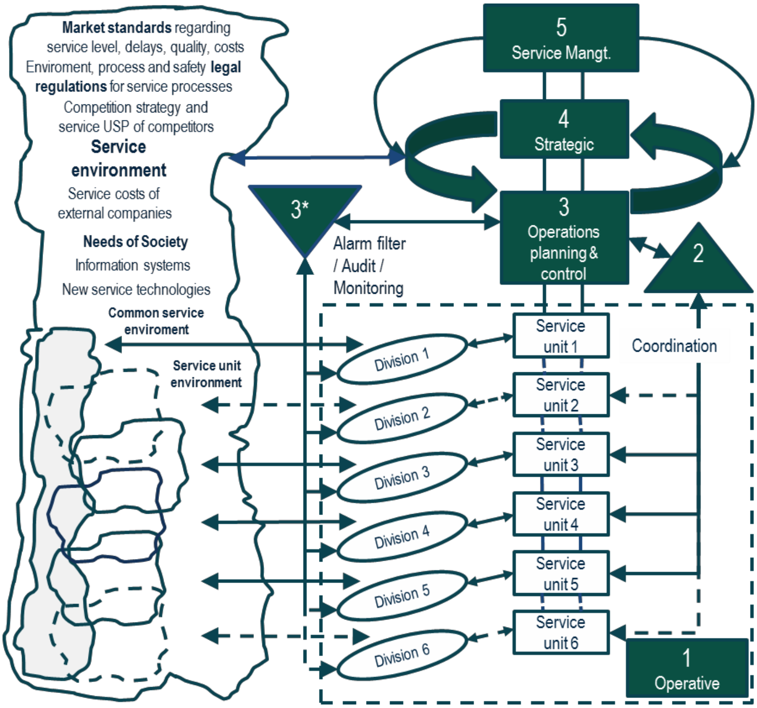


Figure 6: Analogy with the VSM: Service management recursion level (own elaboration)

Service management tasks and their classification to the VSM systems

Service management tasks were assigned to the VSM systems at recursion levels n and n + 1. As an example in Figure 7 are shown the service management tasks and its classification. In the same way it was done for all other tasks:

Strategic planning tasks	Service Mngt. recursion			Service unit recursion level		
	S 5	S 4	S 3	S 5	S 4	S 3
Principles, guidelines, culture (1.1)	X			X		
Definition of service offer (1.2)	X					
Organizational structure (1.3)		X				
Creation of investment programm (1.4)		X				
Service strategy planning & master data (1.5)		X				
Continuous observation & evaluation of service environment: market & customer		X				
Target system (quality, cost, time) (1.7)		X				
Service system design & location distribution for specific customer segments & sales		X			X	
Service master program: sales planning, requirements and resources		X	X		X	X
“Make-or-buy” decision-making (1.10)		X				
Maintaining and creating core partnerships		X	X		X	X

Figure 7: Strategic service management tasks and its classification to VSM systems (own elaboration)

Identification of the needed information flows between organization and service recursion levels and within the service management level

Current technical literature agrees that the connection interfaces between recursion levels is extremely important (Ríos, 2012, p. 59). Goal is to determine basic links that can be transferred to any VSM in any company. The intensity of this connection between the levels varies according to the company (Ríos, 2012, p. 59). An exchange of information within the company and between levels of recursion is necessary to control the corporate environment, which generally has more information than can be processed in the company (Herold, 1991, p. 287). Between the recursion levels it can be found the following communication flows:

- Between the organization environment and system 4 of the service management recursion level
- Between systems 5 of the organization and service management
- Between systems 4 of the organization and service management
- Between systems 3 of the organization and service management
- Between systems 2 of the organization and service management
- Between the operating units, systems 1, of the organization and service management
- Between the alarm / monitoring filter (System 3*) of the company's recursion level and system 4 of service management

Between the two normative systems of the organization and service management there is a flow of information that defines the degree of freedom of decision making in which the service mangemenent recursion level can act. Specifically, it means that the decisions taken by the management of the company are communicated to the management of service management defining its guidelines for autonomous decision making within the respective areas. These guidelines can be financial, on personnel, on affectation to other areas, etc. In the same way, the objective levels such as service level, quality of service, costs and adaptation capacity are influenced by decisions from the management, defining the priorities and the limits for the coordination among service units. An example could be: the organization in its strategic plan establishes the target number of services performed for the following years as well as the required flexibility in percentage as well as the decrease in target costs. Of course these decisions would influence the decision-making framework for the service management system that should adapt their methods and tools to be able to optimize costs, times and quality based on the given flexibility.

As explained during the research work basic communication flows were defined. In total a number of 79 information connections were defined for the service management recursion level specifying if the communication goes from company´s recursion level to the service management recursion level or between systems in the service management recursion level. An extract is shown in Figure 8:

No.	Information in the service management recursion level	From…to…
1	Information about quality problems in the service units	From System 1 to 2/3
…	…	…
28	Number of services performed	From System 1 to 4/5
29	Number of services that have met the required deadlines and quality	From System 1 to 4/5
30	Average service lead time	From System 1 to 4/5
31	Number of customers acquiring services for the first, second, etc. time → customer loyalty	From System 1 to 4/5
32	Number of services with claims	From System 1 to 4/5
33	Total number of changes made to initial resources planning	From System 1 to 4/5
…	…	…
79	Information about the economic environment of service management	From environment to 4/5

Figure 8: Example of information flows in the conceptual model of a service organization (own elaboration)

Applying the model for charity organizations

A feeback loop has been developed to explain the two main problems identified for charities. It was analyzed the causalities from the introduction of the CSR concept until its impact the financial resources and the performance of the charity. Due to the concept, nowadays, the ethical responsibility and normative compliance with the law are usually fulfilled by charities.

On the other hand, the philanthropic and the economic responsabilities are not often completely fulfilled. For a charity to meet its philanthropic responsibility, it should considered the real demands or needs of the society in order to respond appropriately by allocating ressources based on those needs. Moreover the economic responsibility, be profitable from donations or volunteers, is not maximize because if a charity doesn´t provide the solutions for the society needs, then donations and volunteers can be reduced as a result. As a consequence, the available ressources for developing, performing and control the services will decrease. In addition, there is a potential to improve the performance of the available ressources of a charity organization in order to maximize its impact on society and environment applying the Viable System Model. By doing so, the feedback loop is closed and the research study tries to improve point 3 and 6 by enabling an alignment with the environment, society needs and by improving the internal efficiency.

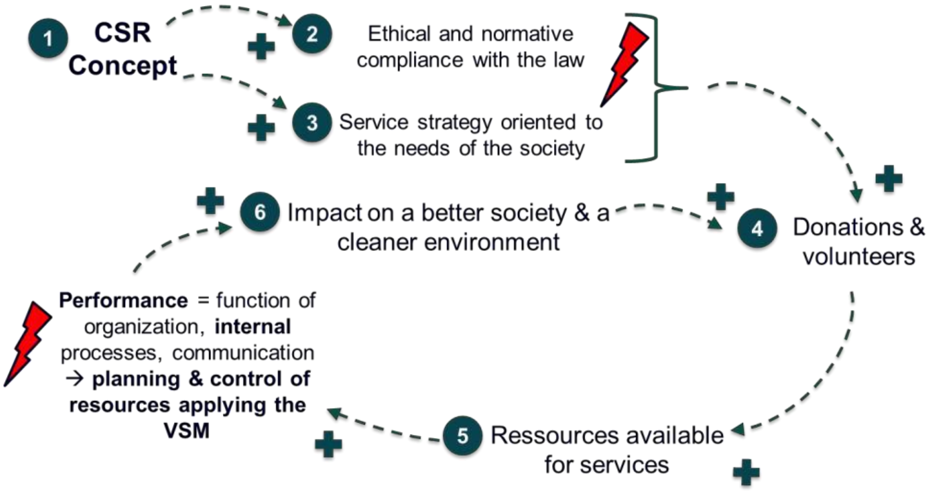


Figure 9: CSR Causal feedback loop for a charity organization (own elaboration)

From the research it is pursued to fill in the GAP for these two areas:

- First, to align the environment and society needs with the goals and utilization of resources of a charity organization.
- Second, to provide a structure and a communication framework to increase the efficiency of internal processes.

As a consequence, in Figure 10 it can be seen a proposal of a charity applying the VSM:

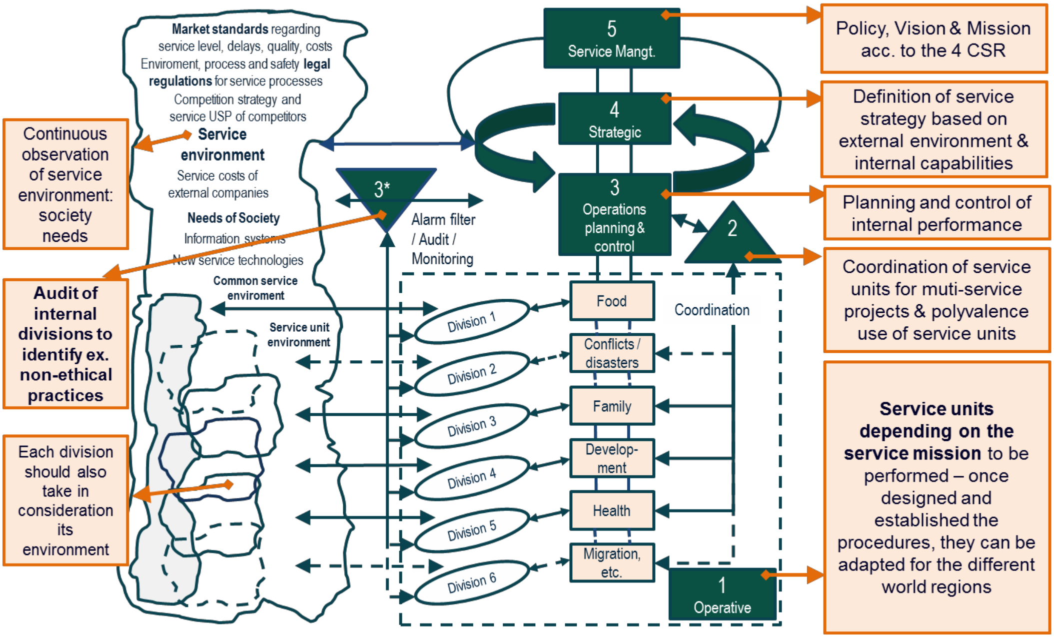


Figure 10: Charity organization applying the Viable System Model (own elaboration)

Figure 10 shows the description of six examples of service units that can exist in a service management model of a charity organization, their relation with the environment and the internal mechanisms with the related communication flows and auditing systems to deal with it taking into consideration the four responsibilities defined in the normative level, system 5, of the model.

5. Conclusions

The research work helped to develop a model supporting the following main hypotheses:

- Thanks to a new conceptual model for organizational and service management taking into account the added value to the end-customer the viability of an organization can be assured.
- The Viable System Model provides the necessary structure to optimize an organization in a recursive way to ensure the viability of the company in the long term.
- The Corporate Social Responsibility mission and goals provide a compromise with and for the community that makes possible to every organization to go beyond its economic activity by improving the external environment impacted or not by its activity. By doing so a company is able to increase its relevance, image and perception on end-customers, current and potential stakeholders. As a consequence it creates a positive feedback loop on sales, donations and society, environment and economy.
- In the case study for a charity it was proved how the developed model improves the adaptability to society needs and also the internal performance to maximize the output from the resources available.

Next step of the research will be to simulate company and service performance using the conceptual model developed and to compare it with current available structures how to deal with changing environment. Final goal is to transfer this

research method to real service organizations applying it in particular areas or to design organizations and service models based on it, in particular to non-profit organizations such us charity organizations.

In conclusion this proposed approach can increase the efficiency of service organizations such us charity organizations. Also it shows how a VSM approach can be used as a methodology to be successful in any kind of environment together with the CSR goal. By using it a company can adapt itself to all future potential environment scenarios by changing its strategy and internal set-up.

References

[1] Abele, E., & Reinhart, G. (2011). Zukunft der produktion Hanser München.
[2] Alexandre, P., Sasse, A., & Weber, K. (2004). Steigerung der kapitaleffizienz durch investitions-und working capital management. Controlling, 16(3), 125-132.
[3] Beer, S., (1959). Cybernetics and Management. Jon Wiley & Sons, University of Michigan [4] Beer, S., (1972). Brain of the Firm. Herder and Herder, Great Britain.
[5] Bleicher, K. (2004). Das konzept integriertes management: Visionen-missionen-programme. Frankfurt/Main: Campus Verlag.
[6] Brecher, C., Kozielski, S., & Schapp, L. (2011). Integrative produktionstechnik für hochlohnländer. Wertschöpfung Und Beschäftigung in Deutschland, , 47-70.
[7] Bromley, P., & Meyer, J. W. (2014). They are all organizations': The cultural roots of blurring between the nonprofit, business, and government sectors. Administration & Society. 393-969
[8] Campbell, D., & Slack, R. (2007). The strategic use of corporate philanthropy: building societies and demutualisation defences. Business Ethics: A European Review, 16(4), 326-343.
[9] Capgemini (2010). Customer back on top of the supply chain agenda in 2010 from financial crisis to recovery: Does the financial crisis still dictate supply chain agendas?
[10] Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. Academy of management review, 4(4), 497-505.
[11] Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. Business horizons, 34(4), 39-48.
[12] Child, C. (2010). Whither the turn? The ambiguous nature of nonprofits' commercial revenue. Social Forces, 89(1), 145-161.
[13] Elijido-Ten, E., Kloot, L., & Clarkson, P. (2010). Extending the application of stakeholder influence strategies to environmental disclosures: An exploratory study from a developing country. Accounting, Auditing & Accountability Journal, 23(8), 1032-1059.
[14] Erbsen, A. (2012). Krankheit im Zentrum: Gestaltung von krankheitsorientierten Spitalstrukturen aus kybernetisch-konstruktivistischer Sicht. Springer-Verlag.
[15] Espejo, R., & Harnden, R. (Eds.). (1989). The viable system model: interpretations and applications of Stafford Beer's VSM. Wiley.
[16] EU Commission. (2011). A renewed EU strategy 2011-14 for Corporate Social Responsibility. Brussels, European Commisson.
[17] Fombrun, C., & Shanley, M. (1990). What's in a name? Reputation building and corporate strategy. Academy of management Journal, 33(2), 233-258.
[18] Forbes (2011). The Five Elements of the Best CSR Programs. Apr 26, 2011.
[19] Gallego García, S., & García García, M. (2018). Design and Simulation of Production and Maintenance Management Applying the Viable System Model: The Case of an OEM Plant. Materials, 11(8), 1346.
[20] García, S. G., Reyes, R. R., & García, M. G. (2018). Design of a Conceptual Model for Improving Company Performance Based on Lean Management Applying the Viable System Model (VSM). EJEF European Journal of Engineering and Formal Sciences Articles, 2.
[21] Gautier, A., & Pache, A. C. (2015). Research on corporate philanthropy: A review and assessment. Journal of Business Ethics, 126(3), 343-369.
[22] Gomez, P. (1978). Die kybernetische Gestaltung des Operations Managements. Paul Haupt.
[23] Groten, M. (2017). Integrierte Planung von Distributionsnetzwerken auf Basis des Viable-System-Models. Apprimus Verlag.
[24] Heemskerk, B., Pistorio, P., & Scicluna, M. (2002). Sustainable development reporting: Striking the balance. World Business Council for Sustainable Development.
[25] Herold C. (1991). Ein vorgehenskonzept zur unternehmensstrukturierung heuristische anwengung des modells lebensfahiger systeme.(Difo Druck: Bamberg).

[26] Herrera, J. J. D., & Davó, N. B. (2013). Incidencia de las variables institucionales del país de origen de las empresas multinacionales en su performance financiero. Universia Business Review, (37), 52-67.
[27] Hildenbrand, K. (2006). Strategisches Dienstleistungsmanagement in produzierenden Unternehmen. Dissertation Universität St. Gallen. Bamberg: Difo-Druck GmbH
[28] Hoque, N., Uddin, M. R., Ibrahim, M., & Mamun, A. (2014). Corporate Social Responsibilities (CSR) as a Means of Materializing Corporate Vision: A Volvo Group Approach. Asian Social Science, 10(11).
[29] Isermann, H. (2008). Logistik als managementfunktion. Arnold, D./Isermann, H./Kuhn, A.Fl" Empelmeier, H.(Hrsg.): Handbuch Logistik, Berlin Ua, S.D1-3 Bis D1-10.
[30] Jaramillo, J. G. C. (2007). Evolución histórica de los conceptos de responsabilidad social empresarial y balance social. Semestre económico, 10(20), 87-102.
[31] Kellogg, D. L., & Nie, W. (1995). A framework for strategic service management. Journal of Operations Management, 13(4), 323-337.
[32] Lupton, R. D., & Miller, A. (2016). Toxic Charity: How Churches and Charities Hurt Those They Help. The Journal of The James Madison Institute.
[33] Malik, F. (2006). Strategie des Managements komplexer Systeme, Haupt, Bern. Google Scholar.
[34] Martínez, J. M. D. (2014). Desarrollo económico, países emergentes y globalización. eXtoikos, (14), 5-14.
[35] Mohd Nasir, N., Othman, R., Said, J., & Ghani, E. (2012). Financial reporting practices of charity organisations: A Malaysian evidence.
[36] NCN (2016), Vol. 2016 National Council of Nonprofits (NCN), Washington, DC, USA.
[37] Neely, S. (2003). Non-profits, not-for-profits, and charities: What's the difference. The Scrivener, 12(3), 11-12. [38] Placzek, T. S. (2007). Optimal shelf availability: Analyse und gestaltung integrativer logistikkonzepte in konsumgüter-supply chains Springer-Verlag.
[39] Porter, M. E. (1985). Competitive advantage: creating and sustaining superior performance.
[40] Ríos, J. M. P. (2012). Design and diagnosis for sustainable organizations: The viable system method Springer Science & Business Media.
[41] Roth, A. V., & Menor, L. J. (2003). Insights into service operations management: a research agenda. Production and Operations management, 12(2), 145-164.
[42] Rüegg-Stürm, J. (2003). Das neue St. Galler Management-Modell – Grundkategorien einer integrierten Managementlehre (2. Aufl.). Bern: Haupt.
[43] Salamanca, P. I. M., & Gutiérrez, J. S. (2018). Factores que impactan la Responsabilidad Social en las organizaciones. Red Internacional de Investigadores en Competitividad, 11, 1535-1556.
[44] Schuh, G., Gudergan, G., & Kampker, A. (2016). Management industrieller Dienstleistungen. Handbuch Produktion und Management, Bd, 8(2).
[45] Schuh, G., & Stich, V. (2013). Logistikmanagement. Handbuch Produktion und Management 6. 2., vollst. neu bearb. und erw. Imprint Springer (VDI-Buch, 6). Berlin, Heidelberg.
[46] Schuh, G., Stich, V., Brosze, T., Fuchs, S., Pulz, C., Quick, J., ... & Bauhoff, F. (2011). High resolution supply chain management: optimized processes based on self-optimizing control loops and real time data. Production Engineering, 5(4), 433-442.
[47] Suárez Serrano, E. (2013). La responsabilidad social corporativa: un nuevo paradigma para las empresas. Encuentros multidisciplinares.
[48] Schwaninger, M. (2008). Intelligent organizations: Powerful models for systemic management Springer Science & Business Media.
[49] Tuckman, H. P., & Chang, C. F. (2006). Commercial activity, technological change, and nonprofit mission. The nonprofit sector: A research handbook, 629-644.
[50] Tu, Y., & Dean, P. (2011). One-of-a-kind production Springer Science & Business Media.
[51] World Business Council for Sustainable Development, 2002

An Empirical Examination of the Export-Led Growth Theory Regarding Georgia

Davit Belkania, Ph.D.
Kaposvár University, Faculty of Economic Science

Mehman Karimov, Ph.D.
Kaposvár University, Faculty of Economic Science

Abstract

This paper aims to justify the validity of the export-led growth hypothesis (ELG) for the transition economy like Georgia. The ELG theory implies the acceleration of an economic growth through the market openness in exchange for market expansion. The concept of the work lies in the following assumptions: Firstly, as a transition country, Georgia should prioritize private sector driven and export-led growth economy and secondly, the European integration process is the unprecedented opportunity for Georgia regarding export market expansion. The paper covers the time from 1990 to 2016; Engle-Granger cointegration and Granger causality tests were employed to trace the validity of the ELG hypothesis. The results confirmed the existence of at least one cointegration vector, as well as the bidirectional causality between economic growth and export, thus landed support on the validity of the ELG hypothesis regarding Georgian economy.

Keywords: Economic growth, export, Export-led growth hypothesis, Georgia

1. Introduction

An economic development strategy varies depending on a country background and its role in the global economy. It is the common practice that for small countries like Georgia, consumption is limited as it is a market volume. This condition creates a high dependency on external markets. Over the years, as the economy is getting more advanced, the dependence on the foreign market increases correspondingly. Considering the European integration process of Georgia that opens the doors to a whole new market, the export-led growth hypothesis (ELG) can boost the economic growth through "reaping" the trade benefits in terms of comparative advantage. In addition, implementation of the ELG theory can enhance the inflow of foreign direct investments (FDI) in a country, thus increasing productive capacity and capital accumulation of the nation (Salisu & Sapsford 1996).

During last two decades Georgia developed sufficient base of the economic legislation to implement the outward oriented growth strategy. Georgia is a post-soviet state which is in a transition process from a centrally planned economy to a market economy with GDP per capita of 3864.6 USD. After undergoing a set of structural changes to develop the market based institutional framework, Georgian economy started growing rapidly. In 2007 annual GDP growth reached 12.34% that was the exceptional record for the country.[1] In the World Bank accounts, Georgia is set as the exemplary model regarding successful economic transformation.

An Association Agreement and DCFTA (Deep and Comprehensive Free Trade Areas) that took place in 2014, is the remarkable economic phenomenon for the country. DCFTA serves as the main stimulus for the promotion of the ELG theory. It refers to the extended market access through the harmonization of a national and EU regulations, as well as the reduction of the trade barriers to some extent. By signing these agreements, Georgia is able to explore 500 million European market; Correspondingly diversifying the export market and raising the incentives to invest in productivity improvements (Juvenal & Monteiro 2013).[2]

[1] Gross Domestic Product. National Statistics Office of Georgia.
http://www.geostat.ge/index.php?action=page&p_id=119&lang=eng
[2] Juvenal & Monteiro (2013). Export Market Diversification and Productivity Improvements.

Currently, decomposition of Georgia's export market looks as following: Russia remains the biggest market for Georgia with the 12.9% share; The second largest export market is Turkey 12.6% coming with Azerbaijan 9.1%, USA 6.7%, and Romania 6.6%. As for the export by country groups, EU covers 28.8% of the Georgian total export, CIS countries 36.3% and others 34.9% respectively.

Nowadays, EU is the largest host market for agricultural products that are produced by developing or transition countries. Therefore, Georgian agricultural production is the additional aspect to be considered at the national level. As an agrarian-oriented country, Georgia has a significant rural population. The employment in agriculture as the percentage of total employment averaged 40% during 1990-2016.[1] A contribution of the agricultural sector in GDP is ranging from 8 to 9%. Dependence of Georgia's economic performance on the agricultural sector is undeniable.

Recent OECD (The Organization for Economic Cooperation and Development) study showed that Georgia's comparative advantage in agriculture ranks 15th out of 193 countries. In a study of global wine markets, Georgia's revealed comparative advantage in wine ranks second on a list of 13 major wine exporting countries.[2]

The list of the product categories in which Georgia revealed comparative advantage from 2008 to 2017 include: ferro alloys, motor-cars, copper ores, live animals, pharmaceutical products, beverages, wine, vegetable plaiting material and etc. Furthermore, the export intensity index of Georgia with EU indicates that Georgia is exporting less than we should expect. Hence, there is considerable potential to stimulate the export earnings through prioritization of agricultural sector.

2. Literature review

Although a relationship between trade and growth is quite "mature" topic in economics, the general dispute still exists. The emergence of the ELG theory is dated back to post world war two period. By the 80th of the last century, the ELG hypothesis reached a general consensus in the academic field regarding its effectiveness. During this period, advocates of ELG theory seemed to be the winners of the inward-outward oriented policy game in trade and economic growth. Later on, while the economic growth theorists continued to deal with general trade-economic growth concepts, interestingly, a number of country-specific empirical researches were conducted, which did not support the "conventional wisdom" of ELG theory. For instance, contrary to Chinese experience with ELG growth model, Mexico has not recovered its strong performance of 1960–1980 [Thomas I. Palley 2011]. In the empirical research regarding exports, growth, and causality in developing countries conducted by Woo S. Jung and Peyton J Marshal, only in 4 cases out of 37 was there evidence that supported the export-led hypothesis (Indonesia, Egypt, Costa Rica, and Ecuador). Similar results were presented in Henriques and Sadorsky (1996), Jung and Marshal (1985) etc.

Herman Daly (1999) called globalization via ELG the new philosopher's stone of the IMF-IBRD-WTO alchemists and criticized ELG in terms of low wages, poor working class, and deteriorated environment.

Despite the controversy that arose from the number of country-specific empirical researches, ELG theory still persists on its effectiveness. As so, despite the theoretical dispute regarding emerging new models, it is important to conduct the empirical examination to reduce the gap between theory and practice. Till now, the economic growth is thought to be an essential goal for the countries' wellbeing. Increasing export is considered as the important stimulus for economic growth. Developing countries try to reach high economic growth through more trading. For low-income countries, agriculture plays a vital role in increasing export to reach economic development. Mostly, theoretical sources consider export as a growth engine and with reference to low-income countries, agriculture is an essential part of increasing the export.

As *Francisco F. Ribeiro Ramos* remarked: Export, as a main determinant of the production and employment growth according to export-led growth theory (ELG), is supported by the following reasoning: Firstly, the export growth is escorted by the expansion of production and employment regarding export multiplier that operates like the investment multiplier of Keynes; Secondly, the foreign exchange enhances the importation of capital goods, successively increase the production

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.296.5533&rep=rep1&type=pdf

[1] International Labor Organization. Employment by sector -- ILO modelled estimates, May 2018. Georgia.

[2] Cramon-taubadel, S. Von. (2014). Georgia' s agricultural exports, (November) http://georgien.ahk.de/fileadmin/ahk_georgien/Publikation/Georgias_agriculture_exports.pdf

ability of a country; Competition in the exports markets leads to technological progress in terms of production, as well as, economies of scale (Ramos 2001).

An effectiveness of export in economic growth is mentioned in the works of *Robert F. Emery*. He argued that there is a causal relationship between the two and that this relationship is one of interdependence rather than of unilateral causation, but that it is mainly a rise in exports that stimulates an increase in aggregate economic growth rather than vice versa (Robert F. Emery 1967).

Peter C.Y. Chow, Gershon Feder and Rostam M. Kavoussi presented empirical results, which showed that "for the small open economies the development of manufacturing industries and export growth have causal relationships. It means that they are interdependent in the development process. The export growth in developing countries can expand their limited domestic markets and contribute to the economies of scale necessary for industrial developments. Furthermore, export growth integrates domestic economy with regional and/or global economies thereby expanding the dimension of competition to international markets. Competition promotes resources reallocations in developing countries as they transform from less productive farming sector to relatively more productive manufacturing sector. Therefore, factor productivities are improved through export growth" (Peter C.Y. Chow 1987).

In his work "Export expansion, growth and the level of economic development" *Demetrios Moschos* showed that the positive effect of the export on economic growth is limited for 'advanced economies' but on the contrary, the evidence indicates that among 'less advanced developing economies' output growth is mainly influenced by export expansion and capital formation, its response to labor growth being highly insignificant (Moschos 1989).

Furthermore, *Majid Mahmoodi and Elahe Mahmoodi* provided the evidence of long-run causality from export and FDI to economic growth and long-run causality from economic growth and export to FDI. Thus, as *Gerald M. Meier* remarked, export expansion leads to a reduction of the unemployment rate as well as increased domestic saving/investment, by this enhancing the inflow of factor inputs regarding the export sector.

Both, empirical and theoretical scientific literature reflects the bipolar nature of the ELG hypothesis. The effects of export on economic growth are derived through the positive impact on the resource allocation, economies of scale, the inflow of the foreign direct investment, labor force skills, employment, and capital formation. Conducting the empirical analysis is essential in this case to provide a solid argument for ELG effectiveness.

3. Methodology

3.1 Model specification

This paper uses a Solow-Swan growth model which derived from the neoclassical production function framework, commonly referred to Cobb-Douglas kind. According to the model the output is calculated by the interaction of two factors of production, labor force and capital.

Originally the model was designed by Robert Solow and Trevor Swan in 1956. Due to its flexibility and simplicity, the Solow-Swan model can facilitate various extensions, thus, it became the basis of multiple mathematical formulations. Similarly, our model uses the following production function:

$Y=f\ (L,K)$………………………………………………………………………………(1)

Correspondingly, the formula is expanded by adding total export:

$GDP_t=f\ (LF_t,\ CA_t,\ EX_t)$……………………………………………………………………(2)

By taking natural logarithm on the variables we discarded the differences in the units of measurements and minimize the gap between them:

$lnGDP_t= \beta_0+ \beta_1 lnLF_t+ \beta_2 lnCA_t+ \beta_3 lnEX_t+\varepsilon_t$……………………………………………(3)

$LGDP_t$, LLF_t, LCA_t, and LEX_t are natural logarithm of the gross domestic product, labor force, capital, and export respectively; ε_t represents the error term; β_0 is the constant and β_1, β_2, β_3 are the coefficients to be estimated.

3.2 Specification of the variables

This paper uses the secondary time-series data (from 1990 to 2016) collected from the National Statistics Office of Georgia and World Bank Group. The following variables were used for the empirical analysis:

GDP – Gross Domestic Product. GDP is expressed in terms of total value of goods and services produced in an economy within a year (inflation adjusted).

EX – Total Export is the sum of the goods and services produced in a country and sold abroad to foreign countries/citizens.

CA – Gross Capital Formation is the total value of the gross fixed capital formation, changes in the inventories and acquisitions less disposals of valuables for a unit or a sector.[1]

LF – Total Labor Force or currently active population, comprises all the persons who fulfill the requirements for inclusion among the employed or the unemployed during a specified brief reference period.[2] It will reflect the effect of LF on GDP growth.

3.3 Research methods

The method selection process was guided by the stationarity level of the variables and sensitivity of the co-integration tests regarding the time span. The level of stationarity is important to avoid spurious regression.[3]

The stationarity check of the variables presented in this paper was performed through the Augmented Dickey-Fuller test (ADF). ADF test procedure is similar to standard Dickey-Fuller (DF) test (equation 4). Difference is that in ADF test we are augmenting the DF test by the lagged values of the dependent variable (equation 5):

$\Delta Y_t=\beta_0+\delta Y_{t-1}+\mu_t$……………………………………………….……….(4) DF with drift

$\Delta Y_t= \beta_0+\delta Y_{t-1}+ \delta_1\Delta Y_{t-1}\ldots+\delta_{p-1} \Delta Y_{t-p+1}+\mu_t$……………………………….(5) ADF with drift

The null hypothesis of the test is that series contain the unit root, therefore it is non-stationary and alternative hypothesis states that the series does not contain the unit root and it is stationary. If the *P* value is less than 5%, we can reject H_0 and accept H_1 of stationarity of the series.

Unlike other cointegration tests, Engle-Granger is less sensitive to small data sample. As long as our data covers the period from 1990 to 2016, by this having at most 27 observations, the Engle-Granger co-integration test was employed to check the validity of the ELG hypothesis.

In general, Engle-Granger co-integration is a two-step test which requires series to be integrated of the same order. Correspondingly, if the series are integrated of order 1, but the error term in this relationship tends to be stationary *I*(0), then the series are cointegrated.[4] Engle-Granger co-integration is the residual based test (equation 6) which uses the following equation (7) for the co-integration procedure:

$\varepsilon_t=Y_t- \beta_0- \beta_1X_t$……………………………………………………………………….(6)

$\Delta\varepsilon_t= \mu+\varphi\varepsilon_{t-1}+ \varepsilon_t$……………………………………………………………………….(7)

The null hypothesis of the test states that there is no co-integration relationship ($H_0=(\varphi=0)$) and alternative hypothesis: *H_1=Existence of the co-integration ($\varphi\neq0$).*

The last step of our empirical analysis deals with the causality check of economic growth and total export. Hence, the Granger causality test was employed. This test refers to the augmentation of the autoregression of the particular variable

[1] Glossary of statistical terms – Gross Capital Formation
https://stats.oecd.org/glossary/detail.asp?ID=1158
[2] OECD - The Organization for Economic Co-operation and Development, Glossary of Statistical Terms.
https://stats.oecd.org/glossary/detail.asp?ID=2719
[3] Stationarity – The Central Concept in Time Series Analysis. Andreea-Cristina Petrică.
https://www.ermt.net/docs/papers/Volume_6/1_January2017/V6N1-107.pdf
[4] Co-Integration and Error Correction: Representation, Estimation, and Testing - Robert F. Engle; C. W. J. Granger.
http://www.ntuzov.com/Nik_Site/Niks_files/Research/papers/stat_arb/EG_1987.pdf

by including lagged values of another variable to check if it adds explanatory power to the regression. Mathematical formulation of the Granger causality test is as follows:

$Y_t=\alpha_0+\alpha_1 y_{t-1}+\alpha_2 y_{t-2}+\ldots+\alpha_m y_{t-m}+b_p x_{t-p}+\ldots+b_q x_{t-q}+error_t$…………………………….(8)

The null hypothesis of the test states that *y* does not Granger cause *x* and vice versa; in other words: No explanatory power added by the *x*'s lagged values.

4. Econometric analysis

4.1 Stationarity check and order of integration

As the precondition of the Engle-Granger co-integration test, the variables must be integrated of order one. Therefore, stationarity check was performed on all the variables by using the Augmented Dickey-Fuller (ADF) unit root test. Pre-examination of the raw data indicated the distortion from the endemic post-Soviet affects in terms of huge time-series shifts from 1990 to 1991, thus we eliminated two observations. In this regard, the elimination of the observations helps us to estimate the model for the post-soviet state; 'Blank page' for the country of Georgia.

The results showed that observed series are non-stationary at levels, as far as we can't reject the null hypothesis of non-stationarity: T-statistics are less than critical values at 5% level of significance and P-values of the corresponding variables are more than 5%. After taking the first difference, the series became stationary (T-statistics>Critical values at 5% and P-values<5%). Thus, the series appear to be integrated of order one (*I*(1)) (See Table 1).

Table 1. ADF unit root test results.

Variables	lnGDP	lnLF	lnCA	lnEX
ADF at Level (T-Stat.)	-1.43	-2.39	-1.03	-1.16
Critical Values at 5% (level)	-2.99	-2.99	-2.99	-2.99
Prob. at Level	0.54	0.15	0.72	0.67
ADF at 1st Difference (T-Stat.)	-4.70	-4.38	-5.73	-6.48
Critical Values at 5% (1st Diff.)	-3.00	-2.99	-3.01	-3.01
Prob. at 1st Difference	0.001	0.002	0.000	0.000

4.2 Estimation of the long-run relationship

The results of the ADF unit root test showed that all the series are integrated of order one. Thus, we can proceed to the estimation of the long-term relationship between economic growth (GDP) and total export (EX) by using the Engle-Granger cointegration test. The results of the test are presented below in Table 2:

Table 2. Engle-Granger co-integration test results.

Step 1: Co-integrating regression				
Dependent: lnGDP	Coefficient	Std. error	T-ratio	P-value
Constant	9.44	3.890	2.427	0.024
Time	0.024	0.003	7.35	4.21e-07
lnLF	0.557	0.265	2.098	0.0488
lnCA	0.159	0.022	7.091	7.13e-07
lnEX	0.079	0.020	3.806	0.001
Adjusted R-Squared	0.98			
Durbin-Watson	1.63			
Step 2: Testing for a unit root in residuals				

model: (1-L)y = (a-1)*y(-1) + ... + e estimated value of (a - 1): -0.876719 test statistic: tau_c(4) = -4.4093	p-value: 0.002121

The result presented in Table 2 confirms the existence of the cointegration between the GDP and Export. All the variables are statistically significant at most 5% level. As for export, 1% increase of total export increases economic growth by 0.079%. Furthermore, The residuals tend to be stationary, as long as we can reject the null hypothesis of non-stationarity (Step 2 in co-integrating regression presented above: p-value=0.002<0.05%). Durbin-Watson value is close enough to ideal value and the adjusted R-squared is high (98%), meaning that the dependent variable was explained by 98%.

4.3 Post-diagnostic tests for Long-run relationship model

4.3.1 Autocorrelation test

Autocorrelation is the process when the time-series data is influenced by its own lagged values. Thus, violating the underlying assumption of independence. Check for the autocorrelation was performed via LM test for autocorrelation. The null and alternative hypothesis of the test states the following: H_0: No AR(P) and H_1: AR(P). P=1, as long as we are testing for the first order autocorrelation (AR(1)).

Table 3. Autocorrelation LM test results.

LM test for autocorrelation up to order 1. Null hypothesis: no autocorrelation	
Test statistic: LMF	0.343064
P-value = P(F(1, 20) > 0.271537)	0.564959

According to the test results, the series does not indicate the presence of the first order autocorrelation, as we can't reject the H_0: Probability (0.564959) of the Test statistic with the value of 0.343064 is more than 0.05 (See Table 3).

4.3.2 Heteroskedasticity test (White's test)

To ensure the consistent results from the regression model, the residuals must indicate the constant variance, or homoscedasticity. In this regard, heteroskedasticity refers to the changing variance of the residuals.

Presence of the heteroskedasticity in the model violates the profound assumption of the homoscedasticity and can bias the regression results. Hence, we used the White's test for heteroskedasticity. Null hypothesis of the test states the absence of the heteroskedasticity. H_0 can be rejected if the probability value is less than 5% and vice versa.

Table 4. White's heteroskedasticity test results.

White's test for heteroskedasticity. Null hypothesis: heteroskedasticity not present	
Test statistic P-value = P(Chi-square(14) > 18.2068)	18.2068 0.197522

The results of the White's test do not detect the presence of the heteroskedasticity, as we failed to reject the H_0 (P-value>5%). Therefore, residuals seem to be homoscedastic.

4.3.3 Normality of residuals (Shapiro-Wilk Test)

Observing the residuals is the vital aspect of our statistical modeling. To check whether the residuals are well-behaved or not, we applied to Shapiro-Wilk Test. The H_0 of the test is that the sample is normally distributed. H_0 is rejected if the probability value is less than 5%, thus accept the alternative hypothesis of non-normality.

Table 5. Shapiro-Wilk Test Results.

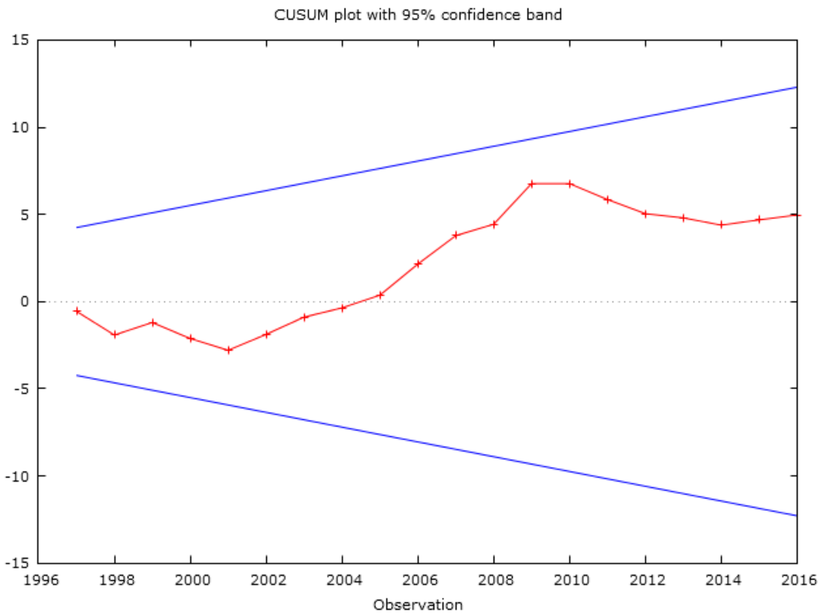
Shapiro-Wilk Test for normality of residual. Null hypothesis: Error is normally distributed	
Shapiro-Wilk W	0.948424
P-value	0.230967

The results of the test showed that the residuals are normally distributed, as we cannot reject the H_0 of normality (P-value=0.230967>0.05%) (See Table 5).

4.3.4 Structural stability of the parameters (CUSUM Test)

We used CUSUM test to check the structural stability of the estimated parameters. The H_0 of the test states that parameters are structurally stable, against H_1: Parameters are not structurally stable. If the test crosses the 95% confidence band even once, then the coefficients are not structurally stable.

Graph 1. CUSUM test results.



(Harvey-Collier t(19) = 1.10995 with p-value 0.2809)

As we can see from the Graph 1, crossing of the 95% confidence band is not detected, and P-value=0.2809>0.05, therefore, we accept the H_0 of structural stability of the coefficients.

4.4 Causality check

The last step of our econometric analysis deals with causality check. In the previous section, we showed the existence of the long-run relationship between economic growth and export. Thus, suggesting that there can be a causal relationship between the two. Performing the Granger causality test revealed the existence of bidirectional causal relationship from export to GDP and vice versa, as we can rejected both null hypothesis of no causality at 5% level of significance (See Table 6):

Table 6. Granger causality test results.

Null Hypothesis	F-Statistic	Probability
lnEX does not Granger Cause lnGDP	6.54	0.018
lnGDP does not Granger Cause lnEX	16.92	0.000

5. Conclusion

This paper empirically examined the compatibility of the ELG hypothesis for the Georgian economy. To check the validity of the theory multiple econometric methods were employed namely Engle-Granger co-integration and Granger causality tests.

Although, current direction of the Georgian economy does not indicate strong signs of the export-driven economy, empirical results landed support to the ELG hypothesis by revealing the existence of the long-run co-integration relationship between economic growth and the export, as well as the bidirectional causality from export to GDP and vice versa. Thus, prioritization of the ELG theory as the main economic development strategy can boost the economic performance of the country. Due to the European integration process, Georgia has an opportunity to explore the new export market. Therefore, enhancing the economic growth in the long-run through increasing the export earnings.

An adoption of the outward-oriented growth model in Georgian economy can have multiple benefits: Besides the GDP growth, export expansion can stimulate the foreign direct investment (FDI) inflow, as well as the reduction of the unemployment and increase in domestic savings. To stimulate the rapid growth, economic policymaking should be directed towards the most productive sectors of the export production (like wine and agriculture) to reap the benefits of both, comparative advantage and increasing returns to scale.

There is no doubt that after changing a direction of the economic development strategy towards radical, outward-oriented growth, the results will reflect stronger support to the ELG hypothesis. Thus, farther empirical examination will be needed to trace the validity of the ELG theory. As for now, this article can serve as the preliminary results indicating the effectiveness of the ELG theory, even though it is not fully prioritized by the country.

References

[1] Anderson Kym (2013): Is Georgia next “new” wine exporting country? Journal of Wine Economics, Volume 8, Number 1. Pages 1–28.

[2] Balasubramanyam Vudayagiri N., Salisu M., Sapsford David (1996): Foreign direct investment in EP and IS countries. The Economic Journal, Vol. 106, No. 434 (Jan. 1996), pp. 92-105

[3] Bruton Henry J. (1970): The import substitution strategy of economic development. A survey of findings. Research Memorandum No. 27. Williamstown, Massachusetts.

[4] Chow Peter C.Y. (1987): Causality between export growth and industrial development. Journal of Development Economics. 55—63.

[5] De Mello Luiz R. (1999) Foreign direct investment-led growth: evidence from time series and panel data. Oxford economic papers, Oxford University Press 51, 133-151, 1999.

[6] Daly Herman E. (1999): Uneconomic growth: In theory, in fact, in history, and in relation to globalization. DigitalCommons@CSB/SJU, Clemens Lecture Series.

[7] Fosu A. K. (1990): Export composition and the impact of exports on economic growth of developing economies. Economics Letters, 34(1), 67–71.

[8] Feder Gershon (1983): On exports and economic growth. Journal of Development Economics, volume 12.

[9] Juvenal Luciana & Paulo Santos Monteiro (2013): Export Market Diversification and Productivity Improvements: Theory and Evidence from Argentinean Firms. Research Division, Federal Reserve Bank of St. Louis, Working paper 2013-015A.

[10] Kavoussi Rostam M. (1984): Export expansion and economic growth. Journal of Development Economics. 241-250.

[11] Moschos Demetrios (1989): Export expansion, growth, and level of economic development. Journal of Development Economics. 93-102.

[12] Meier Gerald M. (2000): Leading issues in economic development. Oxford university press, sixth edition.

[13] Ramos Francisco F. Ribeiro (2001): Exports, imports, and economic growth in Portugal: evidence from causality and cointegration analysis. Elsevier, Volume 18, Issue 4, December, Pages 613-623.

[14] Reyes Jose-Daniel, Gonzalo Varela, and Miles McKenna (2014). Information for Export Survival: An Analysis of Georgian Export Performance and Survival in International Markets. The World Bank, (PREM).

[15] Taralashvili Tamar (2014): Foreign trade of Georgian agricultural products and existing potential of export to the European Union market. ACTA Scientiarum Polonorum, Oeconomia 13 (1) 2014, 123-134.

[16] Tyler W. G. (1981): Growth and export expansion in developing countries. Some empirical evidence. Journal of Development Economics, 9(1), 121–130.

[17] World Bank (1993), Product Cycle: The East Asian Miracle: Economic Growth and Public. Quarterly Journal of Economics, 80:190-207

[18] Yang Jie (2008): An Analysis of So-Called Export-led Growth. IMF working paper. WP/08/220, International monetary fund.

The Role of Competitive Cities as a Response to Regional Challenges in Latin America

Joanna Gocłowska-Bolek
Ph.D. University of Warsaw, Poland

Abstract

In the article, a phenomenon of urbanization of Latin America was analysed in terms of its impact on the level of competitiveness of the cities. A role that cities play in Latin America's economy was emphasized. The author has examined a number of reliable reports on competitiveness of the cities and on this basis formulated its assessment of the level of competitiveness on a global basis, including identifying strengths and weaknesses of the cities, key areas for strong economic development and proposes recommendations. Based on the analysis of available data and source reports, the main trends in urbanization have been identified that may affect the dynamics of the Latin American city's competitiveness.

Keywords: competitiveness, urbanization, economic development, Latin America

JEL Codes: O54, R11, R58

Introduction

Latin America is the most urbanized developing region in the world. Since 1950, Latin America urbanized at an exceptional rate, raising its urban population as per cent of total from 50 per cent to 82 per cent now. This figure is expected to grow to 86 per cent by 2050. Brazil and the southern cone may reach that level by 2020. In 2015, as much as 13% of world's urban population lived in Latin America. São Paulo, Mexico City, Lima or Bogota are examples of the largest cities in the world, with an ever increasing number of inhabitants. Over the past two decades, the region's urban population and economic growth has been increasingly taking place also in intermediate-sized cities, which are expanding exponentially.

The growing level of urbanization transfers into greater competitiveness opportunities, but also creates new difficulties. To sustain their growth, the region's cities need to address challenges not only to their economic performance but also to the quality of life of their citizens, sustainable resource use, and the strength of their finances and governance. In the article, a phenomenon of urbanization of Latin America will be analysed in terms of its impact on the level of competitiveness of the cities. A role that cities play in Latin America's economy will be emphasized. The special focus will be put on the Emerging and Sustainable Cities Program (ESC), non-reimbursable technical assistance program providing direct support to national and subnational governments in the development and execution of city Action Plans, enhanced by the Inter-American Development Bank (IDB). Some guidance on the future development of cities will be revealed.

The terms "competitive cities" and "city competitiveness" have become commonly used by researchers, journalists, political leaders, economic development practitioners, and others. The definitions vary, but some common issues can be found. According to McKinsey Global Institute [MGI, 2013] city competitiveness can be defined as the set of factors – policies, institutions, strategies and processes – that determines the level of sustainable productivity of a city, where sustainability encompasses economic, environmental and social issues. For the purposes of this article "a competitive city" is understood as one that successfully facilitates its business and industries to create jobs, raise productivity, and increase the incomes of citizens over time. Competitiveness can be achieved by investing in institutions and infrastructure, training citizens and promoting innovation, with adequate financing and private sector support. Worldwide, improving the competitiveness of cities is a pathway to eliminating extreme poverty and to promoting shared prosperity. Competitive cities are hubs for growth and innovation. Thus, competitive cities are drivers of economic development [World Bank, 2006, OECD, 2006, 2014].

Literature review

In reviewing literature published by the World Economic Forum, OECD, McKinsey Global Institute, Brookings, the World Bank, and other, several patterns can be noted. Most literature considers four major categories of policy levers as being integral to city competitiveness [Brookings Institution Metropolitan Policy Program 2007, 2011, 2012, 2013; Centre for Cities 2013, 2014a, 2014b, 2015; Cities Alliance 2006; McKinsey Global Institute 2012, 2013; OECD 2006, 2013, 2014; WEF 2014; World Bank 2006]:

- Institutions and regulations – the importance of a taxation and regulatory system, a transparent and efficient public administration, and the use of special measures to address environmental degradation, social cohesion, and traffic management.

- Infrastructure and land – at lower income levels, institutions, regulations, and basic infrastructure tend to be crucial drivers of competitiveness, while at higher income levels, human capital, advanced infrastructure, and innovation systems become crucial for sustained economic growth and job creation;

- Enterprise support and finance – regular dialogue with businesses, means to attract investors, public-private partnerships, training and mentorship networks for small and medium enterprises (SMEs), and seed capital.

- Skills and innovation – strong educational institutions, the alignment of training/educational curricula with the needs of local business and industry, and arts and culture to attract international talents and investment.

However, it seems to be difficult to achieve consensus on how to compose, use and evaluate those policies and investments, how to balance scarce resources, how to regulate the processes for making decisions, the choice of partners/main actors, the techniques/policies for implementation etc. Some reports (OECD, World Bank, Cities Alliance, Brookings) tend to emphasize a collaborative approach between various actors in a city and with government. Other reports (WEF, McKinsey Global Institute) stress the need for city leaders to envision and push a development agenda from the front. In some approaches [OECD, Cities Alliance, World Bank] economic development as a long-term strategic effort, requiring reliable financing, timelines for implementation, ownership of the process from stakeholders, and a collaborative approach is underlined.

In 2015 the World Bank published a study encompassing 750 cities around the world investigated in the period 2005-2012 [Kilroy, Mukim, Negri, 2015]. The authors analyse the conditions necessary for making a city competitive. The conclusion arrives that there is no single recipe for becoming a competitive city, but still some common patterns can be identified and some suggestions can be formulated. According to the World Bank [2006, 2015], McKinsey Global Institute [2012, 2013], OECD [2014], competitive cities require:

- economic development set as a priority by city governments;

- successful cooperation of public and private entities willing to resolve city's problems;

- successful cooperation with cities or tiers of government to resolve problems exceeding the possibilities of solving a single city.

In each case, the focus on economic structure, policy levers and growth coalitions is crucial [Dijkstra, Poelman 2014; Kilroy, Mukim, Negri, 2015].

Sustained long-term economic success in most case-study cities has been observed: the growth of existing firms, the attraction of outside investors, and the creation of new businesses. Successful cities do not just rely on attracting outside investment to spur economic growth. They balance business recruitment with assisting the growth of existing firms – which typically account for the largest share of new jobs in most economies – as well as with helping the formation of new businesses. Competitive cities focused these policy levers on economywide interventions as well as on specific industrial sectors.

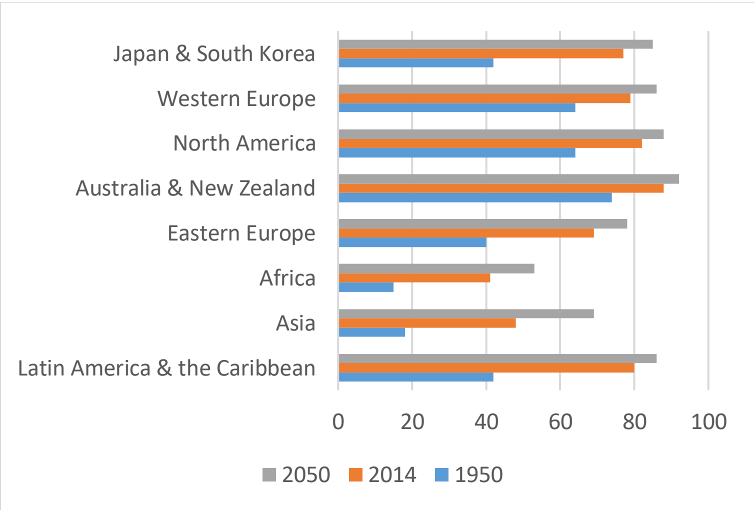
Cities at all levels of income and with different industrial structures and political regimes have found ways to increase jobs, raise incomes, and strengthen productivity, thus benefiting their citizens. Their path depends on their starting point, size, endowments, economic vocation, economic structure, and administrative remit. Cities can improve their performance by using a custom process for designing and implementing a strategy and by using tools that are already available. These tools include strategic analysis of the local economy and external market trends and opportunities, public-private dialogue, and techniques for harnessing the political economy during implementation. The competitive cities among 750 examined by World Bank explicitly or implicitly used some of these tools to make informed decisions according to their specific needs [Kilroy, Mukim, Negri 2015]. It can also be argued that advances in globalisation, information and technology revolution, and farreaching structural change is altering the terms of competition between cities [Krugman 1996; Jensen-Butler 1997; Begg 1999; World bank, 2006; Storper, 2013; Roberts, Blankespoor, Deuskar, Stewart, 2017].

2. Latin America's urbanization trends

Latin America is most urbanized developing region, with over 80 percent of its population living in cities[1], which is far ahead from the world's average of 66%. Urbanization in most countries of the region began to increase in the second half of the 20th century. Urbanization in Latin America began earlier than in other regions and managed to develop at a considerable faster rate. Since 1950 Latin America experienced 93% growth of urbanization rate which did not happen in any other region on this scale. The countries whose urbanization levels have grown most are Colombia and Brazil, with an average annual growth of nearly 1.3% between 1950 and 2015.

The ongoing shift from country to town has contributed much to Latin America's growth, primarily due to economies of scale raising the productivity of expanding cities and reducing the cost of delivering their basic services. As several reports indicate, cities are crucial to Latin America's overall economy. About 260 million people live in the region's 198 large cities – defined as having populations of 200,000 or more. Large cities together generate more than 60 percent of region's GDP (which is more than 1.5 times the contribution expected from large cities in Western Europe). The 10 largest Latin American cities alone contribute to half of that output. Such a concentration of urban economic activity in the largest cities makes Latin America comparable to the United States and Western Europe in this respect but not to many other emerging regions.[2]

Fig. 1. Share of urban population by regions, as % of total population (1950, 2015, and 2050)

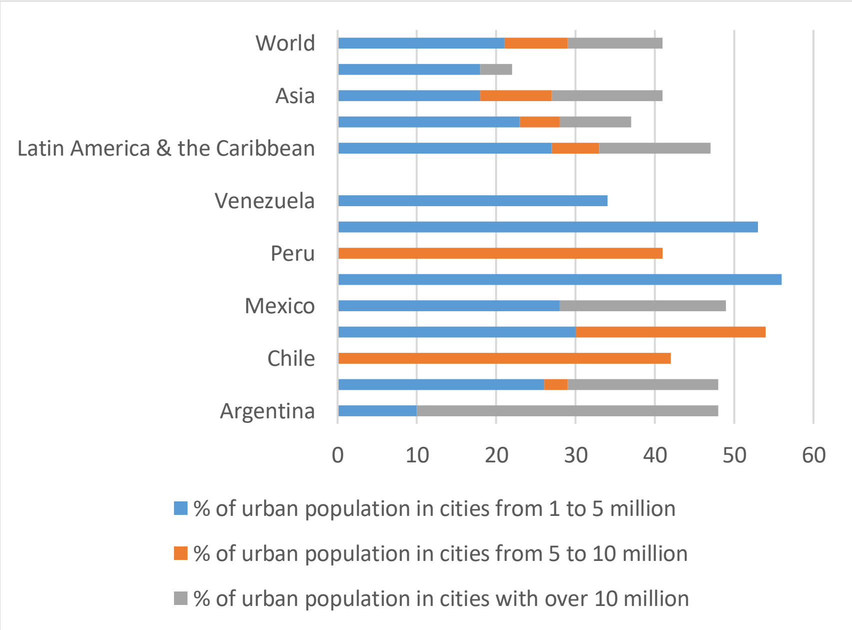


Source: Based on the data of BBVA Research [2017].

The Latin American cities are steadily expanding. This trend creates complexity of problems with urban planning, sustainable development and effective city management. Inequality, violence and organised crime are the main problems in urban areas [Glaeser, Joshi-Ghani, 2014; Ferreyra, Roberts, 2018]. Insecurity is the prime concern for most people in Latin America, ahead of jobs. The poor are the first to suffer from the widespread violence, and their improvised homes are the most exposed to extreme weather events and natural disasters. Latin American cities are the most unequal and often most dangerous places in the world, with social divisions generating strong geographical segregation between its residential districts and favelas hardwired into the urban mozaique [Parangua 2012].

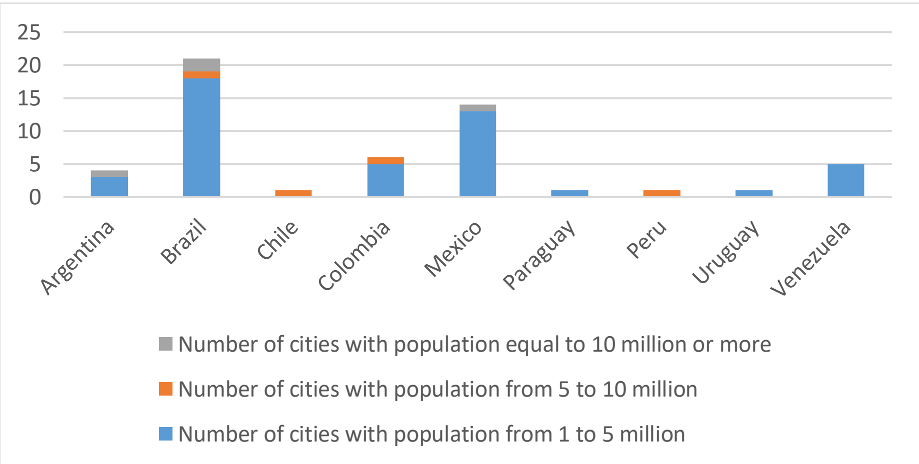
[1] In comparison, the EU is 74% urbanized, while China and the whole East Asia and Pacific 50% [BBVA Research, 2017].
[2] China's top ten cities, for instance, contribute around 20 percent of the nation's GDP [WEF, 2014].

Fig. 2. Share of urban population in big cities (as % of total urban population, 2015)



Source: Based on the data of BBVA Research [2017].

Fig. 2. Number of big cities in Latin America (2014)[1]



[1] The number of cities with population of at least 1 million is equal to 105 in China, 58 in India, 13 in the Russian Federation, 11 in Indonesia, 8 in Turkey, 6 in South Africa and 1 in Poland.

Source: Based on the data of BBVA Research [2017].

Despite efforts in the past 20 years to redistribute resources and evident success of social programmes, 122 million city residents in Latin America still live in poverty, mostly in shanty towns and contributing to informal economy [Gocłowska-Bolek, 2015]. Improving such dwellings and their surroundings has contributed to their stability, all the more necessary given the housing shortage. But the challenge is not to move the slum population to the outskirts of cities, because it would take them away from their work and modern amenities, but try to include them effectively into the city fiber [BBVA Research, 2017].

3. The key role of cities in Latin America

According to McKinsey Global Institute estimation, Latin America's 198 large cities are expected to generate 65 percent of the region's growth over the next 15 years [Kilroy, Mukim, Negri, 2015], which is equivalent to about 6 percent of expected global GDP growth, as well as more than 1.5 times the contribution expected from Western Europe's large cities and similar to the level anticipated from India's.

Latin America's top ten cities are considered most critical for the economy due to its size and contribution to countries' GDP [Gollin, Jedwab, Vollrath, 2016; Kilroy, Mukim, Negri, 2015]. However, in many of them the rate of economic growth has declined since the era of rapid urbanization. Since 1970., growth rates in Brazil's São Paulo and Rio de Janeiro have dropped from above the national average to below it. Mexico City's metropolitan region, for instance, has posted a slower pace of growth than the average of Mexico's 45 middleweight cities. Other leading cities in the region have also recently grown more slowly than the "middleweight" cities, which we define as those with populations of 200,000 to 10 million.

Tab.1. Latin America's biggest cities (2015).

Rank	City	Country	Population	City's GDP per capita
1.	Mexico City	Mexico	22,976,700	16,239
2.	Sao Paulo	Brazil	20,847,500	25,651
3.	Buenos Aires	Argentina	15,481,800	35,906
4.	Rio de Janeiro	Brazil	12,460,200	23,176
5.	Lima	Peru	10,674,116	15,531
6.	Bogota	Colombia	9,135,800	21,497
7.	Santiago	Chile	7,164,400	28,929
8.	Belo Horizonte	Brazil	5,595,800	20,134
9.	Guadalajara	Mexico	4,687,700	14,206
10.	Caracas	Venezuela	3,260,200	15,891

Source: World Atlas [2017].

Many of the region's top ten have started to run up against capacity constraints as urban management struggles to keep pace with the demands of expanding metropolitan regions that have swallowed up smaller towns that neighbor them but are outside their jurisdiction. Planning and policy have often been uncoordinated and funding hasn't been sufficient to meet growing needs. Many cities have outgrown the capacity of their infrastructure, the design of their transportation systems, and their ability to deliver adequate public services, making it difficult to get things done efficiently and effectively.

As a result, cities are not generating enough high-productivity jobs to employ an expanding labor force and have thus raised informal economic activity to damagingly high levels. Unless the very largest cities significantly increase their productivity and the number of jobs they generate in the formal economy, as well as boost the efficiency of their operations and management, MGI expects their growth rates to remain below the average for the region's large cities [Kilroy, Mukim, Negri, 2015]. That could drag down Latin America's overall rate of growth.

4. Latin American cities in global rankings of competitiveness

There are several global rankings that compare cities in the world, taking into account different categories, one of which is competitiveness, and the methodology constantly raises some discussions. Most often, the largest cities in the world are compared, among them also Latin American cities find their place, although not in the leading positions.

In the A.T. Kearney Global Cities Report [2018], the most competitive cities are: New York, London, Paris, Tokyo and Hong Kong. The authors of the report tend to consider 27 aspects grouped into five major areas: business, human capital, information exchange, cultural experience and political participation.

The study, published annually for a decade, collects information from 135 cities to assess their competitiveness, influence and potential. In Latin America, the research included the study of the following cities: Belo Horizonte, Bogota, Buenos Aires, Caracas, Guadalajara, Lima, Mexico City, Monterrey, Porto Alegre, Puebla, Recife, Rio de Janeiro, Salvador, Santiago, São Paulo [A.T. Kearney Global Cities Report, 2018].

Tab. 2. Latin America most competitive cities (2017)

Rank	City	Country	Position in the global ranking
1.	Buenos Aires	Argentina	25
2.	São Paulo	Brazil	31
3.	Mexico City	Mexico	38
4.	Bogota	Colombia	55
5.	Rio de Janeiro	Brazil	56

Source: A.T. Kearney Global City Report [2018].

In other key study, conducted by the Economic Intelligence Unit of the British weekly "The Economist" and commissioned by the multinational bank Citigroup, Buenos Aires again is outstanding as the most competitive city in Latin America in terms of its capacity to attract investments, businesses, talented professionals and even tourists. The study considered 120 large cities around the world and Buenos Aires ranked 60th in the general ranking, right in the middle of the list. Although the score was far from the most competitive cities in the world, still it was at the top of the region, with better grades than São Paulo, Santiago de Chile, Mexico City, Rio de Janeiro, Panama, Lima, Bogota, Monterrey, Medellín, Guadalajara and Porto Alegre, which were the other Latin American cities studied. There were eight categories that were examined in each city for the study: economic power, physical capital, financial maturity, institutional effectiveness, social profile and culture, human capital, environment and natural hazards and global appeal.

The interesting thing in the case of Buenos Aires is that the best grades were obtained in the non-strictly economic categories. The Argentine capital's strongest areas are: global attractiveness (position 27th of the ranking), human capital (the 43rd) and social and cultural profile (the 57th) [Citibank/The Economist, 2018]. Today, Buenos Aires has a plan in place to build a *ciudad moderna* (modern city). This plan addresses top-of-mind concerns like economic growth, government transparency, quality of life, mobility and the environment. In fact, a 2014 survey by the Inter-American Development Bank shows that residents of Buenos Aires rate safety, inequality, transportation, transparency and health as their top concerns.

The general context, which is also followed by the example of Buenos Aires, shows Latin America lagging behind the regions that concentrate economic power and development. Thus, the cities of the United States and Europe (with New York and London ranked the highest) appear at the top of the ranking, despite the growing concern about their large national fiscal deficits, slow growth and aging population and infrastructure. Many Asian cities, such as Singapore and Tokyo, also appear with dominant positions, reflecting the economic growth of an entire continent.

In the *Hot Spots 2025: Benchmarking the future competitiveness of cities* [The Economist/Citigroup, 2018], another report prepared annually by Citigroup and The Economist, there are several Latin American cities listed, with São Paulo ranked the highest (36th) among the world's most competitive cities today which are likely to retain their advantage until 2025.

In Latin America, major Brazilian cities – São Paulo (36th), Rio de Janeiro (76th) and Porto Alegre (97th) – are expected to improve their competitiveness significantly by 2025. All three cities are among the top 15 risers in the overall index rankings. São Paulo (36th), the Index's most improved, is also the most competitive city among the BRICS countries, while there is no Chinese city among the top 25 most improved cities. This may reflect the progress that Chinese cities have already made on the one hand and the fact that many cities in Brazil still have a bit of catching up to do before they can match the competitiveness of their Chinese rivals, on the other [The Economist/Citigroup, 2018].

5. Intermediate-sized competitive cities in Latin America

Over the past two decades, the region's urban population and economic growth has been increasingly taking place also in, which are expanding exponentially. In 2015, as much as 13% of world's urban population lived in Latin America. The growing level of urbanization transfers into greater competitiveness opportunities, but also create new challenges. There are some Latin American cities listed below, recognized worldwide as competitive, growing and prosperous. To sustain their growth, the cities need to address challenges not only of their economic performance but also of the quality of life of their citizens, sustainable resource use, the strength of their finances and governance, as well as to overcome natural, security and economic threats due to its entrepreneurial culture, work ethics, and business and political leadership. Strong economic capabilities have been built over decades through effective cooperation between public and private institutions and the results are encouraging, however much remains to be done in the field [UN, 2012; WEF, 2014; Kilroy, Mukim, Negri, 2015].

Among the cities that best develop their potential using their advantages in relation to their rivals, and which can serve as an example of the best-used assets, the following should be mentioned: Bucaramanga (Colombia), Medellin (Colombia), Guadalajara (Mexico), Monterrey (Mexico), Curitiba (Brazil), Santiago (Chile) or Buenos Aires (Argentina).

Main trends in competitiveness of Latin American cities

After a sharp growth, urbanization in Latin America exhibits signs of moderation. Over the next decades it will expand below the world average. Urbanization is positively correlated with income per capita, as well as with capital, labor and productivity (TFP) measures. However, in spite of displaying high urbanization rates, Latin American countries show relatively low levels of income, capital, labor and productivity [Storper, 2013; Roberts, Blankespoor, Deuskar, Stewart, 2017].

In spite of the positive trends observed on its development and growth [OECD, 2014; Center for Cities 2014b, 2015], urbanization continues to be concentrated in a very limited number of cities. Only Mexico and Brazil have more than a dozen cities with over a million inhabitants, while countries such as Uruguay and Paraguay don´t have more than two cities with a population of more than one million residents. There is a certain relationship between urbanization and per capita income, along with the indicators of capital, employment and productivity. In spite of the high rates of urbanization, the countries of Latin America have relatively low levels of income, capital, employment and productivity. For that reason, the predictions of a much smaller expansion than was seen in recent decades, represent a challenge to growth in the region [Kilroy, Mukim, Negri, 2015]. The quality of the infrastructure is not at a high level in the countries of the region, with Chile, Mexico and Uruguay being the least affected in this aspect [OECD, 2014; Center for Cities, 2015].

Productivity rises inasmuch as urbanization grows. According to MGI Reports (2013) the countries with a higher degree of urbanization, such as Chile and Argentina (where it comes close to 90%) productivity is much higher than in nations in the developmental phase, such as Paraguay, where it barely reaches 60%. Still, productivity of Latin American cities lags that of Western European or North American ones. Closing this gap provides Latin America with the opportunity to raise living standards and join the ranks of the world's richest countries [Ferreyra, Roberts, 2018].

Given the prominence of cities in Latin America's economy, fulfilling their economic potential is a key to sustaining growth in the region as a whole, according to new research by the McKinsey Global Institute [MGI, 2013]. Yet Latin America has already won a large share of the easy gains from expanding urban populations. Many of the largest cities are grappling with traffic gridlock, housing shortages, and pollution. To sustain growth, these cities must address challenges not only to their economic performance but also to their citizens' quality of life, to environmental sustainability, and to the strength of their finances and governance [Maloney, Valencia Caicedo, 2017; Roberts, Blankespoor, Deuskar, Stewart, 2017].

The relative youth of Latin America's population makes transforming the region's urban economies even more urgent. In marked contrast to Japan and Western Europe – as well as to some developing regions, including China and Eastern Europe – Latin America's working-age population is projected to expand steadily until it peaks, in the 2040s, at around 470 million potential workers. That will be 30 percent more than the region had in 2007 and a net increase of 85 million, equivalent to three-quarters of today's labor force in the United States or Western Europe [Kilroy, Mukim, Negri, 2015].

This expansion offers Latin America a significant demographic dividend if its economies can grow sufficiently to generate enough high-productivity jobs for a large, young workforce—much of it in urban settings. Employed productively in a dynamic, job-creating economy, young workers could create the wealth on which future investment and sustained growth depend. But a failure to create attractive opportunities in the formal sector would mean that informal or even illegal activity might become more likely for young people seeking to provide for themselves and their families.

By the second half of this century, Latin America's demographic profile will look more like Europe's, with the proportion of the population that's economically active not only shrinking but also having to provide for the growing proportion of older people. Unless Latin America's policy makers, businesses, and civil societies take steps to reform and develop their cities and create more productive jobs in the formal economy, the region runs the risk of growing old before it grows rich [Arsht 2014; Kilroy, Mukim, Negri 2015].

There are several programs providing assistance to the cities authorities introduced. One of the most important is the Emerging and Sustainable Cities Program (ESC) – the IDB's non-reimbursable technical assistance program providing direct support to national and subnational governments in the development and execution of city Action Plans. The ESC employs a multidisciplinary approach to identify, organize and prioritize urban interventions to tackle the main roadblocks that prevent the sustainable growth of emerging cities in Latin America and the Caribbean. This transversal approach is based on three pillars: 1. environmental and climate change sustainability, 2. urban sustainability, and 3. fiscal sustainability and governance [www2].

Stage one of the ESC begins by executing a rapid diagnostic tool to identify the sustainability challenges of a city. Afterwards, topics (i.e. water, air quality, transparency, etc.) are prioritized through the use multiple filters – environmental, economic, public opinion and sector specialist expertise – to identify issues that pose the greatest challenges in a city's pathway towards sustainability. Finally, an Action Plan is formulated, containing prioritized interventions and a set of strategies for their execution across the short-, medium- and long-term [www2].

In stage two, the execution phase begins with the preparation of pre-investment studies for prioritized interventions and the implementation of a citizen monitoring system. There are already some results of the program announced (1. Master Plan: Public Space of the Historic Center of Cumaná – Venezuela, 2. Recuperación Integral del Centro Histórico de Santa Ana – El Salvador; 3. Managing Systems of Secondary Cities; 3. Quetzaltenango: Diagnosis of Competitiveness and Economic Development), another are ongoing [www3].

Conclusions

Latin America, as the global leader in urbanization, deserves special attention in how to capture the economic and social potential of the growth of cities to turn this phenomenon into competitiveness. Creative innovative policies that foster equitable economic growth, sound urban governance, long-term housing and public space management, efficient urban services are needed.

As several studies already referred to indicate, improving the competitiveness of cities is an important factor to eradicate poverty and increase shared prosperity. Latin America's political and business leaders must act decisively on two fronts to improve the performance of the region's cities and turn its demographic profile to advantage: reforming and upgrading the largest cities, on the one hand, and helping a broader group of high-performing middleweight ones to emerge, on the other. While national policies – including regulation – significantly influence how cities are run, local policy choices are also very important to their economic performance. To underpin a stable environment conducive to strong economic development, city policy makers should consider prioritizing following issues [Storper 2013; Kilroy, Mukim, Negri, 2015; www4]:

Economic performance (transparent land ownership and zoning regulation; reliable urban infrastructure, intercity transportation networks);

Social conditions (public safety; accessible housing; efficient public transportation; high-quality education; public–private partnerships to improve access to public services);

Sustainable resource use (improve energy productivity; building regulations; green standards for urban demand; improve urban distribution; make waste management profitable);

Sound urban governance (long-term planning and coordination; sustainable, responsible fiscal management).

In the same time, urbanization in Latin America is to expand less than the world's average in the future, which represents a big challenge in terms of growth in the future. Urbanization levels vary significantly within each country in the region. Several studies indicate that countries with higher urbanization levels exhibit greater levels of capital and better infrastructure. Urbanization is positively correlated with income per capita, as well as with capital, labor and productivity (TFP) measures. Anyhow, in spite of displaying high urbanization rates, all Latin America countries underperform, especially in the category of human capital levels. Productivity is larger in more urban countries, but comparatively small in Latin America [BBVA Research, 2017; www4].

Reassessing the role of cities in overall development of Latin America, these trends have to be recognised and addressed to properly. Prospects of slighter expansion of urbanization ahead represent a challenge in terms of growth for the region and requires more effective approach to governance, management, and cooperation issues to assure higher competitiveness of the cities [BBVA Research 2017; WEF 2014].

References

[1] A.T. Kearney Global City Report, (2018), https://www.bbc.com/mundo/noticias-44362146 [10.07.2018.].
[2] Arsht, A., (2014), *Urbanization in Latin America*, Atlantic Council, Washington D.C.
[3] BBVA Research, (2017), *Urbanización en América Latina*, https://www.bbvaresearch.com/wp-content/uploads/2017/08/Urbanizacion-en-America-Latina-BBVA-.pdf [11.06.2018].
[4] Begg, I., (1999), *Cities and Competitiveness*, Urban Studies, Vol. 36, No. 5-6, pp. 795-809.
[5] Brookings Institution Metropolitan Policy Program, (2007), *Metro Nation: How U.S. Metropolitan Areas Fuel American Prosperity*, Blueprint for American Prosperity report, Brookings Institution, Washington, D.C.
[6] Brookings Institution Metropolitan Policy Program, (2011), *Metropolitan Business Plans: A New Approach to Economic Growth*, Brookings/RW Ventures Metropolitan Business Planning Initiative report, Brookings Institution, Washington, D.C.
[7] Brookings Institution Metropolitan Policy Program, (2012), *Metro Trade: Cities Return to Their Roots in the Global Economy*, Global Cities Initiative report, Brookings Institution, Washington, D.C.
[8] Brookings Institution Metropolitan Policy Program, (2013), *The 10 Traits of Globally Fluent Metro Areas: International Edition*, Global Cities Initiative report, Brookings Institution, Washington, D.C.
[9] Centre for Cities, (2013), *Beyond the High Street: Why Our City Centres Really Matter*, Working Paper, Centre for Cities, London.
[10] Centre for Cities, (2014a), *Delivering Change: Making Transport Work for Cities*, Working Paper, Centre for Cities, London.
[11] Centre for Cities, (2014b), *Breaking Boundaries: Empowering City Growth through Cross-Border Collaboration*, Working Paper, Centre for Cities, London.
[12] Centre for Cities, (2015), *A Century of Cities: Urban Economic Change Since 1911*, Working Paper, Centre for Cities, London.
[13] Citibank/The Economist (2018), *HotSpots 2025. Benchmarking the future of competitiveness of cities*, https://www.citigroup.com/citi/citiforcities/pdfs/hotspots2025.pdf [10.07.2018].
[14] Cities Alliance, (2006), *City Development Strategy Guidelines: Driving Urban Performance*, Working Paper, Cities Alliance, Washington, D.C.
[15] Dijkstra, L., Poelman, H., (2014), *A harmonised definition of cities and rural areas: the new degree of urbanization*, Regional Working Paper, European Commission, Directorate General for Regional and Urban Policy.
[16] Duranton, G., (2015), *A Proposal to Delineate Metropolitan Areas in Colombia*, Desarrollo y Sociedad, 75, pp. 223-264.
[17] Ferreyra, M.M., Roberts, M., (2018), *Raising the Bar for Productive Cities in Latin America and the Caribbean*. Latin America and Caribbean Studies, World Bank, Washington D.C.
[18] Fikri, K., Tingting Zhu, J., (2015), *City Analytics. Companion paper for Competitive Cities for Jobs and Growth: What, Who, and How*, World Bank, Washington D.C.
[19] Glaeser, E.L., Joshi-Ghani, A., (2014), *The Urban Imperative: Toward Shared Prosperity*, Policy Research Working Paper 6875, World Bank, Washington D.C.
[20] Gocłowska-Bolek, J., (2015), *Fostering Economic and Social Innovativeness to Address Development Challenges in Latin America*. in: Pintilescu C., Wierzbiński B., Zarotiadis G. (eds.), *Openness, Innovation,*

Efficiency and Democratization as Preconditions for Economic Development. Proceedings of the 11th International Conference of ASECU, Foundation of the Cracow University of Economics, Cracow, pp. 201-209.

[21] Gollin, D., Jedwab, R. Vollrath, D., (2016), *Urbanization with and without industrialization*, Journal of Economic Growth, 21(1), pp. 35-70.

[22] Jensen-Butler, C., (1997), *Competition between cities, urban performance and the role of urban policy: a theoretical framework*, in: C. Jensen-Butler, A. Schachar, J. Van Weesep (Eds), *European Cities in Competition*, Avebury, Aldershot. pp. 3-42.

[23] Kilroy, A.F., Mukim, M., Negri, S., (2015), *Competitive cities for jobs and growth: what, who, and how*, World Bank, Washington, D.C.: http://documents.worldbank.org/curated/en/902411467990995484/Competitive-cities-for-jobs-and-growth-what-who-and-how [11.06.2018].

[24] Krugman, P., (1996), *Making Sense of the Competitiveness Debate*, Oxford Review of Economic Policy, 12, pp. 17-25.

[25] Maloney, W.F., Valencia Caicedo, F., (2017), *Engineering Growth: Innovative Capacity and Development in the Americas*, CESifo Working Paper Series No. 6339. Available at SSRN: https://ssrn.com/abstract=2932756 [12.07.2018.].

[26] McKinsey Global Institute, (2012), *Urban World: Cities and the Rise of the Consuming Class*, Working Paper, McKinsey Global Institute, Washington, D.C.

[27] McKinsey Global Institute, (2013), *How to Make a City Great*, Working Paper, McKinsey Global Institute, Washington, D.C.

[28] OECD (Organisation for Economic Co-operation and Development), (2014), *OECD Regional Outlook 2014: Regions and Cities: Where Policies and People Meet*, OECD Publishing, Washington, D.C. http://www.oecd-ilibrary.org/urban-rural-and-regional-development/oecd-regional-outlook-2014_9789264201415-en [15.07.2018.].

[29] OECD (Organisation for Economic Co-operation and Development), (2006), Competitive Cities in the Global Economy, OECD, Washington, D.C.

[30] OECD (Organisation for Economic Co-operation and Development), (2013), Enhancing Competitiveness: Better Governance for Metropolitan Areas by Getting Cities Right, in: *Regions and Cities: Where Policies and People Meet: Policy Briefs*, OECD, Marseille, France.

[31] Parangua, P., (2012), *Latin America struggles to cope with record urban growth*, “The Guardian”, 11 Sep 2012, https://www.theguardian.com/world/2012/sep/11/latin-america-urbanisation-city-growth [10.06.2018].

[32] Roberts, M., Blankespoor, B., Deuskar, C., Stewart, B.P., (2017), *Urbanization and development: is Latin America and the Caribbean different from the rest of the world?*, Policy Research working paper; no. WPS 8019, World Bank Group, Washington, D.C..

[33] Storper, M., (2013), *Keys to the City: How Economics, Institutions, Social Interaction, and Politics Shape Development*, Princeton University Press, Princeton, NJ.

[34] UN (2012), *Sustainable Urbanization Thematic Think Piece*, Working Paper, System Task Term on the Post-2015 UN Development Agenda. United Nations, New York.

[35] WEF, (2014), *The Competitiveness of Cities. Report of the Global Agenda Council on Competitiveness*, World Economic Forum WEF, Cologny/Geneva, Switzerland.

[36] World Atlas, (2017), *Biggest Cities in Latin America*, www.worldatlas.com/articles/which-are-the-biggest-cities-of-latin-america.html [20.07.2018.].

[37] World Bank, (2006), *Local Economic Development: A Primer-Developing and Implementing Local Economic Development Strategies and Action Plans*, World Bank Group, Washington, D.C.

[38] www1 TCData360 World Bank https://tcdata360.worldbank.org/stories/competitive-cities/ [10.07.2018].

[39] www2 ESC Emerging Sustainable Cities https://www.iadb.org/en/cities [20.07.2018].

[40] www3 NDC Partnership http://ndcpartnership.org/funding-and-initiatives-navigator/emerging-and-sustainable-cities-program-esc [20.07.2018.].

[41] www4 World Bank Urban Development Data https://data.worldbank.org/topic/urban-development [22.07.2018.].

Bitcoin and Blockchain: A Threat or Opportunity for the Financial System

Gonca ATICI
Assoc. Prof. Istanbul University / School of Business, Business Administration

Abstract

As world economy evolved over years, barter which is a primitive transaction system left its place to money system. Commodity and bimetallic systems of money resolved the problems, especially the requirement of double coincidence of wants and eased the trade within parties. Chronologically, paper system of money followed the commodity system and implemented via two methods. In the first method, convertible paper money is converted into gold and silver by the authority that issued paper money. In the second method that is still valid today, fiat money is accepted by parties because of its being a legal tender. Money supply definitions keep changing as new liquid assets emerge day by day. Especially after the post global financial crisis, central banks have a more critical function for the world economies. Keeping all these developments aside, surrounded by fintech trends, financial system has confronted with a new instrument bitcoin that is first introduced in 2009. Though there are still too many consideration about this new financial instrument, number of bitcoins has growing since 2009 and has reached almost 17 million as of September 2018. Some economists consider bitcoin and other cryptocurrencies as a threat especially for central banks' emission power. In this study we try to shed light to bitcoin, other cryptocurrencies and blockchain technology with regard to their evolvement and whether they pose a threat or provide an opportunity to the financial system.

Keywords: Bitcoin, cryptocurrency, blockchain, central banks, regulation, financial system

1. Introduction

Money is an asset that is generally accepted as payment, for goods and services or repayment of debt (Cecchetti and Schoenholtz, 2011). Though definition of money supply keeps changing, as new liquid assets emerge day by day, money preserves its place at the core of the payment system. In the evolution of the payment system, commodity moneys takes the first place. Commodity moneys are things with intrinsic value. From ancient times until several hundred years ago, they functioned as medium of exchange. Second period has launched with paper currency that is also convertible into coins and precious metals. Over years, it evolved into today's fiat money. Decreed by government as a legal tender, fiat money lost its feature of convertibility into precious metals. To overcome problems special to money, such as the risk of theft and transferring fees of huge amounts, a new step was taken towards modern banking instruments like checks, electronic payment and, e-money. First form of e-money was the debit card. A more advanced e-money is the stored-value card. A more sophisticated version is called a smart card. Another form of e-money is referred to as e-cash that is used in internet transactions. Though all these progress bring the idea of a cashless society, it seems the world is far from this alternative, at least for the near future. But another question arises as what will be the money of future? (Mishkin, 2016).

Following global financial turmoil of 2008, central banks of especially emerged economies have taken a leading role in terms of finding a panacea to the sub-prime mortgage backed problems. They have pursued several unconventional monetary policies such as quantitative easing, forward guidance, and negative interest rates in a rush to ease the unfavourable developments in global economic conjuncture. Under the scope of these effects, central banks of emerged economies have injected abundant liquidity to the financial markets in order to stimulate their economies (Atici, 2017). As a result of the monetary easing policies, balance sheet of the FED (Federal Reserve System) reached to \$4.4 trillion as of the end of 2016 from the \$1 trillion in 2007. For the same period, balance sheet of ECB (European Central Bank) increased to \$3.5 trillion from \$2.1 trillion and balance sheet of BOJ (Bank of Japan) reached to \$4.1 trillion from \$1 trillion. When People's Bank of China included to the picture, whose balance sheet increased to \$5 trillion from \$2.2 trillion, total balance sheet figure of the four biggest central banks rocketed from \$5 trillion in 2007 to \$17.3 trillion as of the end of 2016 which represents a dramatic increase of 246% (Yardeni, 2017). Besides their other functions, central banks have come to the fore with their authority on money or money supply.

Several years after its creation as a new type of e-money, Bitcoin has boosted questions that if it can take the place of money in future. To answer this question a good starting point is to ask whether Bitcoin can fit the three classical functions of money, namely the medium of exchange, unit of account and store of value. Further questions will follow like, what are the other cryptocurrencies? What is the function of blockchain? We should also ask if bitcoin would turn to be a threat against the authority or emission power of central banks or an opportunity for the financial system. This study tries to shed light to these questions by analyzing the evolvement of bitcoin, other cryptocurrencies, and blockchain and whether these instruments pose a threat or provide an opportunity to the financial system. Section 2 presents the historical background. Section 3 discusses Bitcoin, Blockchain and monetary system. Section 4 concludes the paper.

2. Historical Background

Bitcoin is a private and decentralized digital currency. It has first developed by a person or a group operating under the name Satoshi Nakamoto in 2008 and has become operational by the early 2009 (Nakamoto, 2008). Unlike traditional fiat currencies, Bitcoin is not backed by a government decree. There is no authority that is in charge of its supply. It is not indexed to any other currency but its value with respect to other currencies is determined by supply and demand. Since it is a digital currency, it can be broken into very small numerical values. Bitcoin is a network that consists of computers covering the entire system. As a section of data in a massive database, it is just like a computer file that is assigned to a certain owner's digital address. It operates using peer-to-peer networking that eliminates the intermediary so that the exchange can be realized directly between parties. Users have digital wallets so they can trade between each other. The owner of a bitcoin can swap its ownership by sending bitcoin to a different personal wallet so by this way possession of a bitcoin can change. System employs cryptography to maintain the anonymity of its users to secure the transactions and to control the creation of additional units of currency, namely the "cryptocurrency" (ElBahrawy et al. 2017). At the core of the bitcoin system there is block chain. Block chain records every transaction that have ever taken place in bitcoin. So we can call it as a public ledger that details the history of every bitcoin. Block chain is sustained by participating computers which verify transactions in chunks called "blocks" and relay them across the network (Pagliery, 2014). Validation process relies on data being encrypted using algorithmic hashing. Encrypted value is a series of numbers and letters that does not share similarity with the original data, and is called a hash. Cryptocurrency mining involves working with this hash. Proof-of-work is the system that Bitcoin's blockchain network uses to create and hash blocks together. When the computer in a network must use proof-of-work for mining, it needs to solve a complicated mathematical problem. If a computer which is also named as node successfully solves the problem, it must then be verified by the other nodes in the network. If it does, the transaction is verified and completed, and the miner whose node solved it, is rewarded with Bitcoins.

There are hundreds of cryptocurrencies with market values and the common feature of these different cryptocurrency systems is the blockchain. Although all cryptocurrencies share an underlying blockchain technology and reward mechanism, they stand on isolated transaction networks. The majority of cryptocurrencies are almost the clones of bitcoin and referred to as 'altcoins'. On the other side, there are a number of cryptocurrencies that share common features of bitcoin but also have innovative features that provide substantial differences (Hileman & Rauchs, 2017).

Though year 2008 has taken as the milestone of Bitcoin, we can trace the roots of it in the Austrian theory of the business cycle. Ludwig von Mises revealed the hints to the problem of business cycles in his monument, Theory of Money and Credit (1933). He developed the cycle theory in 1920s and published his book Monetary Theory and the Trade Cycle (1933) and Prices and Production (1931) by the contribution of Friedrich von Hayek. This theory has become known as the "Austrian" theory of the business cycle.

According to the "Austrian" theory, without an expansion in bank credit, supply and demand tend to reach an equilibrium in a free price system. However, when government leads to a credit expansion through central bank, this increases the cash reserves of commercial banks which in turn increases bank credit supply and an increased supply of money or inflation. Another effect of an expansion in bank credit is the excessively funnelled new funds to real sector which leads to decreased interest rates that are artificially positioned below the level of free market rates. When interest rates fall artificially, investors prefer to invest more in capital goods since the previously unprofitable projects seem profitable by the lowered interest rates. The credit flow boosts economic activities on one side but gives way to increasing costs of factors of production, on the other. If investments made do not match with consumer preferences than the gap between these two leads to a slow down and even a depression. The result reveals the fact that inadequate savings are not enough to buy the excessively produced capital goods. So firms re-adapt their production to match consumer's intertemporal preferences (Rothbard, 2009).

Friedrich Hayek, in "Denationalisation of Money" (1974) refers to the abolition of central banks. He figures that abolition of the government monopoly of the issuing money covers also the disappearance of central banks. He suggests private banks can issue non-interest bearing certificates or notes, with a district registered names. By this way, currencies that can provide a stable purchasing power would eliminate other less stable currencies from the market. These ideas describe a private currency created by private enterprises to end the monopoly power of central banks in the issuance of money (ECB, 2012).

We can trace roots of Bitcoin in the ideas of tech enthusiasts, as well. Chaum (1998), introduced a new kind of cryptography which enables an automated payment system that third parties could not see details on the payment made by the individual. Dwork and Naor (1992), suggested a moderately hard technique that would be computed by a user to gain access to a resource by preventing unnecessary use of that resource. British cryptographer Back (2002) proposed a function similar to the one submitted by Dwork and Naor (1992). He used the iteration, hashcash. Hashcash was proposed as a mechanism to suppress systematic abuse of internet resources such as email, and anonymous remailers. Dai (1998), in his paper, proposed an alternative money creation subprotocol, in which, account keepers decide and agree on the amount of b-money to be created each period, with the cost of creating that money determined by an auction. In a most recent paper, Szabo (1998) developed a proposal similar to b-money which is named bit gold and suggested those bits could be created online with minimal dependence on third parties, and securely stored and transferred.

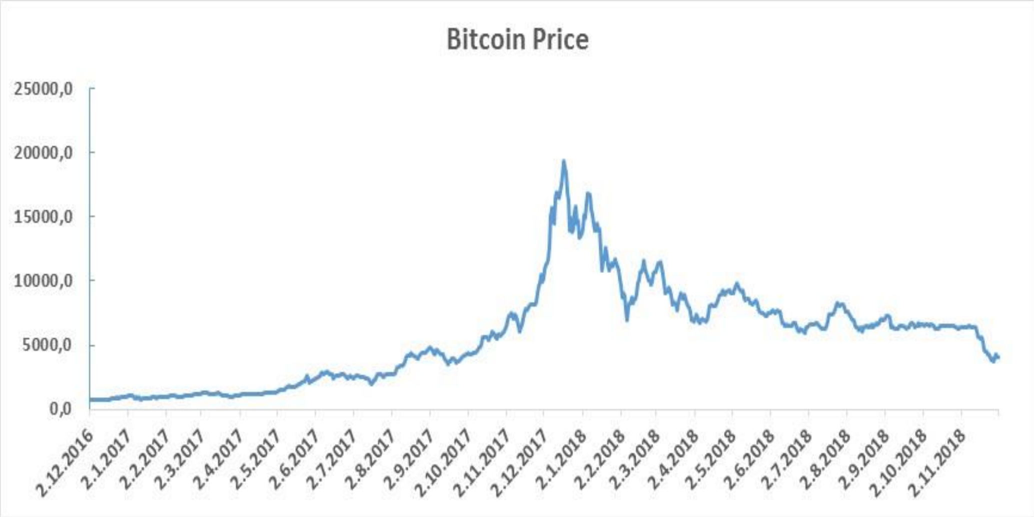
Some of the today's economists have basically two criticism concerning Bitcoin. First one is that, Bitcoin does not have any intrinsic value like gold and silver; it is just a bit stored in a computer. Another concern is, it becomes accepted not because of a government decree but because it has its roots in a commodity expressing a certain purchasing power (ECB, 2012). But besides these basic concerns there are some other concerns such as the regulatory environment which is an indispensable part of financial transactions, volatility of bitcoin's value, limitation of its supply, a possible bubble in its value and also environmental issues with regard to its mining.

3. Bitcoin, Blockchain and Monetary System

Milton Friedman, founder of monetarism, argued that central bank should increase the money supply by a constant percentage every year. Through the k-percent money supply rule, Friedman proposed to set the money supply growth at a rate equal to the growth of real gross domestic product each year. Almost twenty years ago, Friedman predicted and drew attention to the rise of cryptocurrencies, as well. He noted web as a major source for the emergence of a reliable electronic currency that can enable an anonymous online transaction between parties which can turn to be one of the major forces that will reduce the role of governments (www.ntu.org). While some views have suggested a connection between bitcoin's growth rate and the monetary growth rate adopted by Milton Friedman, the bitcoin protocol appears to give almost no attention to any optimal rate of monetary growth. The number of Bitcoins produced has reached 17 million as of November 2018 (news.bitcoin.com). According to the rule of the system, the number of bitcoins generated per block is set to decrease by 50 percent for every 210,000 blocks. As six blocks are found on average within an hour, this means almost every four years there will be halving to keep the inflation under control. By this declining growth rate, the final number of Bitcoins will be fixed at 21 million units by the year 2140. Though Bitcoin is intended to simulate the rarity of gold, whether the supply will be truly fixed has become a matter of disagreement (Yermack, 2013).

There are also concerns about the price of Bitcoin due to the high swings and volatility of it. As presented in Figure 1, high volatility is experienced in the price of Bitcoin especially in the last quarter of 2017 and first quarter of 2018. On the supply side, Bitcoin is overwhelmingly controlled by adopters and miners. On the demand side, scarcity have an important influence on the prices. Nonetheless, demand and supply determine the price. Other factors that lead to high volatility can be stated as investor (renowned investor) preferences, regulatory issues, speculation and manipulation.

Figure 1: Bitcoin Price



Source: data.bitcoinity.org

Another drawback of Bitcoin is whether it comprise a bubble or not. According to Roubini and Byrne (2018) “coin mania” consists a risk of a bubble. They compare Bitcoin with the railway stocks in the 1840s at the dawn of the industrial revolution. They argue that as the bubble burst in railway stocks, a similar case can be expected for bitcoin and other cryptocurrencies, as well. For a recent example it would be enough to recall dot-com bubble of NASDAQ in year 2000. Similarities among these cases can be a signal of a possible burst in Bitcoin.

Despite the concerns mentioned above, if we turn back to the question of whether Bitcoin satisfies the three functions of money, it can be stated that Bitcoin satisfies being a medium of exchange. Transaction fees which are lower than the traditional payment vehicles and anonymous characteristic that is necessary for the parties that need privacy, makes it attractive for conducting transactions. However, volatility of Bitcoin makes it unfavourable in terms of unit of account and store of value functions. Since it is volatile, no one quotes its price in terms of Bitcoin. The volatility in its value makes Bitcoin unsuccessful as a store of value, as well. (Mishkin, 2016).

Transparency is the most important feature in the financial system. Stiglitz (www.independent.co.uk) highlights this fact and criticizes Bitcoin with regard to the anonymity in its nature. Governments concern about the uses of Bitcoin as it is also a convenient tool to conduct illegal operations such as drug trade, tax evasion, ransomware and money laundering. Several monetary authorities around the world warn the users of cryptocurrencies that regulations are around the corner in parallel to the increasing risks of it.

Thefts of Bitcoin and other cryptocurrencies are another issue of critism towards the electronic currencies. In February 2014, Mt. Gox which is one of the largest Bitcoin exchanges experienced a theft that is almost 500 million USD. This theft led to the bankruptcy of Mt. Gox. Market cap of top ten cryptocurrencies is presented in Figure 2. Price increases in cryptocurrencies may turn them to potential targets of cyber criminals. Almost 1.1 billion USD worth of cryptocurrency was stolen in the first half of 2018 (Carbon Black, 2018). Unlike banks, cryptocurrencies are not typically protected or insured by a third party so this reveals the importance of security and necessity of a regulatory mechanism.

Figure 2: Market Cap (Billion USD) as of 02.12.2018

Source: coinmarketcap.com

Another dimension of cryptocurrency issue is the absence of a lender of last resort that will manage the economy. Modern central banks of today have more or less the same dominant function in economies, in terms of maintaining stable prices, supporting employment, ensuring the safety and soundness of banking and financial system, stabilizing the financial system during crisis and monitoring the payment system. During the Global financial crisis, the U.S. Federal Reserve has managed to stabilize the financial system by using all its monetary tools. In order to perform their duties, central banks can pursue an expansionary or contractionary monetary policy. They can implement open market operations for contracting or expanding the monetary base. They can change interest rates in order to control inflation. Their actions affect both actors of real economy and households. Advocates of the Austrian School of Economics support the implementation of peer-to-peer networking that eliminates central banks and their complex schemes to democratize the financial system. Even so, cryptocurrencies are far from satisfying immediate liquidity demand when necessary or stabilizing the economy in downswings. Furthermore, thousands of individual cryptocurrencies can not provide the required connection and communication with the fiscal side by their current form (Fatas and Mauro, 2018).

Despite all its drawbacks, cryptocurrencies promise efficient and low cost transactions with their underlying technologies. In order to take advantage of this asset, some central banks have started to consider whether they can issue digital currency of their own. Bank for International Settlements define this potential digital currency as Central Bank Digital Currency (CBDC) as a digital form of central bank money that is different from balances in traditional reserve or settlement balances held by commercial banks at central bank. By introducing CBDC, central banks could satisfy policy goals with respect to financial inclusion, consumer protection, privacy and fraud prevention. However, introducing CBDC could result in a wider presence of central banks in the financial system which could cause greater political interference, as well. CBDC could affect the overall value of money issuing function as it reduces the high fixed infrastructure costs and operational costs such as printing, storage, transportation and settlement. If it could manage to be an attractive asset it could also serve as a substitute for other non-deposit financial assets. If it would highly accepted by the users, the increase in its circulation might contract the overall seigniorage. A significant reduction in seigniorage could lead to financial loses in the absence of alternative sources of income and moreover could risk monetary policy and financial stability goals through negative or low capital (BIS, 2018).

While the excitement about Bitcoin seemed to be settled, blockchain technology is attracting growing interest. It makes it hard to cheat the transactions, saves cost, speeds clearing and settlements, reduces operational risks and keeps transaction details confidential other than supervisors. Moreover, it improves the bargaining power of buyers and sellers due to the absence of third parties. All these improvements undermine the intermediary function of traditional financial institutions but provides opportunities for central banks. Blockchain-based transactions denominated even in domestic currency might provide swiftness to the operations of central banks by the time saved from complex clearing operations. So all clearing mechanism could shift to new decentralized networks (Niepelt, 2016). This technology may require redefining of the procedures of financial system and roles of its actors over again.

4. Conclusion

Although Bitcoin and other cryptocurrencies are created as a reaction to central banks and to their complex schemes to democratize the financial system, they seem to be accepted by a limited audience for several reasons. Nevertheless, cryptocurrencies inspire the actors of the financial system and fintech companies with their underlying technologies to develop productive facilities.

Cryptocurrencies have many inadequacies in their current forms in terms of legal infrastructure, insurance, transparency, sustainability and regulation but they also have some other features such as fast transaction, low transaction fees and anonymity which attract considerable attention. Some countries strictly ban virtual currencies while some others try to find ways to control it. Considering the potential of it, some central banks seem to work on digital currencies in order to issue their own digital currency in the near future. By this way they can satisfy policy goals with respect to financial inclusion, consumer protection, privacy and fraud prevention. However, on the other side this may lead to a wider presence of central banks in the financial system. Moreover, digital currencies may also affect the seigniorage shares of central banks and result in financial loses in the absence of alternative sources of income.

Above all, blockchain technology promises cost and time saving transactions. If central banks could interiorise this technology, current procedures of the financial system and roles of its actors may change, as well. Bitcoin, alt coins and their underlying technologies provide a crucial opportunity to the financial system to transform into an advanced level.

References

[1] Atici G. (2017). Global financial crisis and Islamic financial products. China-USA Business Review, 173, 549-556.
[2] Yermack D. (2013). Is bitcoin a real currency? An economic appraisal. NBER Working Paper Series, 19747, 1-24.
[3] Book:
[4] Cecchetti, S., G., & Schoenholtz, K. L. (2011). Money, banking, and financial markets. (3rd ed.). New York: McGraw-Hill/Irwin.
[5] Hayek, F. A. (1974). Denationalisation of money. Sussex: Goron Pro-print.
[6] Hayek, F. A. (1931) Prices and production. New York: Augustus M. Kelly
[7] Mises, L. V. (1953). Theory of Money and Credit. New Haven: Yale University Press
[8] Mises, L. V., & Hayek, F. A. (1933). Monetary theory and the trade cycle. NewYork: Sentry Press
[9] Mishkin, F. S. (2016). The economics of money, banking, and financial markets (11th ed.). England: Pearson.
[10] Pagliery, J. (2014). Bitcoin: and the future of money. Chicago Press: Triumph Books.
[11] Rothbard, M. N. (2009). Economic depressions. Alabama: Ludwig von Mises Institute.
Reference to a web source:
[12] Back, Adam, (2002), Hashcash-A Denial of Service Counter-Measure. [Online] Available: http://www.hashcash.org/papers/hashcash.pdf (September 12, 2018)
[13] Bank for International Settlements, Central Bank Digital Currencies. [Online] Available: https://www.bis.org/cpmi/publ/d174.htm (September 5, 2018)
[14] Carbon Black, Threat Report: Cryptocurrency Gold Rush on the Dark Web [Online] Available: https://www.carbonblack.com/2018/06/07/carbon-black-threat-report-cryptocurrency-gold-rush-dark-web/(November 20, 2018)
[15] Chaum, David (1982), Blind Signatures for Untraceble Payments. [Online] Available: http://sceweb.sce.uhcl.edu/yang/teaching/csci5234WebSecurityFall2011/Chaum-blind-signatures.PDF (September 10, 2018)
[16] Dai, Wei, (2002), B-Money. [Online] Available: http://www.weidai.com/bmoney.txt (September 16, 2018).
[17] Dwork, Cynthia & Naor, Moni, (1992), Pricing via Processing or Combatting Junk Mail. [Online] Available: http://www.wisdom.weizmann.ac.il/~naor/PAPERS/pvp.pdf (November 16, 2018)
[18] ElBahrawy, A., Alessandretti, L., Kandler, A., Pastor-Satorras, R., and Baronchelli, (2017), A. Bitcoin ecology: Quantifying and Modelling the Longterm Dynamics of the Cryptocurrency Market. [Online] Available: https://www.semanticscholar.org (November 7, 2018)

[19] European Central Bank (ECB) (2012), Virtual Currency Schemes. [Online] Available: http://www.ecb.int/pub/pdf/other/virtualcurrencyschemes20l21 Oen.pdf (November 10, 2018).
[20] Fatas, Antonio, & Weder, Beatrice, Making (some) Sense of Cryptocurrencies: When Payments Systems Redefine Money. (2018) [Online] Available: https://voxeu.org/article/making-some-sense-cryptocurrencies (September 21, 2018)
[21] Hileman, Garrick & Michel Rauchs, (2017), Global Cryptocurrency Benchmarking Study. [Online] Available: https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/global-cryptocurrency/#.XB0TY1UzbIU (November 1, 2018)
[22] Nakamoto, Satoshi, (2008). Bitcoin: A Peer-to-Peer Electronic Cash System, [Online] Available: http://bitcoin.org/bitcoin.pdf (August 15, 2018)
[23] news.bitcoin.com (November 15, 2018)
[24] Niepelt, Dirk, (2016), Central Banking and Bitcoin: Not Yet a Threat. [Online] Available: https://voxeu.org/article/central-banking-and-bitcoin-not-yet-threat (September 15, 2018)
[25] Roubini, Nouriel & Byrne, Preston, (2018), The Blockchain Pipe Dream [Online] Available: https://www.project-syndicate.org/commentary/blockchain-technology-limited-applications-by-nouriel-roubini-and-preston-byrne-2018-03?barrier=accesspaylog (November 15, 2018)
[26] Yardeni Research, Inc. (2017), Global Economic Briefing: Central Bank Balance Sheets. [Online] Available: https://www.yardeni.com (November 10, 2018)
[27] https://www.ntu.org (September 18, 2018)
[28] https://www.independent.co.uk/news/business/bitcoin-latest-news-outlawed-nobel-prize-winner-joseph-stiglitz-comments-a8083416.html (November 1, 2018)

How Oil Contracts Affect Human Rights

Maria João Mimoso
Associate Professor

Researcher Portucalense Institute for Legal Research

Clara da Conceição de Sousa Alves
Portucalense University

Diogo Filipe Dias Gonçalves
Portucalense University

Pedro Miguel Ferreirinha Pinto Alves
Portucalense University

Abstract

Since the beginning of the 19th century, we have assisted major proliferation of the oil and gas industry. This phenomenon of exponential growth is due to the fact that oil companies hold the world's oil monopoly on the extraction, processing and commercialization. Therefore, as being one of the most influential sectors in the world, is crucial to strictly regulate how oil and gas contracts concerns the potential environmental and social impacts arising from the conduct of petroleum operations and how such behavior affects the human rights. As a matter of fact, the social issues field is an emerging area, and despite such importance, oil contracts do not often deal with them in great detail, corresponding to an actual emptiness of the human rights provisions. In terms of responsibly, oil companies, have an inalienable obligation to ensure that their actions do not violate human rights or contribute for their violation. This study aims to trace a detailed analysis of the impact of the oil and gas agreements in human rights. In order to fully comprehend the deep effects of this industry, we will examine, in detail, numerous of published oil and gas agreements, as well as, decode which are the real standards and practices accepted by this industry. We will use a deductive and speculative reasoning. We will try to demonstrate how incipient and short protection is given to human rights and what responsible conducts must urgently be developed.

Keywords: Oil Agreement, Human Rights, Oil and Gas Sector;

Introduction

Human rights are basic standards aimed at securing dignity or equality for all and every human being is entitled to enjoy them without any discrimination.

Once, oil and gas contracts often do not deal with potential environmental and social impacts arising from the conduct of petroleum operations, resulting in a true absence of such clauses, what we pretend, with this paper is to analyse the impact of the oil and gas agreements in human rights.

Nevertheless, international human rights law developed in order to protect individuals from oppressive and abusive actions of the state.

However, several states do not live up to his obligations. Third World countries see constantly their human rights violated through the operations of foreign corporations within their domain. They do not have the economic and political will, to bring companies under control, because the systemic corruption is often associated with them.

The companies operating in the oil sector and the gas must comply with the law and seek to minimize the impacts of their activities on local communities of the rich natural resources and territories wishing to explore.

As a result, there is still a long way to fully protect human rights and to hold this censurable conducts, measures do not depend on the States itselfs but on ordinary society too.

There is an urgent need to appeal and to raise awareness of the importance of human rights and how they are being violated, although the major part sees the oil companies as a development of economy and not as a destructive and limiting of this rights.

Chapter 1: The Dimension of Human Rights

"Human rights – civil, political, economic, social and cultural rights -- must never be seen as a luxury or "saved for later", after peace and development have been achieved. Human rights are an intrinsic part of all that we do – and all that we are. And so we must speak up for human rights in an impartial way without double standards.

We must invest in human rights and recognize human rights as values and goals unto themselves – not allowing them to be instrumentalized as a political tool." António Guterres, Secretary-General of the United Nations, speech at Human Rights Council (fev. 2017).

Human rights, as we know them today, have not always existed. Since the end of the Second World War, and the creation of the United Nations, the international community vowed never again to abide the unspeakable atrocities the world had just witnessed. So the leaders of the world decided to amplify and encouraging the guarantees for the rights of human beings everywhere (Gordon, 2016).

The Universal Declaration of Human Rights (UDHR), proclaimed by UN General Assembly in 1948, stated a new era of law by recognising the equal and the inalienable rights of humankind, in which, hope, freedom, justice and peace set foundations for a better world. The UDHR established an international standard and codification of human rights norms and was signed for 148 countries (Bekefi, 2004).

The Inter-Parliamentary Union & United Nations (2016), define human rights as relationships between individuals and power structures, especially the State. Human rights delimit State power and, at the same time, require States to take positive measures ensuring an environment that enables all people to enjoy their human rights.

The UDHR is matched in many cases by the rights provisions of national constitutions, charters, and bills of rights (Gordon, 2016). In this way, the UDHR clearly inspired national legislators to safeguard human rights in the new constitutions of the world's youngest countries, which were in this context an example to follow.

The UN has also developed other protocols, based on the UDHR, to address specific human rights principles. The International Covenant on Economic, Cultural and Social Rights, and the International Covenant on Civil and Political Rights, combined with the Core Labour Standards of the International Labour Organisation serve as the basis for human rights in the legal, political, and social spheres (Bekefi, 2004).

The UDHR was originally formulated as "soft law", not legally binding (Gordon, 2016). Soft law is a type of social rather than legal norm. We can define "soft law" as referring to any written international instrument, other than a treaty, containing principles, norms, standards, or other statements of expected behavior (Shelton, 2008).

In Articles 22 to 26 of the UDHR, we have defined social and economic rights, which include provisions relating to social security, conditions of work, rest and leisure, standard of living, and education. At this point, we need to distinguish two dimensions of fundamental rights. The first dimension imposes an abstention of the action of the State against the individual rights of the human being because they are civil and political rights. It is a space of self-determination of the individual in relation to the performance of the state. The right to liberty, life, physical integrity and property are examples of this first category of rights. On the other hand, second-level rights require direct action by the state to take effect. We are facing social, cultural and economic rights (Ferraresi, 2012).

For obvious reasons, the international community is more aware of social, cultural and economic issues today than it was in 1948. Despite of the international community has not recognized a human right to a decent and liveable environment, we believe that we should embrace the right to a safe, clean, healthy, and sustainable environment, with a right of access for everyone to such elementary resources as clean air, clean water, and clean, safe, and sustainable energy. Social and economic rights are vital. They reflect genuine human needs that every state has an obligation to attend to, within existing resources, in the interest of all those committed to their care. This rights are conceptually linked to civil and political rights because respect for human dignity requires that both be upheld. Indeed, the failure of social and economic rights makes individuals more vulnerable to other human rights abuses, such as forced labor (Gordon, 2016).

In terms of responsibility, it is right for the world to indicate to governments that attention to matters of social security, conditions of work, rest and leisure, standard of living, health, and education are now regarded as elementary and fundamental tasks of government, laid down as compelling priorities in relation to whatever resources are available. The rights here are not optional and they are not just wistful longings. A lack of resources does not turn such rights into a mere wish list. Countries have a categorical obligation to do all that they reasonably can to fulfil these rights (Gordon, 2016).

It is important not to forget what the preamble of the UDHR says that "every individual and every organ of society, keeping this Declaration constantly in mind, shall strive by teaching and education to promote respect for these rights and freedoms and by progressive measures, national and international, to secure their universal and effective recognition and observance".

The rights must be absorbed into the legal, administrative and political culture of nations, first by a recognition that they are achievable ideals and then by implementation in national law and administration through relevant political and social reforms (Eide, 2000).

States must, at the primary level, respect the resources owned by the individual, his or her freedom to find a job and the freedom to take the necessary actions and use the necessary resource to satisfy his or her own needs. It is in regard to the latter that collective or group rights become important: the resources belonging to a collectivity of persons, such as indigenous populations, must be respected in order for them to be able to satisfy their needs. Consequently, as part of the ·obligation to respect these resources, the state should take steps to recognize and register the land rights of indigenous peoples and land tenure of smallholders whose title is uncertain. Similarly, the rights of peoples to exercise permanent sovereignty over their natural resources may be essential for them to be able, through their own collective efforts, to satisfy the needs of the members of that group (Eide, 2000).

At a secondary level, state obligations mean to protect the freedom of action and the use of resources against other, more assertive or aggressive subjects -more powerful economic interests, such as protection against fraud, against unethical behaviour in trade and contractual relations, against the marketing and dumping of hazardous or dangerous products (Eide, 2000).

So far, all existing legislation has been based on protecting human rights from abuses and oppression by the state. Nowadays, with the help of globalization, new entities have emerged that challenge human rights, such as transnational oil and gas companies.

The oil and gas sector is one of the most influential markets in the world. Legislation has been needed to ensure that these transnational corporations do not put pressure on human rights.

Chapter 2: The Applicable Law of the oil contracts (*Lex Petrolea*)

Commercials relationships have been, for a long time, regulated by international trade practices which have been developed and settled over the years. Therefore, these have achieved a status of international normative body, commonly designated, since the Middle Ages, by *Lex Mercatoria*.

Although some considerable controversy has arisen over the years, regarding the nature and delimitation of this anacional normative set of rules, it seems to us that it includes general principles of law, uses of international trade, as well as contractual practices by sector of market (Baptista, 2010).

Each sector of international trade has contributed effectively to its elaboration, and as it evolves, *Lex Mercatoria* has been including several different realities.

The concepts of legal security and legal certainty will not be foreign or remote to the development of International Trade.

Since its early days, it became apparent that one of the obstacles lay in the plurality of national legal systems which could govern the same legal relationship because of the contact points with it.

Several entities in the world have contributed to the construction and acceptance of the so-called New *Lex Mercatoria*. We speak above all of the Chamber of International Trade in Paris, the United Nations Commission for International Trade Law, the UNIDROIT Institute and the contribution of certain sectoral associations dedicated to the standardization of contractual behavior, thereby implementing legal certainty in the relations of the sector in which they operate.

It should be noted that the creation of contractual models based on the customs and practices within international trade is currently unquestionable. Certain contractual species claim models because of their peculiarity and complexity, and the parties can, in accordance to the circumstances of each particular case, adaptable to them. They are seen as expeditious elements of the legal relationships that are established, capable of implementing legal security and greater certainty in international commercial relations.

The internationalization of the oil industry occurred at a time when certain companies began exporting oil from producing countries to non-producing countries, although these were considered as real economic powers. All conditions were therefore created for the existence of a genuine international oil market.

In this sector, commercial relations imply the existence of several national and international protagonists, namely multinational companies (International Oil Companies - IOC), Host Oil Countries (HOC) and National Oil Companies (NOC).

We can not forget that in oil and gas contracts we have opposite interests. On the one hand, the interests of the State over its natural resources and the need to manage these contracts while safeguarding the contractual public interest; on the other, the individual interests, who claim protection in continuity and contractual stability.

These relations therefore carry high risks. The State may at any time introduce changes, whether contractual or legislative, impairing contractual stability, e.g. expropriations and nationalizations and changes in fiscal policies. Consequently, normative specialization has become inevitable for this type of relationship.

Thereby, a need arises to create, in the context of the international oil trades and because of the high importance of the oil and gas industry, material rules to govern such relations. We talk about a *Lex Mercatoria* specialization, commonly known as *Lex Petrolea.*

This expression arose for the first time in the ARAMCO v. Saudi Arabia (1958), submitted to an arbitral tribunal and concluded that there is a valid and effective "customary" law for the oil industry (Martin, 2012).

This regulation early went beyond arbitration, and become a true discipline of international trade relations in the oil sector, encompassing contractual models that facilitate relations between the parties.

These contracts intended to standardize terms commonly used in the petroleum industry that are internationally recognized. We refer to the concession agreement, the sharing agreements, the participation agreement, among others.

Lex Petrolea is used by the courts, and it is in the context of arbitration that the contractual models are analysed and tested, evidencing their characteristics and the need to adapt them to reality.

Lex Petrolea will apply to the international contracts of the sector whenever they refer to it or whenever they allude to the general principles of law and the good practices of the petroleum industry.

Although international arbitration is not tied to the precedent rule, we noted that arbitral justice actors, arbitrators and lawyers, commonly use precedent decisions to justify, substantiate decisions and to outline his points of views respectively.

The construction of *Lex Petrolea's* main scope is to discipline international trade relations in the oil industry (Van den Berg, 1994).

Although certain arbitration conventions also provide for the application of a given national law to resolve disputes arising out of an oil contract, the principles of Lex Petrolea must always be considered.

In ARAMCO v. Saudi Arabia, the arbitral court held that the applicable national law should be interpreted and supplemented in accordance with the general principles of law, customs and good practices of the oil industry.

In 1963, the Sapphire International Petroleum v. NIOC case, the arbitrators substantiated the application of Lex Petrolea on the basis of the principle of good faith and cooperation between the parties, diverting the national law from the receiving State.

In the case of British Petroleum (BP) v. Libya in 1973, the arbitrators applied subsidiary Lex Petrolea to fill gaps in Libyan Law (Favacho, 2011).

In 1982, in another case, Kwait v. AMINOIL, the government concerned based its claim on a set of arbitration decisions handed down in disputes arising out of oil contracts.

Since Lex Petrolea is disconnected from any state legal system, and therefore not suffering the influences and prerogatives of the states, early on contributed to overcoming problems in the regulation of oil contracts.

Lex Petrolea, not bound by any legal system in particular, was able to sediment the internationally accepted practices. This has contributed to its success, since its acceptance is undeniable both by the host States and by transnational corporations.

We can therefore consider Lex Petrolea as a spontaneous disciplinary order created by the protagonists of the international oil industry in order to provide for the antagonistic and often conflicting interests of the protagonists It is undoubtedly in the equidistance of national rights that it establishes its autonomy, independence and legitimation (Jesus, 2012).

Chapter 3: When things go wrong

Corporate Social Responsibility in Oil and Gas Industry

As stated earlier, oil and gas are the largest source of energy for our modern world, and this industry is largely shaped by the supply and demand conditions.

In the beginning, developing countries did not have the infrastructure for refining crude, neither his markets for absorbing the refined products, and therefore, this resulted in a supply that far exceeded the demand. Developing countries exported crude to the larger developed countries markets, where processing took place and the final products were sold.

The contractual terms mainly focused on fiscal terms and financial gains, which reflected this preference for obtaining revenues from royalties and taxes rather than production sharing (Boykett, Peirano, Boria, Kelley, Schimana, Dekrout, OReilly, 2012).

By analysing oil agreements and their history, we see that there is a recent concern of many developing oil producing states about the social and economical issues, since they started to realise that the petroleum sector can contribute much more to their welfare and overall development than solely through revenues.

Illustrating with an exemple, we quote the preamble of the 2012 Kurdistan Regional Government Production Sharing Contract, which says: “ *The Government wishes to develop the petroleum wealth of the Kurdistan Region (as defined in this Contract) in a way that achieves the highest benefit to the people of the Kurdistan Region and all of Iraq, using the most advanced techniques of market principles and encouraging investment, consistent with the Constitution of Iraq including, without limitation;*”

Also, this contractor must be “*willing to cooperate with the Government by entering into this Contract, thereby assisting the Government to develop the Kurdistan Region petroleum industry, thereby promoting the economic development of the Kurdistan Region and Iraq and the social welfare of its people”*.

Regarding this specific agreement, by the introduction of such clauses, we can conclude that whatever path lies ahead for the Kurdish energy sector, the sustainability of Iraqi Kurdistan development seems to be necessarily linked to a twofold diversification: diversification of the productive structure of the regional economy, essential to avoiding the social, political and economic risks related to over-dependency on oil revenues, on the one hand, and diversification of energy export channels, unavoidable in order to limit the degree of political vulnerability to transit countries (Frappi, 2016).

Although, the preoccupation with corporate ethics and the social dimensions to business activity is not new, the focus on international development, or rather the private sector contribution to international development goals, is a relatively recent phenomenon (Frynas, 2008).

This new idea that a company should be interested in and willing to help society and the environment as well as be concerned about the products and profits it makes, is the base and definition of Corporate Social Responsibility or CSR.

CSR and Development

In fifty years, CSR has evolved from social movements regarding civil rights, women's rights, consumers, environmentalism, to corporate responsibility and responsiveness, and more recently to a corporate social performance which includes business ethics, corporate citizenship, sustainability and stakeholder management (Carrol, 2015).

Nowadays, oil and gas companies can use their influence in the world to develop regions in the surrounding areas points of extraction. This industry now helps to build schools and hospitals, launch micro-credit schemes for local people and assist youth employment programs, particularly in developing countries.

Some authors, have proposed to think of CSR as an umbrella term for a variety of theories and practices that each recognize that companies have a responsibility for their impact on society and the natural environment, sometimes beyond that of legal compliance and the liability of individuals; that companies have a responsibility for the behaviour of others with whom they do business (within supply chains); and that business needs to manage its relationship with wider society, be that for reasons of commercial viability or to add value to society (Frynas, 2009).

In a broader context, the calls for greater involvement of private firms in human development reflect the growing importance of foreign direct investment relative to official development assistance to developing countries, despites the unlikely to play the significant role in poverty reduction in development countries that its proponents claim for (Jenkins, 2005).

As a consequence of liberalization and deregulation, oil companies are now being called upon to go beyond their traditional role of generating economic growth toward playing a more direct role in alleviating poverty and other development goals (Frynas, 2008).

CRS concerns are determined by the nature of an industry and the State or culture where that industry operates. For instantes, in the oil and gas industry, even though operations occur in many countries, the key concerns such as the macroeconomic difficulties related to oil revenues, the environment and the social impact on local communities, are shared between most countries.

Dealing with dangerous operations with highly negative effects, oil corporations are permanently under great pressure to manage their relationship with society.

Events, widely reported by the media, such as oil spills, the protests anti-oil, campaigns to save the environment and indigenous people from oil operations, the involvement of oil industry in human rights abuse in Colombia or Nigeria's corruption and economic problems caused by oil companies, pressure companies to rethink about future strategies and the circumstances of corporate social responsibility.

For instance, in the oil and gas sector, companies such as Total, Shell and Exxon each spend well over US$ 100 million on community investments every year (Frynas, 2009). Hence the major importance of such matters.

However, there are many reports of social investment that went heavily wrong, either by bad administration and poor project management, or by lacking of basic equipment, or by being unsuitable dysfunctional for the community.

As an extreme example, a company built a fish processing plant in a local community, which was a long way from the trade markets, as a result of insufficient local consultation.

Or the case of a company that built three town halls in one African local community in order to maintain a stable working environment in the process of building a pipeline, because the company followed the short-term interests of three community chiefs who wanted to benefit personally from construction contracts (Frynas, 2009).

Oil companies are also accused of the lack of transparency and of interfering in governance, influencing States elections by corrupting candidates in order to gain advantages.

We can conclude that, despite the CSR importance, due to the great influence of this industry, today it can be argued that it can be more detrimental to oil-producing countries than the environmental impact of oil operations themselves and that the alleged corporate social responsibility efforts do not outweigh and can not offset the atrocious human rights violations along the way.

Chapter 4: Responsibility of Human Rights Violations

Capitalism, globalisation and neo-liberalism have paved the way for the emergence on the international scene of economic colossuses with quasi-legal personality (Malanczuk, 1997)).

These modern leviathans wield considerable social and political influence over countries, in addition to their overwhelming economic leverage (Miller, 1995).

See that Shell Oil's 1990 gross national income was more than the combined GNPs of Tanzania, Ethiopia, Nepal, Bangladesh, Zaire, Uganda, Nigeria, Kenya and Pakistan – countries that represent almost one-tenth of the World's population

Transnation Corporations (TNCs), through foreign direct investment in developed and developing countries, create jobs, improve technology and inject capital. But they equally have a negative impact on the areas where they operate, particularly in poor Third World or developing countries. Frequently, their activities result in human rights violations. The abused human rights are more often than not those that fall within the international definition of economic, social and cultural rights (Kamminga, 1999).

Since the last two decades, however, the emphasis has been on the adoption of corporate social responsibility initiatives, international and national in origin, to effectively address concerns regarding human rights violations by TNCs.

The bottom line is that there is no single international regime of human rights law directly applicable to, and governing, transnational operations of corporations.

Customary international human rights law developed in order to protect individuals from oppressive and abusive actions of the state. Perhaps a failure to recognise or contemplate *ab initio* that powerful non-state actors such as TNCs could violate human rights may be attributed to the fact that only states were players in the international arena (Cutler, 2001).

However, international law leaves states with the obligation to control and restrain within their territories the activities of non-state actors that violate human right (McCorquodale, Simons, 2007).

It is not in doubt that several states do not have what it takes to live up to this obligation. Weak Third World countries that see these human rights violations through the extra-territorial activities of foreign corporations within their domain, do not have the economic and political will to bring TNCs under control. The situation is further exacerbated by the systemic corruption often associated with Third World countries (Khan, 2009).

At one time it was thought that where a host state is unwilling or incapable of reacting appropriately to human rights abuses, the home state of the corporation may have a crucial role to play ensuring that corporate abuses do not go unpunished, and some home states have attempted to use extra-territorial legislation to achieve this end (Ruggie, 2008).

Several states tried to implement measures, for example the uk suggested creating a specific figure for violation of these human rights. However, this did not translate into legislation.

Criminal prosecution is the highest level of state reprimand against an offending entity. Consequently, the joint venture alliance (and sometimes production-sharing contracts) between the state (represented by NNPC) and the oil TNCs raises the question as well as suggesting why the state has not mustered the courage to apply the strictest level of sanctions against entities in which it has vested an economic interest.

It may be recalled that it is in part the failure of states to rise above political and economic considerations and visit justice on atrocities committed within their territories that necessitated the creation of the International Criminal Court (ICC), not that the states do not have appropriate criminal regimes for the designated offences. *A fortiori*, the necessity of subjecting TNCs to the jurisdiction of the ICC is canvassed not because host states do not have appropriate corporate criminal regimes, but because the use of such domestic criminal regimes to secure justice for victims of these crimes is seemingly undermined by factors that relate to political and economic considerations, as well as corruption.

The ICC is a permanent tribunal established to prosecute individuals for genocide, crimes against humanity and war crimes.

Essentially, the ICC complements existing national judicial systems and only exercises its jurisdiction where a national jurisdiction is unwilling or unable to investigate or prosecute designated crimes. This is the idea encapsulated in the ICC's complementarity principle (Zeidy, 2008).

The negative impact of their activities manifests itself in wide-scale and grave abuses of human rights. The hapless citizens bear the worst of these human rights abuses. Despite their enormous economic activity and the amount of literature that has been produced on them, there is still no single legal instrument that regulates their activities meaningfully.

The fundamental reason for considering that the ICC is appropriately positioned to act also as a criminal court for TNCs is that the ICC is an uninterested third party (unassociated with neither the host nor home state) to whom grievances of human rights violations can be lodged by victims. It would thus be in a position to act without being influenced by any form of economic considerations that often dominate the decisions of the current state officials to check the atrocious activities of the TNCs (Haigh, 2008).

A challenge to extending the ICC's jurisdiction to TNCs, however, is the issue of the non-recognition of corporate criminal liability by some state parties to the treaty, also the reason behind the failure at the Rome Conference to extend the ICC's jurisdiction over corporations.

the complementarity principle in the Rome Statute would not be threatened by a proposal to extend the ICC's jurisdiction to corporations. The arguments canvassed as the basis for opposing the extension of the jurisdiction of ICC to TNCs, are untenable. Indeed, complementarity concerns were merely used as a cover for states' anxiety about how competing tension between state sovereignty and the international criminal justice would be resolved if the ICC's jurisdiction stretched to TNCs (Kyriakakis, 2008).

To see that a number of UN conventions have already recognised corporate criminality at the international level.

In conclusion, a critical mind may want to ask why Third World countries, have not of their own accord employed a corporate criminal regime to effectively punish or stop TNCs from human rights violations without seeking the assistance of the ICC. The truth is that, like some Western common law jurisdictions that have corporate criminal regimes, this countries, for instance, recognises this concept but has not effectively put it to use as machinery for seeking justice against corporations.

Conclusions

1. States shall respect, protect and guarantee human rights and fundamental freedoms, as well as punish corporate conduct;

2. The companies operating in the oil sector and the gas must comply with the law and seek to minimize the impacts of their activities on local communities of the rich natural resources and territories wishing to explore;

3. The beneficiaries of this sector, host States and companies, must increasingly implement protective measures of the most basic fundamental rights, assuming social and corporate responsibility;

4 Thus, there must be an awareness of the appropriateness of the behavior of companies in the face of local populations;

5. International organizations are becoming more aware of this reality, acting incisively, seeking thereby influence behavior and changing mentalities;

6 The assumption of social responsibility is currently a form of ethical and integrated management, contributing not only to business success but also to the promotion of human rights;

7. Transparent and assertive behaviors by all the protagonists of this sector will eventually contribute to the sustainable development of our planet.

References

[1] Baptista, L. O. (2010). Contratos Internacionais. São Paulo: Lex Editora.
[2] Bekefi, T. (2004). *Human rights policy implementation in the oil and gas sector: translating policy to practice*. Retrieved from: https://www.commdev.org/userfiles/files/1695_file_HRimplementation_final.pdf

[3] Boykett, T., Peirano, M., Boria, S., Kelley, H., Schimana, H., Dekrout, A., OReilly, R. (2012). *Oil Contracts: How to Read and Understand a Petroleum Contract. (pp: 125-143)* Austria: Open Oil

[4] Carroll, A. B. (2015). Corporate social responsibility: the centerpiece of competing and complementary frameworks. *Organizational Dynamics, 44 (2)*, 87-96. Retrieved from: https://www.researchgate.net/publication/273399199_Corporate_Social_Responsibility

[5] *Cutler, A. (2001). Critical reflections on the Westphalian assumptions of international law and organization: A crisis of legitimacy. Review of International Studies.*

[6] Eide, A. (2000) *Economic and Social Rights*. Retrieved from: http://www.corteidh.or.cr/tablas/r28245.pdf

[7] Favacho, F. (2011). A gestão de conflitos em contratos internacionais do petróleo. Revista Brasileira de Direito Constitucional – RBDC n. 18 – jul./dez. Disponível em: http://www.esdc.com.br/RBDC/RBDC-18/RBDC-18-243 Artigo_Frederico_Favacho_(A_Gestao_de_Conflitos_em_Contratos_Internacionais_do_Petroleo).pdf

[8] Ferraresi, C.S. (2012). Direitos fundamentais e suas gerações. *Revista JurisFIB, 3,* 321-336.

[9] Frappi, C. (2016). *Oil and State building in Iraqi Kurdistan*. Retrieved from: https://www.researchgate.net/publication/308777708_Oil_and_State_building_in_Iraqi_Kurdistan

[10] Frynas, G. (2009). Corporate social responsibility in the oil and gas sector. *The Journal of World Energy Law & Business, 2 (3*), 178-195. Retrieved from: https://www.researchgate.net/publication/247577729_Corporate_social_responsibility_in_the_oil_and_gas_sector

[11] Frynas, J. G. (2008). Corporate Social Responsibility and International Development: Critical Assessment. *Csr and International Development, 16 (4),* 274-281. Retrieved from: https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-8683.2008.00691.x

[12] Gordon, B. (2016). *The Universal Declaration of Human Rights in the 21st Century: A Living Document in a Changing World.* Cambridge, UK: Open Book Publishers. doi: 10.11647/OBP.0091

[13] Haigh, K (2008). Extending the International Criminal Court's jurisdiction to corporations: Overcoming complementarity concerns

[14] Inter-Parliamentary Union & United Nations. (2016). What are human rights? In Inter-Parliamentary Union & United Nations (Ed.), *Human Rights : Handbook for Parliamentarians* (pp. 19-30). Retrieved from: https://www.ohchr.org/Documents/Publications/HandbookParliamentarians.pdf

[15] Jenkins, R. (2005). Globalization, corporate social responsibility and poverty. *International Affairs, 81 (3)*, 525-540. Retrieved from: https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1468-2346.2005.00467.x

[16] Jesus A. O. (2012). The Prodigious Story of the Lex Petrolea and the Rhinoceros. Philosophical Aspects of the Transnational Legal Order of the Petroleum Society ,in TPLI Series on Transnational Petroleum Law, Vol. 1, N° 1.Disponível em: http://adejesus.com/pdfs/DE%20JESUS%20O.%20Alfredo%20-%20The%20Prodigious%20Story%20of%20the%20Lex%20Petrolea%20and%20the%20Rhinoceros.pdf

[17] Kamminga, M. T. (1999). *Holding multinational corporations accountable for the human rights abuses: A challenge for the European Community*

[18] Khan, F. (2008). Understanding the spread of systemic corruption in the Third World*. American Review of Political Economy, 6 (2),* 16-39.

[19] Kyriakakis, J. (2008). Corporations and the International Criminal Court: The Complementarity Objection Stripped Bare. *Criminal Law Forum*, *19*(1), 115 - 151.

[20] Malanczuk, P. (1997). *Akehurst's modern introduction to international law. (7ªed.) New York, NY. Routledge* Retrieved from: https://law.famu.edu/wp-content/uploads/2015/05/1.-Modem-Introduction-to-International-Law.pdf

[21] Martin, T. (2012). Lex petrolea in international law' in Ronnie King, Dispute Resolution in the Energy Sector: A Practitioner's Handbook (Globe Law and Business)

[22] McCorquodale, R. & Simons, P. (2007). Responsibility Beyond Borders: State Responsibility for Extraterritorial Violations by Corporations of International Human Rights Law. *The Modern Law Review,* 70(4): 598-625. Retrieved from: https://onlinelibrary.wiley.com/doi/full/10.1111/j.1468-2230.2007.00654.x

[23] Miller, A. L. (1995). Third World in global environmental politics

[24] Ruggie, J. (2008.) Protect, respect and remedy: A framework for business and human Rights. *Innovations: Technology, Governance, Globalisation, 3(2),* 189-212 https://www.mitpressjournals.org/doi/10.1162/itgg.2008.3.2.189
[25] Shelton, D.L. (2008). *Soft Law*. In Handbook of International Law. The George Washington University Law School, Washington D.C. Retrieved from : https://scholarship.law.gwu.edu/cgi/viewcontent.cgi?article=2048&context=faculty_publications
[26] Van den Berg A. J. (1994). Yearbook Commercial Arbitration 1994 Vol. XIX Vol. XIX (Kluwer Law International).
[27] Zeidy, M. (2008). The principle of complementarity in international criminal law: Origin, development and practice 157

Impact of Private Equity in Colombian Companies: A Case Study

Lina Maria. Maya Toro
Ms.c. .Corporación Universitaria Remington, Medellín, Colombia

Manuela. Gallon Bedoya
Ms.c, Food Science and Technology. Corporación Universitaria Remington, Medellín, Colombia

Abstract

A private equity fund is an investment vehicle managed by a professional team, whose main objective is to provide a medium or long-term return to its investors through capital investments in companies that are not listed on the stock exchange. In Colombia the first professional managers of private equity funds arrived in 2005, Since that date, several companies have been formed dedicated to this, such as Valorar Futuro, an investment fund which bought Aderezos and Higietex. The aim of this research was to determine the impact of the leverage of a private capital fund on the economic growth of a company. Financial balances of the companies Aderezos and Higietex were obtained from 2013 to 2017 and analyzed. Finally, it was found that the private capital fund allowed growth in the companies Aderezos and Higietex.

Keywords*:* venture, finance, private capital, investments, business

Introduction

Private Equity (PE) is a business model in which investors are associated with professional managers for the injection of private capital into companies, through the purchase of shares with the ultimate goal of obtaining a return about its investment through various disinvestment mechanisms (Chapple, Clarkson, & King, 2010; Meuleman, Wright, Manigart, & Lockett, 2009).

Some of the elements that make Private Equity (PE) a differentiated business model are (Ulloa, 2006) its structure of participation and roles, the average term of return on investment, and the mechanisms used to achieve the objective of your business model

Like all other for-profit businesses, the PE seeks to increase the value of the investment made. The way in which the PE works to achieve this objective is to invest in companies that are not usually listed on the stock exchange and some of which can not access bank financing or the capital market (Demaria & Tarradellas Espuny, 2016).

The structure of Private Equity is based on an asset management model, however, it is commonly accepted that one of the most distinctive features is its period of return on investment (3-10 years) (ASCRI, 2018) which is much higher than the fast money culture of Wall Street.

In the strict sense, the business of private capital was born with the first merchant companies destined to the exploration and exploitation of the American continent in the years before the 1900s, during this time the term Venture was coined which was a contraction of adventurer (adventurer) term with which they commonly referred to the people involved in these activities (Cendrowski, Petro, Martin, & Wadeck, 2012). The first great moment of the PE in the twentieth century occurs in the United States with the famous purchase of Carnegie Steel by JP Morgan in 1901 (Talmor & Vasvari, 2011). However, the business of PE as the industry we know today, was born in the eighties with the appearance of the so-called bootstrap acquisitions that later came to be known as Leveraged Buyouts in which essentially a buyer acquires its target financing through debt, a large part of the resources needed in the transaction (Hungarian Private Equity and Venture Capital

Association, 2018). One of the main exponents and main precursor of this type of business is Henry Kravis, founding partner of the renowned private equity firm KKR, responsible for famous transactions such as the purchase of RJR Nabisco, producer of, among other products, Oreo cookies ("Henry R. Kravis," 2017).

In order to better understand the PE business model, it is important to know how the typical participants of a PE business and their relationships work:

Limited Partners: the typical investors of the Private Equity business are individuals or companies with the capacity to commit a significant level of capital and willing to have periods of return between 7 and 10 years. (Braun & Schmidt, 2014). Within these investors, it is possible to find pension funds, universities, private companies, government agencies and Family Offices such as Rockefeller, Rothschild etc.

General Partners: they are companies or people with extensive experience in the investment sector (Prowse, 1998), with administrative knowledge and valuable relationships that offer a competitive advantage to the investor when seeking to access the investment strategies pursued by the fund. In the Colombian case, under their regulation scheme, they can be professional managers, private companies, stockbrokers and investment banks. (Ministerio de hacienda y crédito público, 2015).

Administrators*:* the figure of administrator depends to a great extent on the jurisdiction where the business is being carried out, usually in the international market it is usually the same companies of the professional managers or Private Equity Firms that administer the funds through of legal figures as segregated accounts (Kaplan & Stro, 2009). In Colombia, there is a figure or fiduciary role that is reserved exclusively for a certain group of entities that are: fiduciaries, stockbrokers and Investment Management Companies (SAI) (Superintendencia financiera de Colombia, 2001).

The operation of the business model of a private equity firm can be divided into four stages [16], [17]:

- Fundraising: as its name says the Fundraising consists of the acquisition of investment capital for the private equity fund, generally during this stage, a professional manager establishes an investment strategy and carries out a marketing process known as roadshow to attract potential investors or limited partners and thus get the resources that are needed to execute the strategy (Andbanck, 2014).
- Investment: Consists in the constitution and formalization of all contracts associated with this business model, including the creation of the private equity fund in the management company, the remuneration and compensation structure of the manager, and the investment mandate and clawbacks, once the previous step is completed, the professional manager initiates the execution of the investment strategy (Liu & Yang, 2015).
- Administration: during this process the manager determines the specific investment opportunities that are in line with the fund's strategy and determines the allocation of capital to each of these opportunities, once this is done, the professional manager must exercise an active management of these investments seeking to meet the objectives agreed with their investors that at the end of the day is summarized in the increase in value of the capital received (EVCA, 2007). At this point it is worth mentioning that in addition to capital, private equity firms are also characterized by the proximity they seek to develop with the companies or businesses in which they invest, with the purpose of contributing their knowledge in good corporate governance practices, strategy and management, corporate finance, human resources management, etc.
- Disinvestment (Exit): in this period the manager makes the sale of the assets or businesses in which it was initially invested in order to materialize the value generated through the administration process, for this purpose the manager has several tools that are: OPI (Initial Public Offer), sale to another Private Equity and sale to a strategic buyer M & A (Mergers and Acquisitions) (Johan & Zhang, 2016).
- Like all financial businesses, PE firms face different risks that they must seek to mitigate or reduce. Among these we can typically find the following (Diller & Jäckel, 2015):
- Liquidity risk: Given that investments under a PE business model are in assets that are not generally listed on the stock exchange, this makes it more difficult to execute an early exit from the investment, which is configured as a liquidity risk.

- Concentration risk: This consists of the existence of a large concentration of capital in a single investment strategy, a situation that arises from the need to have management capacity in the same investment (company). That is to say, "there are many eggs in the same basket".
- Risk of adverse selection: This is that, having a limited number of investment options, there is a greater likelihood that the decision and its performance are sub-optimal.

In Colombia, the first professional managers of private equity funds to arrive were LAEFM Colombia (LAEFM Colombia, 2018) and SEAF Colombia (SEAF Colombia, 2014), in the year 2005. After this arrival, the first regulations for the development and regulation of the industry were made. The first regulatory framework of the industry was made under resolution 470, where pension funds were granted permission to invest in these private equity funds.

Taking the study carried out by the firm Ernst & Young and ColCapital, we can find that since its inception, the private equity fund industry has shown a constant increase (ColCapital & EY, 2017).

A couple of cases of Colombian companies in which investments were presented by private equity funds are:

Tribeca purchased stakes in Emi and Onda de Mar through its Private Equity Fund FCP Tribeca Fund I, managed by the fiduciary Fiducor (Tribeca, 2018).

SEAF and SEAF Colombia they bought participations in Mimo's and Kokoriko through the participation of Grupo Conboca through their private equity fund MAS COLOMBIA-LATAM

In the year 2012, the firm Valorar Futuro bought the company Higitex Ltda., and in 2013 bought Ascender S.A.

The aim of this study was to
determine the impact of the leverage of a private capital fund on the economic growth of a company, where the companies Ascender S.A and Higietex Ltda in Colombia will be taken as a case study

Methods

The financial statements of Ascender SA and Higitex Ltda, from 2013 to 2017, were taken from the Colombian Superintendence of Companies. Once obtained, a database was assembled and the main accounts were selected in order to calculate the financial indicators.

The selected accounts were: operating income (OI), gross profit (GP), operating profit (OP), net profit (NP), EBIT, invested capital (IC), and equity (E).

Variations in operating income, gross profit, operating profit and profit and loss over the years were determined (1). And the financial indicators such as gross margin (2), operating margin (3), ROE (4) and ROIC (5) were calculated

$$VTY(\%) = \left(\frac{Current\ year}{Last\ year} - 1\right) * 100 \qquad (1)$$

$$GM(\%) = \frac{gross\ profit}{operating\ income} * 100 \qquad (2)$$

$$OM(\%) = \frac{EBIT}{operating\ income} * 100 \qquad (3)$$

$$ROE(\%) = \frac{net\ profit}{equity} * 100 \qquad (4)$$

$$ROIC(\%) = \frac{EBIT}{invested\ capital} * 100 \qquad (5)$$

Where VTY is the variation of the indicator through the years; GM is the gross margin; OM is the operating margin; ROE is the return on equity, and ROIC is the return on invested capital.

results and discussion

Salsas Aderezos is an Antioquia food company that is part of the Ascender S.A. business group. He has also had a wide selection in the country with presence in more than 5 main cities. The company was founded in 1994 and in 2013; the purchase process was started by the private equity fund Valorar Futuro. On the other hand, Higietex is a company dedicated to the production and marketing of cotton products for personal care and health. It has been in existence for forty years and is one of the most recognized brands in this sector in Colombia. Currently exports to South and Central America. This company was purchased by the private equity fund Valorar Futuro in the year 2011

After receiving the support of the Valorar Futuro capital fund in the financial balances of the company Aderezos (table 1), a continuous growth in its income can be evidenced. Between 2013 and 2014, revenues grew approximately 7.1%, while for the 2014-2015 period, revenues grew by approximately 11.5% and finally for the 2015-2017 period, they rebounded with 31%. This is also reflected in the increase in its cost of sales, with an average growth of approximately 23% as of 2014, which supports its continuous increase in sales.

Table 1. Financial statements of the company Aderezos for the years 2013 to 2017.

	2013	2014	2015	2016	2017
OI	$5,467	$5,854	$6,525	$85,665	$11,279
GP	$2,713	$2,870	$3,256	$3,914	$5,325
OP	$1,073	$866	$1,031	$1,467	$2,354
NP	$536	$160	$300	$807	$1,317
EBIT	$1,073	$866	$1,031	$1,467	$2,354
IC	$1,477	$1,325	$1,172	$1,747	$2,152
E	$1,451	$1,093	$813	$1,346	$1,938

The values are given in dollars

Respecting to the gross margin, the company shows a constant behavior between 2013 and 2015 with an average of 48% (Table 2). The company presents a constant behavior between the years of 2013 to 2015 in its operating margin, with an average behavior of 18%, and an increase between 2016 and 2017 of almost 4 percentage points, showing a significant increase in sales and even above their costs and expenses.
The company presents a significant increase in its ROE for the period between 2015 and 2016, as it goes from average levels of 30% to average levels of 64%. Finally, between 2016 and 2017, the ROIC presented an approximate variation of 25%, which indicates an increase in the profitability of the funds invested in the assets, whether they are of patrimonial origin or long-term loans.

Table 2. Financial indicators of the Company Aderezos for the years 2013 to 2017.

	2013	2014	2015	2016	2017
GM	49.6%	49.0%	49.9%	45.8%	47.2%
OM	19.6%	14.8%	15.8%	17.2%	20.9%
ROE	36.9%	14.6%	36.9%	59.9%	67.9%
ROIC	72.7%	65.4%	87.9%	84.0%	109.4%

The purchase of the company Aderezos by the private equity fund Valorar Futuro allowed a change in the management of the company (ceasing to be a family business), allowing improvements in its processes, which can be seen in the increases of its indicators.

Between 2016 and 2017, the company showed significant growth in its income levels and indicators such as the operating margin and the ROE. Additionally, it underwent changes in its brand image, seeking to respond to new marketing strategies proposed by the professionals of the private equity fund.

It can be said then, that the greatest impact of this purchase is the change in its management and as a result the increase in its revenues, the product portfolio and the arrival in new markets.

On the other hand, the Higietex Company, after receiving the income from the Valorar Futuro fund, showed a continuous growth in income, between 2013 and 2014, revenues grew approximately 1.8%, while among the year 2014 to 2015 they grew approximately 13.9% and finally between the years 2015 to 2017, they grew on average 28.4% (Table 3).

Table 3. Financial statements of the company Higietex for the years 2013 to 2017.

	2013	2014	2015	2016	2017
OI	$4,142	$4,216	$4,802	$5,585	$6,261
GP	$1,430	$1,596	$1,947	$2,148	$2,297
OP	$78	$241	$528	$696	$789
NP	$-201	$-12	$284	$387	$425
EBIT	$78	$241	$528	$696	$789
IC	$1,176	$118	$1,198	$1,239	$1,525
E	$855	$82	$536	$372	$249

In terms of gross margin, the Higietex Company showed a constant average behavior of 37.6%, with a slight growth in 2015 of 3 percentage points. Likewise, it presented an average increase of 12% in its operating margin as of 2015, showing an improvement in its operational and administrative expenses.

Higietex showed a significant increase in its ROE as of 2015, since this goes from negative levels to positive and maximum levels of 44.6%. As of 2014, the ROIC showed a significant increase, going from levels lower than 10% to levels higher than 20%, reaching its peak in 2016 at 56.2%, which shows an improvement in the profitability of the funds invested in the assets, either of their patrimonial origin or of long-term loans (Table 4).

Table 4. Financial indicators of the Company Higietex for the years 2013 to 2017.

	2013	2014	2015	2016	2017
GM	34.5%	37.9%	40.6%	38.5%	36.7%
OM	1.9%	5.7%	11.0%	12.5%	12.6%
ROE	-62.8%	-3.5%	42.9%	44.6%	33.3%
ROIC	6.7%	20.5%	44.1%	56.2%	51.7%

For both Aderezos and Higietex, after receiving the capital injection by Valorar Futuro, there may be evidence of a growth in its operating revenues, which is evidenced by an increase in selling costs at the company Aderezos. However, in Higietex a decrease in its sales costs can be evidenced, which could have occurred when performing an efficiency in obtaining raw material and direct labor, also, a reduction in operating income between 2016 and 2017 can also be seen, which could be presented by an increase in its operating expenses.

In terms of total assets both companies showed growth year after year, for the company Aderezos an average growth of 21.5% was obtained, while for Higietex a constant growth of 16.8% was obtained, which could conclude that in some the injection of capital allowed the acquisition of assets that leveraged the growth of the company. As for liabilities, both companies showed a decrease starting in 2016.

Conclusions

The private capital funds allow the growth of small businesses or family businesses; this was reflected in the case study of the company Aderezos, where its indicators saw an increase, due to several factors influenced by Valorar Futuro, such as improvements in the brand, consulting in business management, product diversification, among others. The in-depth study should be followed with other cases that allow evaluating the influence of these private funds on small companies in Colombia and making a comparison with other countries.

References

[1] Andbanck. (2014). ¿que es el fundraising? Retrieved July 16, 2018, from http://www.andbank.es/observatoriodelinversor/que-es-el-fundraising/
[2] ASCRI. (2018). Qué es el Capital Privado (Venture Capital & Private Equity). Retrieved June 22, 2018, from https://www.ascri.org/que-es-el-capital-riesgo/
[3] Braun, R., & Schmidt, M. (2014). The limited partnership model in private equity:deal returns over a Fund´s life. Center for Entrepreneurial and Financial Studies.
[4] Cendrowski, H., Petro, L. W., Martin, J. P., & Wadeck, A. A. (2012). Private Equity: History, Governance, and Operations (2, Illustr ed.). John Wiley & Sons.
[5] Chapple, L., Clarkson, P. M., & King, J. J. (2010). Private equity bids in Australia: An exploratory study. Accounting and Finance, 50(1), 79–102. https://doi.org/10.1111/j.1467-629X.2009.00323.x
[6] ColCapital, & EY. (2017). "Fortaleciendo la economía colombiana." Bogotá, Colombia. Retrieved from https://www.ey.com/co/es/newsroom/news-releases/news-ey-la-industria-de-fondos-de-capital-privado-en-colombia-continua-fortaleciendo-la-economia-nacional
[7] Demaria, C., & Tarradellas Espuny, E. (2016). Private Equity: Introducción a la financiación privada de las empresas (capital riesgo, capital expansión, LBO y turnaround). Profit Editorial.
[8] Diller, C., & Jäckel, C. (2015). Risk in Private Equity. BVCA Research Paper, (October). Retrieved from https://www.bvca.co.uk/Portals/0/library/documents/Guide to Risk/Risk in Private Equity - Oct 2015.pdf
[9] EVCA. (2007). Guide on Private Equity and Venture Capital for Entrepreneurs.
[10] Henry R. Kravis. (2017). Retrieved June 22, 2018, from http://www.achievement.org/achiever/henry-r-kravis/
[11] Hungarian Private Equity and Venture Capital Association. (2018). The Development of Private Equity and Venture Capital. Retrieved June 22, 2018, from http://www.hvca.hu/en/pevc-explained/private-equity/the-development-of-private-equity-and-venture-capital/
[12] Johan, S., & Zhang, M. (2016). Private equity exits in emerging markets. Emerging Markets Review, 29, 133–153. https://doi.org/10.1016/j.ememar.2016.08.016
[13] Kaplan, S. N., & Stro, P. (2009). Leveraged Buyouts and Private Equity. Jorunal of Economic Perspectives, 23(1), 121–146.
[14] LAEFM Colombia. (2018). LAEFM Colombia. Retrieved July 17, 2018, from http://laefm.com/laefm-colombia
[15] Liu, Y., & Yang, J. (2015). Optimal investment of private equity. Finance Research Letters, 14, 76–86. https://doi.org/10.1016/j.frl.2015.05.013
[16] Meuleman, M., Wright, M., Manigart, S., & Lockett, A. (2009). Private equity syndication: Agency costs, reputation and collaboration. Journal of Business Finance and Accounting, 36(5–6), 616–644. https://doi.org/10.1111/j.1468-5957.2009.02124.x
[17] Ministerio de hacienda y crédito público. Decreto 255 de 2010: Por el cual se recogen y reexpiden las normas en materia del Sector Financiero, Asegurador y del Mercado de Valores y se dictan otras disposiciones (2015). Colombia.
[18] Prowse, S. D. (1998). The Economics of the Private Equity Market. Economic Review, 21–35.
[19] SEAF Colombia. (2014). SEAF Colombia. Retrieved July 17, 2018, from http://seafcolombia.com/
[20] Superintendencia financiera de Colombia. (2001). Portafolios de inversión. Retrieved July 9, 2018, from https://m.superfinanciera.gov.co/jsp/Publicaciones/publicaciones/loadContenidoPublicacion/id/18666/dPrint/1/c/18633
[21] Talmor, E., & Vasvari, F. (2011). International Private Equity (illustrate). John Wiley & Sons.
[22] Tribeca. (2018). Tribeca Private Equity Portafolio. Retrieved July 17, 2018, from http://www.tribeca.com.co/s-portfolio/
[23] Ulloa, S. (2006). "Private Equity" - Retorno vs liquidez. Retrieved June 22, 2018, from https://www.dinero.com/columnistas/edicion-impresa/articulo/private-equity-retorno-vs-liquidez/33822

A Case Study of Foreign Direct Investment and Economic Growth Relationship in Turkey

Mehman Karimov

Davit Belkania

Abstract

Foreign direct investment is believed to enhance long-term economic growth of a country through knowledge spillovers and technology transfers. This paper is an empirical attempt to check the effects of the foreign direct investment (FDI) on the economic growth (GDP) of Turkey. The paper uses time span from 1980 to 2017 for statistical analysis. Johansen co-integration and Granger causality tests were applied for empirical analysis. The results of the tests confirmed the presence of the co-integration between GDP and FDI as it was expected from the beginning. Furthermore, Granger causality test showed the unidirectional causality from FDI to GDP.

Keywords: Turkey, Foreign Direct Investment inflow (FDI), Gross Domestic Product (GDP), knowledge spillovers, technological advances

1. Introduction

Foreign Direct Investment (FDI) can be defined as the flow of cash organized by a unit or an individual, which aims at the business located in another country. The essential feature of FDI is the ability to establish an effective control over the decision-making process of a foreign business or substantially have an influence on it at the very least.

The role of foreign direct investment has been on the rise since the second half of the 1980s. The new management understanding and a considerable amount of possibilities are brought together resulting from technological advances, these investments have been demanded by both developing countries and developed countries. Foreign investments which was previously considered as a negative exertion are now put into practice in many countries due to the positive contributions they have made, as a result they are willing to open their borders and pay attention to attracting more direct foreign investment. Turkey has adopted new policies and strategies in this regard as it has been witnessing the initiation of foreign direct investment in the country as well as the widespread view that the problems of the countries suffering from capital shortages will arise immediately and have a positive effect on other macroeconomic indicators. In Turkey, promotion of the FDI through various policies is quite multidimensional. Turkish government utilises intersectoral development approach. The manufacturing, retail, logistics, communications and financial services industries have been the major beneficiaries of FDI in Turkey since 2002 {Citation}. As for the legislative part, Turkish government undergone the set of changes to create more flexible investment climate. According to the “Foreign Direct Investment Law” issued in 2003, foreign investors shall be subject to equal treatment with domestic investors; Foreign investors can freely transfer abroad: net profits, dividends, proceeds from the sale or liquidation of all or any part of an investment (Deichmann, Karidis, & Sayek, 2003).

In addition to the efforts of the Turkish government to create competitive investment environment, geographical location played an important role in success of Turkish economy. It has unique location, lying in both Europe and Asia and serving as a bridge between the two biggest markets. Thus, giving a stimulus to the policy makers to develop outward-oriented growth state.

Besides the practical importance of this article to justify current policy changes in Turkey favouring FDI driven growth, we will enrich the existing literature regarding FDI and economic growth and eliminate the gap between theory and practice.

The article starts with section 2, in which we expound literature review about FDI inflow and Economic Growth. Our model which was applied in this paper and its result based on statistical analysis along with the data set will be illustrated in section 3. In section 4, disclosed conclusion according to achieved results will be made. Finally, section 5 will present all the references used.

2. Literature review

(Alagöz, Erdoğan, & Topallı, 2008), the relationship between direct foreign investment in Turkey and economic growth has been examined for the period 1992-2007. Resulted no causal relationship between direct foreign capital investments and economic growth from the study. The regression analysis for period 2002-2007 was examined in the study. The elasticity coefficient of the model indicates the effect of foreign direct investment on economic growth is moderate.

(Şen & Saray, 2010) analysed the effect of direct foreign capital investments on economic growth in Turkey using panel data regression analysis. Positive contributions to economic growth lead to direct foreign capital investments in Turkey.

(Yilmaz, Kaya, & Akinci, 2011), the effects of foreign direct investment on economic growth have been analysed for the Turkish economy for the 1980-2008 period. In the analysis, two variables were used as gross domestic product and foreign direct investment. Time series analysis method was used in the study. Resulting a one-way causality relation from foreign direct investment to economic growth. It is also seen that the variables are co-integrated. Positive effects on economic growth from foreign direct investments shown from the estimation results.

(Gürsoy & Kalyoncu, 2012) analysed the impact of direct foreign investment on economic growth between 1977 and 2010 in Georgia. Engle-Granger co-integration test and Granger causality analysis were used in the study. Results show that the two variables are co-integrated, that is, they act together in the long run. Which also gave the conclusion that direct foreign investment is the reason for economic growth.

(Çeştepe, Yildirim, & Bayar, n.d.), the data for the period 1974-2011 used for the direct causal relationship between foreign direct investment, growth and foreign trade in Turkey. The long-term causality between the variables was investigated by following the Toda-Yamamoto method in the study. Findings obtained; "Growth based export", "export dependent FDI" and "import dependent export" hypothesis. These findings can be interpreted as the fact that the import-based export structure and FDI inflows do not change this, so the export-based growth hypothesis cannot be verified in Turkey.

(Younus, Sohail, & Azeem, 2014) analyzed the impact of foreign direct investment in Pakistan on economic growth for the period 2000-2010. The two-step least squares method is used in the study. As a result, there is a positive relationship between economic growth and foreign direct investment. Domestic investment, exports and political stability have been found to be very important in the selection of foreign direct capital in Pakistan.

(Muhammad & Ijirshar, 2015) analyzed the impact of foreign direct investment on economic growth in Nigeria between 1970 and 2013. Time series analysis method was applied in the study. As a result, a one-way relationship between foreign direct investment and economic growth; there was no relationship between foreign direct investment and unemployment. A positive but statistically insignificant relationship was found between the foreign direct investments and the economic growth in Nigeria in the short and long term.

3. Data, Methodology and Model Results

3.1 Data and Methodology

The time series data set has been used for applied analyses part of paper, covered the period span from 1980 to 2017. Two variables were utilized in the model: GDP (Gross Domestic Product) and FDI (Foreign Direct Investment inflows) those were obtained from World Bank Group ("World Bank Group - International Development, Poverty, & Sustainability," n.d.). As software, Gretl and EViews were employed to fulfil empirical part of the paper. The long-run implications of FDI on economic growth of Turkey can be detected through regression analysis. Before applying the regression model, stationery test was performed through the Augmented Dickey-Fuller (ADF) test. Stationery level is the crucial part in the time-series analysis. In fact, running the conventional regression analysis on non-stationary time-series can be consistent if the linear combination of the selected variables results in stationary residuals, otherwise, it leads to the spurious results. In this case, statistical property like co-integration appears to deal with non-stationary time-series and detect the long-run relationship between them. Thus, the Johansen co-integration test was employed for our empirical study. The test examines the multiple linear combinations for more than one variable, that results in a stationary process. The Johansen test uses two statistics to identify the number of co-integration vectors: The trace and the maximum eigenvalue tests. In addition to our empirical examination, we employed the Granger Causality test to check the causality between the observed series.

3.2 Model Results

3.2.1 Unit root test and order of integration

As the pre-condition of Johansen co-integration test suggests, selected time-series must be non-stationary, *I*(1). Therefore, we performed ADF test individually on both variables. The null hypothesis of the ADF test states that there is a unit root in the series. The null hypothesis is rejected if the P-value is less than 5%, thus, accepting the alternative hypothesis of no unit root in the series.

Table 1. ADF test results.

ADF test at Level. 9 lags, unit-root null hypothesis: a = 1 *model: (1-L)y = b0 + b1*t + (a-1)*y(-1) + e*	LnGDP	LnFDI
Estimated value of (a - 1)	-0.4412	-0.4049
Test statistic	-3.0718	-2.9647
P-value	0.1278	0.1554
ADF test at First Difference. 9 lags, unit-root null hypothesis: a = 1 *model: (1-L)y = b0 + (a-1)*y(-1) + ... + e*	LnGDP	LnFDI
Estimated value of (a - 1)	-1.6721	-1.1217
Test statistic	-4.1972	-7.3377
P-value	0.0006	3.575e-07

Source: Author's own calculation

The results presented above showed that both variables have a unit root at levels, as long as we can't reject the null hypothesis, and become stationary at first difference (See Table 1). Therefore, we can conclude that the observed data are integrated of order one, *I*(1) and continue to the Johansen co-integration test.

3.2.2 Johansen co-integration test

According to the ADF unit root test results, our series are integrated of the same order, *I*(1). Thus, it allows us to continue with Johansen co-integration procedure. The test uses two statistical measures from Trace and Eigenvalue tests.

Table 2. Johansen co-integration test results

Johansen Co-integration test: Sample (adjusted): 1982-2017, Included obs.: 36, Series: LnGDP, LnFDI, Lags interval (in first differences):1 to 1.				
Unrestricted Co-integration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.
None	0.3522	16.559	15.4947	0.0345
At most 1	0.0253	0.9257	3.8414	0.336
Unrestricted Co-integration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.
None	0.3522	15.6333	14.2646	0.0302
At most 1	0.0253	0.9257	3.8414	0.336

Source: Author`s own calculation

Based on the Johansen co-integration test results we rejected the null hypothesis of both trace and maximum eigenvalue tests of no co-integration between GDP and FDI at 1% level of significance, but we failed to reject the alternative hypothesis (P-value in both tests>0.05%, and Trace/Maximum Eigenvalue<0.05 Critical Value=3.8414) (See Table 2). Thus, we can confirm the existence of at most one long-run co-integration vector between GDP and FDI.

3.2.3 Granger Causality test

As we have already mentioned, we checked the causal relationship between GDP and FDI through Granger Causality test. The null hypothesis of the test states the following:

H_0: LnFDI does not Granger Cause LnGDP, and

H_0: LnGDP does not Granger Cause LnFDI

Null hypothesis is rejected if the probability value is less than 0.05%.

Table 3. Granger causality test results

Pairwise Granger causality test, Lags 2, Sample 1980-2017		
Null Hypothesis	**F-statistic**	**Prob.**
LnFDI does not Granger Cause LnGDP	4.696	0.016
LnGDP does not Granger Cause LnFDI	2.251	0.122

Source: Author`s own calculation

According to the results we can reject the null hypothesis of no causal relationship from FDI to GDP (P-value=0.016<0.05%), and except the second null hypothesis (P-value=0.122>0.05). Thus, the results of causality test indicated the unidirectional causal relationship from FDI to GDP (See Table 3).

4. Conclusion

This study analyzes the relationship between Foreign Direct Investment inflows to Economic Growth of Turkey by using annual data for the period span from 1980 to 2017. Unit root test (ADF), Johansen co-integration test and Granger Causality test were applied for empirical part of paper to examine the impact of Foreign Direct Investment inflows on Economic growth(GDP) of Turkey.

The findings showed us further; According to the results of Unit root test both of variables were stationary. That meant we could continue our calculations by applying Johansen co-integration and Granger Causality tests. The next step was Johansen co-integration test. Johansen co-integration test confirms the existence of at most one long-run co-integration vector between GDP and FDI. The final step to complete our empirical analysis part of paper was Granger Causality test. Based on results there was unidirectional causal relationship from FDI to GDP.

5. References

[1] Alagöz, M., Erdoğan, S., & Topallı, N. (2008). Doğrudan Yabancı Sermaye Yatırımları ve Ekonomik Büyüme: Türkiye Deneyimi 1992-2007, 11.

[2] Çeştepe, H., Yildirim, E., & Bayar, M. (n.d.). DOĞRUDAN YABANCI YATIRIM, EKONOMİK BÜYÜME VE DIŞ TİCARET: TODA-YAMAMOTO YAKLAŞIMIYLA TÜRKİYE'DEN NEDENSELLİK KANITLARI, 37.

[3] Deichmann, J., Karidis, S., & Sayek, S. (2003). Foreign direct investment in Turkey: regional determinants. *Applied Economics*, *35*(16), 1767–1778. https://doi.org/10.1080/0003684032000126780

[4] Gürsoy, F., & Kalyoncu, H. (2012). Foreign Direct Investment and Growth Relationship in Georgia. *International Journal of Economics and Financial Issues*, 2.

[5] Muhammad, L., & Ijirshar, V. U. (2015). Empirical Analysis of the Relationship between Foreign Direct Investment and Economic Growth in Developing Countries-Evidence from Nigeria. *International Journal of Business Administration and Management Research*, *1*(1), 15–25.

[6] Şen, A., & Saray, M. O. (2010). TÜRKİYE'DE DOĞRUDAN YABANCI SERMAYE YATIRIMLARININ EKONOMİK BÜYÜMEYE ETKİSİ: PANEL VERİ ANALİZİ. *Akademik Araştırmalar ve Çalışmalar Dergisi (AKAD)*, *0*(0). https://doi.org/10.20990/aacd.07150

[7] World Bank Group - International Development, Poverty, & Sustainability. (n.d.). Retrieved November 2, 2018, from http://www.worldbank.org/

[8] Yilmaz, Ö., Kaya, V., & Akinci, M. (2011). TÜRKİYE'DE DOĞRUDAN YABANCI YATIRIMLAR VE EKONOMİK BÜYÜMEYE ETKİSİ (1980-2008). *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, *25*(3–4), 13–30.

[9] Younus, H. S., Sohail, A., & Azeem, M. (2014). Impact of foreign direct investment on economic growth in Pakistan. *World Journal of Financial Economics*, *1*(1), 2–5

Taxing energy use in the BRICS countries – Benchmarking South Africa

Dr Lee-Ann Steenkamp,

University of Stellenbosch Business School (South Africa)

Abstract

An important pillar in the process of transitioning to a low-carbon economy is internalising the cost of carbon emissions. An environmental tax may be one of the most cost-effective ways to curb the negative side-effects of energy use. An example of an environmental tax is an energy tax, which may include carbon taxes. This paper examines the energy landscape and structure of energy taxation in each of the BRICS countries. These are nations that represent a large and increasing share of global energy use and carbon emissions. Although these countries differ in terms of their energy mix and energy intensity, the paper identifies some common features which could serve as a useful benchmark for South Africa. Both a desktop study and a quantitative study are performed. The desktop study entails a literature review of and reference to both foreign and local policy documents, as well as authoritative studies by the Organisation for Economic Cooperation and Development (OECD) and the International Energy Agency (IEA). The quantitative study consists of a high-level analytical review of certain key indicators of energy use and taxation in South Africa and the other BRICS member countries. It will be shown that South Africa ranks very poorly in terms of per capita carbon emissions. Consequently, this paper suggests that the country's proposed carbon tax could prove to be effective in changing consumers' behaviour and thereby reducing carbon emissions.

Keywords - BRICS, Carbon emissions, Carbon tax, Energy tax, Environmental Tax

Political and Institutional Restrictions of Tax Harmonization in the European Union

Maria Do Rosário Anjos
Assit. Prof. Dr. PhD Public Law, University Institute of Maia
Researcher - Portucalense Institute for Legal Research

Maria João Mimoso
Prof. Assoc. University Portucalense
Researcher - Portucalense Institute for Legal Research

Abstract

The process of European Union construction is based on integration and liberalization of markets. In this context, fiscal policy and the harmonization of tax laws are extremely important in order to prevent distortions of competition. The very significant impact of fiscal policy on companies is known, especially for those most exposed to globalization. Given the impact of taxes on economic growth and employment, it would be expected a more significant progress towards fiscal harmonization among EU countries. Almost two decades after the entry of the Euro, after a deep economic crisis that endangered the European project and led to the BREXIT, we raised a question: **why no further progress was made in the field of fiscal harmonization, avoiding the collapse of the European project?** This study intends to reflect on the political and institutional constraints of the fiscal harmonization necessary to the effective process of economic and social integration within the EU. As methodology, we will use the deductive method and the speculative reasoning and some reference studies on the subject. In conclusion, we will try to demonstrate how political and institutional constraints are decisive in the process of integration and effective economic and social cohesion within the EU.

Keywords: Fiscal harmonization, European Union, political and institutional restrictions; integration; economic and social cohesion