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INTRODUCTORY ELEMENTS ON ENTREPRENEURSHIP

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Abstract: *Entrepreneurship is a contemporary form of involvement of individuals in community life. It contributes to economic growth because entrepreneurs are creating new businesses. Entrepreneurship implies that entrepreneurs are directly responsible for their careers, personal skills are transferable from one work environment to another, success not only refers to salary and social status, but also to personal satisfaction, personal development, work-life balance, and personal autonomy. This article includes a theoretical approach to entrepreneurship, which describes the characteristics, principles, factors, types of entrepreneurship, culture and education in entrepreneurial activity. Entrepreneurship is a recognized phenomenon at global, national and local level. It is a topical theme that has prompted the interest of researchers in various fields to be associated with economic growth and economic development, creating new jobs, improving living conditions, technological progress being assimilated to prosperity.*

1. Introduction

When the term entrepreneur has begun to be used very often in the context of economic development, his features have received particular attention.
The evolution has made the economists pay special attention, including by determining the psychological profile that includes the following characteristics: a high level of ambition, the need for performance, work experience, worthy of behavior, prediction for assuming the risk. (Kent, Seton, Vesper, 1982, p.2).
Entrepreneurs are important promoters of growth, employment, innovation and productivity. Developing entrepreneurial skills for young people has positive effects on their social status in the sense of gaining financial independence and social recognition. Due to this, the effects are felt at both local and national level through economic growth and, implicitly, rising living standards.
Starting from Adam Smith's theoretical entrepreneurial contributions Richard Cantillon, Jean Baptiste Say, Alfred Marshall, Iosef Schumpeter, Israel Kiryner and Frank Knight, OECD and Eurostat agreed on the following definition:
Entrepreneurs are business people who are trying to generate value by creating or developing economic activities by identifying and exploiting new products, processes and new markets;

2. The concept of entrepreneurship

The term "entrepreneurship" comes from the French word "entrepreneur", which in the context of business means "undertaking, starting a business".

The ideal outcome of the intersection of entrepreneurial opportunities with individuals with entrepreneurship is the establishment of a profitable business, which is why many of the definitions of entrepreneurship as a process share the mention of its outcome, namely the establishment of a business. So, entrepreneurship is any attempt to set up a new business or a new company, or to develop an existing business or company by an individual, group of individuals or a firm (Bosma et al., 2012, p.9 Benyovszki et al., 2014, p.8).

Entrepreneurship refers to an individual or a group of individuals more or less distinct from the rest of the population through their individual traits that, within or outside an organizational, public or private context, establish a more structured enterprise / structure or less innovative (Pintea, 2007).

Entrepreneurship is the process by which new organizations are set up or mature organizations are revitalized, and businesses are emerging as new opportunities are identified. (Onuha, 2007 and Eroğlu & Piçac, 2011, p.146).

Other definitions of entrepreneurship insist on the characteristics of the process, not the outcome of the process. So:

Entrepreneurship is a dynamic process that involves vision, change and creation. It requires energy and passion for creating and implementing new ideas and creative solutions. The necessary ingredients for entrepreneurship are the following: willingness to take calculated risks, the ability to form an efficient team for the business to be set up, the ability to manage the necessary resources, the ability to conceive a solid business plan, the vision to recognize opportunities where others see chaos, contradictions and confusion (Kuratko & Hodgetts, 2004, p.30 Kuratko, 2005, p.578).

Entrepreneurship is the process by which the subject creates something different and valuable, dedicating to this purpose the necessary time and effort, while assuming financial, psychological and social risks to obtain financial results and personal satisfaction (Hisrich, 1990, p.209 apud. Rauch & amp; Frese, 2000, p.6).

Entrepreneurship is an activity oriented towards performance and achievement, individuals spending an effort on subsequent financial and non-financial rewards. Among the rewards in the second category can be mentioned the following: high level of autonomy, job satisfaction, well-being (Hopp & Stephan, 2012, p.923).

Entrepreneurship means searching for or creating a business opportunity as well as pursuing the proposed goal, regardless of the resources available at the beginning of the process (Timmons, 1997, p.7, Phillips McDougall & Oviatt, 2000, p.903).

Entrepreneurship is the process by which an individual or a group of individuals make efforts to find ways to pursue opportunities to create value and profit by satisfying wishes and needs through innovation and uniqueness without taking into account the resources currently under control ‖ (Coulter, 2001, p.6 and Bjerke, 2007, p.16).

Entrepreneurship is a type of behavior that focuses on opportunities rather than resources, behavior that can manifest itself within large or small companies, but also in any other context (Stevenson & Gumpert, 1991, Thurik & Wennekers, 2004, p.140).

Entrepreneurship implies that entrepreneurs are directly responsible for their careers, personal skills are transferable from one work environment to another, success not only refers to salary and social status, but also to personal satisfaction, personal development, work-life balance, and personal autonomy.

Entrepreneurship is a performance and performance-oriented activity, with individuals taking an endeavour for further financial and non-financial rewards. Among the rewards in a second category can be the following: high level of autonomy, job satisfaction, well-being (Hopp & Stephan, 2012, p.923).

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3. Stages of entrepreneurial evolution

According to the Global Entrepreneurship Monitor (GEM), certain conditions that influence entrepreneurship are different and complex from one country to another, we cannot conclude that a stage in the development of entrepreneurship will naturally lead to the next level (e.g.: an economy with the large number of potential entrepreneurs is not implicit and an intense entrepreneurial activity).

Types of entrepreneurs after the stages of involvement in entrepreneurial activity:

A. Potential Entrepreneurs: It is the group of those with financial resources to start a business that has identified market opportunities but does not intend to launch their own business due to fear of failure.

b. Entrepreneurs determined: In the case of potential entrepreneurs, the intention to start their own business is supported by the perception of society as regards entrepreneurs, the status they enjoy in society and the positive position with which the media describes entrepreneurial activity.

c. Start-up entrepreneurs: include entrepreneurs who have started their own business and are up to 3 months old on their own feet.

d. New Entrepreneurs: They are the ones who have between 3 months and 4 years in their own business.

e. Consolidated entrepreneurs: are those entrepreneurs who have a business older than 4 years.

f. Suspended entrepreneurs: this category includes entrepreneurs who have interrupted their entrepreneurial activity.

In Romania, according to GEM Romania, the situation of these categories of entrepreneurs is illustrated in the table below:

Table 1: Entrepreneurial Activity of Romania 2007- 2013 (%)

Entrepreneurial Activity	2007	2008	2009	2010	2011	2012	2013
Potential entrepreneurs	13,6	11,5	9,4	10,65	27,71	30,78	26,82
Start-up entrepreneurs	2,90	2,54	2,79	3,2	5,56	5,51	6,2
Entrepreneurs of a new firm	1,30	1,56	2,30	1,09	4,51	3,83	4,2
Entrepreneurs in the initial phase	4,02	3,98	5,02	4,29	9,89	9,22	10,1
Entrepreneurs of a well-established firm	2,50	2,07	3,38	2,08	4,57	3,91	5.3
Entrepreneurs motivated by opportunity	2,68	2,12	2,76	2,94	5,68	6,94	6,78
Entrepreneurs motivated by necessity	0,56	1,37	1,71	1,27	4,09	2,23	3,20

Source: (Own processing after GEM Romania, APS 2007-2013)

According to Table 1, you can observe growth of the potential entrepreneurial percentage from 13,6% in 2007 to 26,82% in 2013.The percentage lowered in 2007 until 2009 and it grew from 2009 to 2013.You can observe that the number of whom intended to initiate a business in the coming 3 years which is in a growth but it needs to be looked after even if is followed of a entrepreneurial behavior. The percentage in the forming entrepreneurs case grew from 2.90% in 2007 to 6.2% in 2013, the percentage from 2012 being with 0.05% smaller than 2011 and the 2013 percentage is bigger than the 2012 one being with 0.05% smaller than in 2011 and the percentage from 2013 is bigger than the one from 2012 in the end even if there is the intention of making a business there is no active implication in the entrepreneurial activity. The number of owners of new businesses grew from 1.3% in 2007 to 4.2% in 2013,the percentage from 2011 being bigger with 0.7% than the one from 2012.Subsequent,,in the year 2013 you can observe a new growth compare to the year 2012.The percentage of the entrepreneurial activity in the incipient stage grew approximately 5% in the period 2007-2012,from 4,02% to 9.21%,but in the year 2012 is with 0.68% smaller than in 2011.Again,we can observe that in 2013there have been a growth of nearly 1% than in 2012.

4. The basic characteristics of the enterprise of the entrepreneurial organization

Entrepreneurial activity consists of identifying and capitalizing on economic opportunities. Entrepreneurial activity is a process that operates in different environments and business units, causing changes in the economic system through innovations made by people who harness economic opportunities, creating values for both individuals and society.

The set of entrepreneurial actions that make up the above-mentioned process has several characteristics: it can be considered an act of human will; occurs at the level

of an economic entity; is a change of firm; is a holistic (systemic) system; is a dynamic process; a unique approach; involves many variables and the entrepreneurial outcome depends on many factors.

Entrepreneurial activity is a process that includes 10 distinct actions in its structure: identification of business opportunities; conceiving the vision of the entrepreneurial process from the re-assessment of the need for change; assessing their own entrepreneurial performance and taking decisions on the entrepreneurial initiative process; implementing the entrepreneurial vision by organizing the business; procurement of equipment; providing competent workforce; the supply of raw materials; doing business marketing; the sale of products and services; subcontracting and attracting external collaborators for activities for which the necessary skills and resources are not available

Entrepreneurship is a form of activity based on the following features:

The initiative, the entrepreneur does not wait for directions but manifests initiative, mobilizing financial, material and human resources, in order to produce goods and sell them.

Making the decision independently, the entrepreneur takes decisions about the business and traces the directions of the company's development.

Innovation, the entrepreneur is the innovator, the rationalizer, who tends to produce goods or services or to implement new ways of producing or delivering them.

Risk, the entrepreneur risks his reputation, with his investments, that is, the resources invested in the business.

More and more, it is confirmed that both economic growth and prosperity depend on entrepreneurs. They strive to create and offer products / services demanded by consumers, making their lives easier, increasing their productivity and improving their health. In fact, the presence of entrepreneurs and entrepreneurship is necessary to encourage and introduce change in society (Borza et al., 2009).

5. Forms and Typologies of Entrepreneurship

The most common forms of entrepreneurship or self-employment are: the forms of commercial activity licensed or the form of commercial companies. The main difference between the two forms is that a trader (a physical person) carries out business on his own and needs a commercial authorization, while a company (a legal person) is doing business on behalf of the firm, that is, for all its patrons. In this case, a commercial authorization of the founders will be required by a legal contract concluded between them.

6. Factors influencing entrepreneurial activity

Irrespective of its economic performance, the activity of a company will be formed at the intersection of factors such as legislative, normative, social, financial, technological, political and global factors. Each factor influences the entrepreneurial environment in a different way, and can act both in the direction of decreasing and increasing its performance. There are two types of factors that influence entrepreneurial activity: internal and external factors. Internal factors depend on: the size of the firm, the type and specificity of the activity, the personality and the training of the entrepreneur, the level of training of the persons involved, the culture of the firm. External factors depend on: the characteristics and functionality of the

economic system, the conjuncture of the national economy, the market on which the company operates. These factors, due to the favourable or unfavourable content, can have a major impact on entrepreneurial initiatives. Stakeholders include: internal elements (owners, managers, employees, unions); external elements (banks, suppliers, clients, public ad- ministration). They have a significant impact on entrepreneurial activity, but we can say that the factor with the greatest influence is the entrepreneur due to his entrepreneurial spirit.

7. Essential principles of entrepreneurial activity

In the project phase of a business, when the needs, values, dimensions and advantages of the business are established, the goal of the entrepreneurial activity must also be prefigured. The entrepreneur must know, at this stage, the principles that will guide his entire activity:
• Developing clear objectives, strategies and action plans that will be systematically reviewed in context,
• producing and delivering goods or services that people want,
• attracting and retaining a client,
• Making enough profit to attract potential investors and keep existing ones,
• Providing rewards (material and moral), stimulating human resources.

8. The need for culture and entrepreneurial education

The concept of entrepreneurial culture has become popular and internationally accepted as an expression of attitude towards trade at a certain level of business. It describes a positive attitude, permissive and socially supportive of entrepreneurial activity. (Morisson, 2000)
Entrepreneurship education encompasses all activities designed to stimulate entrepreneurial thinking, entrepreneurial attitude, but also personal skills to identify business opportunities, set up, develop and innovate a business.
The pillars that facilitate the development of entrepreneurship are: access to finance, regulation and taxation, education and training, entrepreneurial culture.
• It can be said that there are three top reasons to start your own business:
52% Self-fulfilment, possibility to put into practice their own ideas
26% Independence
13% Perspective of additional revenue
• There are also three obstacles considered most useful for starting their own business:
38% Lack of start-up capital
16% Fear of failure
15% uncertain economic situation
It can be seen that most 97% of young people are open to work to achieve their goals and take the risks 82%, but only 56% are available for entrepreneurial activity. We can assume that they are not prepared for assuming these responsibilities 38%. Young people prefer to a larger extent entrepreneurs and do not hire 57% to complete their studies, and most would like to start their own business in the next two years 52%. We are especially talking about students in the year of economics faculty terminals. Young entrepreneurs need entrepreneurial education through specific courses and entrepreneurial practice.

Table 2: Barometer of Young Entrepreneurship Culture and Education 2014, Romania

Profile of young people from an entrepreneurial perspective	%of the total number of subjects
They want to start their own business in the next 2 years	52%
They are willing to work hard for what they want to get	97%
Considers the vision of the most important quality of a successful entrepreneur	58%
They prefer to be entrepreneurs and not managers	57%
They are willing to take risks	86%
They have a family entrepreneur	56%
They have at least one entrepreneur in the circle of knowledge outside the family	82%
They gave a helping hand to an entrepreneurial firm	51%
Lack of start-up capital considered an obstacle to becoming an entrepreneur	38%
I want to become entrepreneurs after the accumulation of experience	56%
Self-fulfilment, the opportunity to put into practice your own ideas	52%

Source: Own work after Young Entrepreneurship Education and Culture Barometer, 2014

9. Conclusions

Entrepreneurship is a complex concept that is and can be analyzed under different aspects. His analysis of the attitude of this activity reveals that there is, among young people, openness and determination for such an activity, but

Even though entrepreneurship has gained attention only in recent years, and has increased the interest of researchers due to the importance it attaches to, the concept has a much longer history, the first forms of entrepreneurial initiative dating back to the earliest times. Entrepreneurial activity is intentional planned behavior, and the formation of entrepreneurial intentions depends on personal attitudes towards the act of setting up a business. The decision to become an entrepreneur is voluntary and conscious.

It can be noticed that for all the years you study, the biggest and rising share is the potential entrepreneurs, which is an optimistic picture of the Romanian entrepreneurship. But they should be among the start-up entrepreneurs after a year, among the other categories in a few years, which, we know, does not happen.

Entrepreneurship education encompasses all activities designed to stimulate entrepreneurial thinking, entrepreneurial attitude, but also personal skills to identify business opportunities, set up, develop and innovate a business.

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ACTIVE POLICIES TO DECREASE UNEMPLOYMENT IN BIHOR COUNTY

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Abstract: *Beginning with the theoretical reasons regarding unemployment and active employment policies, we intend to carry out a quantitative analysis based on the data provided by AJOFM and presented in the Activity Report of 2017 aiming to estimate the effectiveness of active policies against unemployment by taking the number of employments due to policies implemented in Bihor County. The objectives of the study were: to analyze the evolution trends of unemployment in Bihor county compared to the national level during the transition period, to discuss the trend and the unemployment structure in Bihor in 2017, to determine of the occupancy rate of unemployed people in Bihor in 2017, as well and analyzing the effectiveness of the employment policies of graduates. Statistical data suggests that the most effective active measure to stimulate employment is mediation of work, beginning with the idea that 44.4% of the people included were involved in mediation. The analysis of the concerns for professional training shows that the highest interest for this form of professional insertion is among young people, oriented towards qualification / requalification and improvement of the professional training. This trend could also indicate the existence of a discrepancy between the school network in the county and the structure of the labor market. The existence of compatibility between the orientation of the unemployed people towards jobs demanded on the labor market and the organization of training courses in accordance with such tendencies suggests an adequate preoccupation of the specialized institutions for amending the malfunctions existing in this respect. Regarding the efficiency of the policies to stimulate the employment of young people there is a more pronounced interest from young people in using employment policies in comparison to other age groups. On the other hand, there is a certain reluctance on the part of the employers to access the state's facilities for the employment of unemployed people.*

Keywords: *unemployment, active policies, unemployment rate, unemployment costs, employment*

JEL Classification: *J23; J24.*

1. Introduction and theoretical reasons regarding unemployment and active policies to reduce unemployment

Specialist literature is concerned with understanding unemployment as a social phenomenon with complex causes and consequences on both society and the individual who fulfils this social role over a certain period of time. Some definitions emphasize the causes of unemployment, defining it as being "the situation of a surplus labor market where the supply exceeds the demand for labor", which means that part of the population cannot find a job, although they wish. (Pop, 2002: 686). In the same note, unemployment is the expression of imbalances which occur on the labor market but also on the goods and services market, and is manifested by the

fact that part of the employed population loses their job, but also due to the fact that the new generations reach the legal employment age which determines the increase in labor supply. (Zamfir and Vlăsceanu, 1993).

Other definitions, those with an operational role, are concerned with the correct definition of the person having this status being described as the person who fulfils the following cumulatively: he/she is looking for a job from the age of minimum 16 and up to the fulfilment of the retirement conditions, the state of health and the physical and mental capacities make him / her fit for work, he / she does not work, does not earn any income or has income from activities authorized according to the law, incomes lower than the value of the social reference indicator of the insurance for unemployment and employment stimulation in force, is available to start work immediately if he/she finds a job. (Law 76/2002, article 5 point IV)

According to the law, unemployed people are people who have not been able to work after graduating from an academic institution or after performing their military service if they fulfil the following conditions: they are graduates of academic institutions, aged 16 and over who, 60 days after graduation, failed to work according to their professional training, they are graduates of special schools for disabled people, aged 16 and over, who have failed to work according to their training professional (Law 76/2002, article 17, paragraph 2);

Unemployment generates a series of costs for individuals, the economy, and society. This is about the social cost, which takes into account the demoralizing effect of unemployment on the unemployed person, the financial cost, which results in the payment of unemployment benefits, but also in the loss of some tax and contribution income and the economic cost that arises from the fact that the economy has a low level of production of goods and services compared to what it would have had if the labor force had been employed. (Buzducea, 2010).

Correctly assessing the costs generated by unemployment also requires taking into account unemployment advantages, which are related to aspects such as: determining employees to look for jobs in the primary labor market sector, which involves secure jobs, high incomes, superior qualification, creating a flexible workforce capable of adapting to the requirements of changes in the structure of the economy, "which contributes to greater efficiency in short-term resource allocation and faster economic growth in the long run". (Cochinescu, 2005)

Ensuring a high level of employment is a priority in national economy, because "this is the source of the supply of state budgets, especially the state social insurance budgets, and therefore a guarantee of sufficient financing of education, health, budgetary personnel, etc., as a guarantee of adequate social protection." (Blaga, 2005:11)

The "Europa 2020" strategy, a programmatic document of the European Union, includes strategic priorities for the countries of the Union, and in terms of employment it is reflected in the fact that 75% of the population aged 20-64 should have a job.

The issue of employment and unemployment is addressed generally by two types of social policy: passive policies, which mainly involve the payment of unemployment benefits and active policies, which aim to increase employment and which externalize in "group or community individual initiatives or actions, usually supported by public authorities at local and / or national level" (Mihăescu, 2001:209)

Specialized literature highlights four categories of active measures: mobilizing job offers, which includes programs that increase the chances of employing people who

pose difficult placement problems, the development of work skills, which are primarily the responsibility of employers and the national education system, the promotion of the active search spirit, which aims to support the processes of connecting jobseekers with potential employers and the direct creation of temporary or permanent jobs in the public sector or within the non-profit organizations (Giarini and Liedtke, 2001).

Regarding the legislation on unemployment, in our country it is worth mentioning that Law no. 76/2002 on the unemployment insurance system and the stimulation of employment, as subsequently amended and supplemented, is in effect today. The normative act is structured in two parts: a first part dedicated to the detailed regulation of the unemployment insurance system which includes after defining the basic concepts used, the categories of beneficiaries and system insurants, regulations on the unemployment insurance budget, the unemployment benefit, and a second part that includes active measures to stimulate employment (Onica-Chipea, 2014).

Pursuant to this law, the increase in employment opportunities for jobseekers is achieved by the National Employment Agency, mainly through: professional information and counselling, work mediation, professional training, counselling and assistance in starting an independent activity or for starting a business, completing employee salary income, stimulating workforce mobility. Professional information and counselling is a set of services granted free of charge to jobseekers, with the aim of: providing information regarding the labor market and the evolution of jobs; profiling and classification in employment level: easy to hire, medium level, difficult to hire and very difficult to hire; developing the ability and self-confidence of jobseekers to make their own career decisions; training in methods and techniques of job search; guidance during the process of socio-professional integration into the new job. (Law 76/2002, article 58)

It should be mentioned that the graduates of the academic institutions and graduates of the special schools, aged 16 and over, who, within 60 days of graduation, register with the employment agencies and work full-time for a period longer than 12 months old, benefit from an entry premium of 1500 lei.(Law 76/2002, art. 73^1 alin. (1))

Another active measure provided by Law 76/2002 refers to the stimulation of employers for hiring unemployed people and is done by subsidizing the jobs for the following categories: graduates of academic institutions, people over 45, unemployed people who are the only providers for single-parent families, long-term unemployed people, NEET youth, unemployed people who, within 5 years from the date of employment, meet the conditions for retirement, people with disabilities.(Law 76/2002, art. 80 alin. (1), art. 85 alin. (1-2), and alin. (5)).

Thus, employers who hire for an indefinite period of time, graduates of academic institutions receive monthly, for a period of 12 months, for each hired graduate an amount of 2250 Ron, with the obligation to maintain working relations for at least 18 months. (Law 76/2002, art. 80 alin. (1)).

2. Dimensions of employment policies for the unemployed people in 2017. Statistical analysis of data

We intend to carry out a quantitative analysis based on the data provided by AJOFM and presented in the Activity Report of 2017 aiming at estimating the effectiveness of active policies against unemployment by taking the number of employments due to policies implemented in Bihor County.

The objectives of the study were:
- analyzing the evolution trends of unemployment in the Bihor county compared to the national level during the transition period;
- discussing the trend and the structure of unemployment in Bihor in 2017;
- determining of the occupancy degree of the unemployed people in Bihor in 2017
- analyzing the efficiency of the employment policies of graduates

2.1. Unemployment developments in Romania and Bihor County, 1990-2013

Even a brief analysis of the evolution of the unemployment rate in Bihor County, during the transition period, shows that it was lower than the average recorded in Romania. Among the possible explanations we mention: the accelerated development of the private sector, which has absorbed some of the redundant workforce; the development at a more sustained pace compared to the national average of the light industry in the "lohn" system, which attracted much of the labor force in the area (Bihor County being an important outlet for this economic activity, given the cheap and qualified labor force in light industry), even if the level of pay is well below the national average; spatial proximity to Hungary and the other countries in the European area, which has facilitated, even in the first years after the revolution, the insertion of the county labor force into the economy of the countries in the area. (Chipea, 2015: 176)
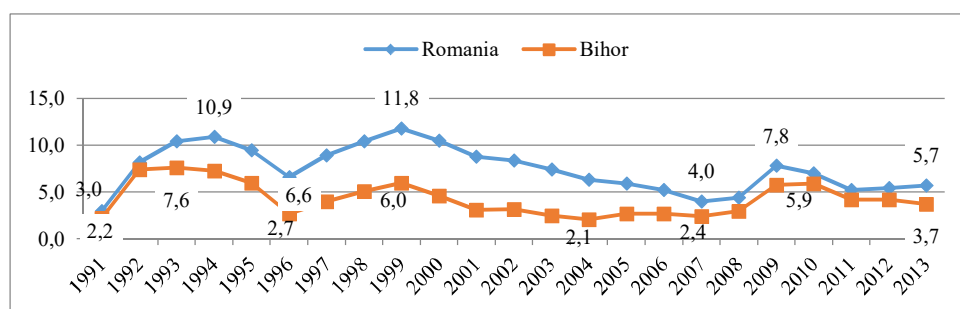
Figure 1: Evolution of the unemployment rate in Romania and Bihor County, 1991-2013

Source: National Institute of Statistics, Tempo database, online, apud Chipea, 2015: 174

The evolution of the unemployment rate in the Bihor County is similar to that registered at national level, with the indication that the values are much lower. Thus, the highest unemployment rate was registered in 1994, when it reached 7.6% compared to 11% at national level and in 1999 when it had the value of 6% of the population compared to 11. 8% at national level. The same appreciation can be

made with regard to the lowest value of the unemployment rate. It is registered in 2004, being 2.1% in Bihor County and 4% in 2008 at national level. In 2009, a year of economic crisis, both at national level and at the level of Bihor County, unemployment increased, reaching 7.8% and 5.9%, respectively. (Idem: 174-176)

The data show that since 2011, the two levels of analysis are separated by opposite trends; at national level is on an ascending line (from 5.2 in 2011 to 5.4 in the following year and 5.7 in 2013) and in Bihor county on the downward slope from 4.2% to 3.7 in 2013.

In 2016, with a relatively high unemployment rate of 5.9%, Romania is below the European average. Values above the Romanian average were recorded in the same period in: Greece 23.5%; Spain 19.6%; Portugal 11.1%; Italy 11.7%; France 10.1%, Ireland 7.9%; Poland 6.2%; Slovakia 14.0%; (Chivu, 2018: 32)

From the analyses carried out by the specialized bodies it results that in Bihor county, the causes of the increase of unemployment in 1999 (with the highest unemployment rate) consisted in: intensification of the restructuring measures by liquidation of the units with majority state capital; the increase in the number of beneficiaries of professional reintegration, unemployment benefits and support allowances among young people under the age of 25, who, after graduating from academic institutions, do not find employment opportunities as part of their professional training, being refused due to lack of experience; conventions concluded between the Ministry of Labor and Social Protection and the Ministries of Agriculture, Transport and M.L.P.A.T., which provide social protection during December-March when, due to unfavourable meteorological conditions, they cannot continue their activity; the refusal of economic agents to hire people over the age of 45, who prefer unemployment in comparison to other options granted to them; collective redundancies (since 1998 and 1999), the most affected areas, which were declared by governmental decision as deprived areas, were: Ştei and Nucet, Şuncuiuş, Popeşti, Derna, Dobreşti, Borod, areas in which only one industrial activity was developed, namely mining. (Chipea, 2015:176)

2.2. Evolution and structure of unemployment in Bihor County in 2016-2017

From a 3.7% unemployment rate registered in Bihor county in 2013 (Figure 1), it is constantly decreasing, reaching 2.43% at the end of 2017 (Figure 2), the number of registered unemployed people decreasing by 1,658 people, in 2017, from 8,155 people at the end of 2016 to 6,497 in December 2017. It should be noted that the decrease of the total number of unemployed people is influenced by the uncompensated unemployed people who have not renewed their applications, the number of unemployed people who benefit from the unemployment benefit remaining roughly the same (1862, compared to 1936 in 2016). The percentage of uncompensated unemployed people in the total number of unemployed people is 71%, their number decreasing compared to the previous year by 26% (from 6219 in 2016, to 4635, in 2017).

With regard to the age structure of unemployment, 31.12.2017 the highest unemployment rate is among the age group 40-49 years old (28.1%), followed by the age group 30-39 years old (23.1%) and in terms of the level of education, the unemployed people with primary, gymnasium and professional education represent the highest share (78.6%), followed by the unemployed people with high school and secondary education (14.7%). and those with university studies representing only 6.7%.
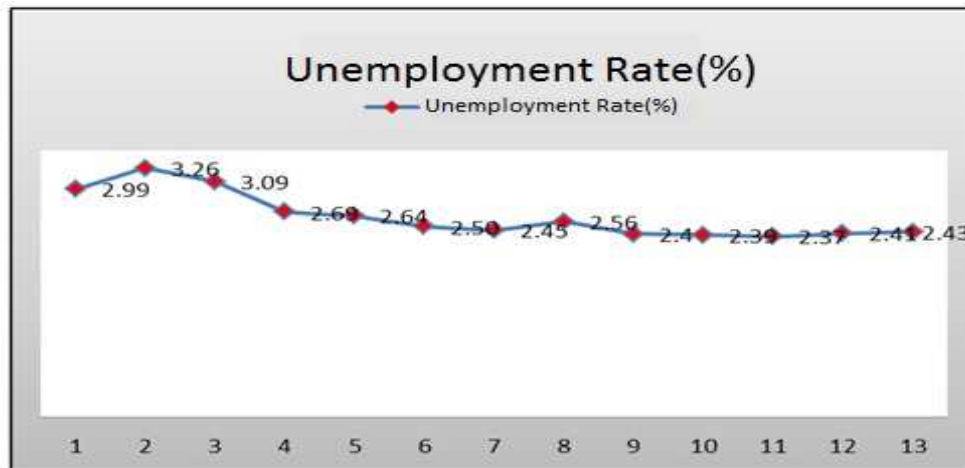
Figure 2: Evolution of the unemployment rate in Bihor County, 31 December 2016-31 December 2017
Source: AJOFM Report, 2017: 4

2.3. Determining of the occupancy degree of unemployed people registered in 2017, in Bihor County.

In line with the legislative changes, during 2017 an important role was given to the profiling and classification in employment level: easy to hire, medium level, difficult to hire and very difficult to hire, by the end of the year a total number of 15,381 Dutch questionnaires were applied to all job seekers, out of which 3,373 are under 25. The degree of occupancy of the unemployed people registered in 2017 was determined according to: type of benefit, age category and level of training, as follows:

	Very difficult	Difficult	Medium	Easy
0.5	3	226	20	64
0.75	322	634	145	448
Uncompensated unemployed people	4239	264	64	68
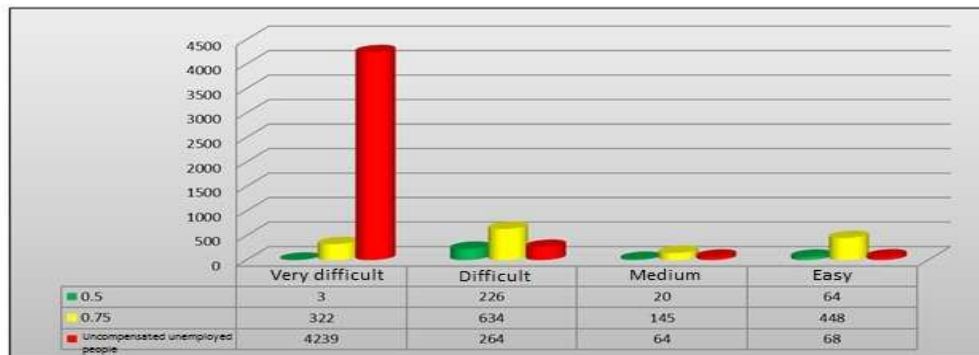
Figure 3: Occupancy rate of unemployed people registered in Bihor County in 2017, in terms of the type of benefit
Source: AJOFM Report, 2017: 8

Uncompensated unemployed people are those who fall into the largest share in the category of very difficult to hire.

	Under 25 years old	25-29 years old	30-39 years old	40-49 years old	50-55 years old	Over 55 years old
■ Very difficult	670	379	1133	1294	563	525
■ Difficult	308	89	203	300	127	97
■ Medium	25	5	34	68	60	37
■ Easy	84	70	135	165	81	45
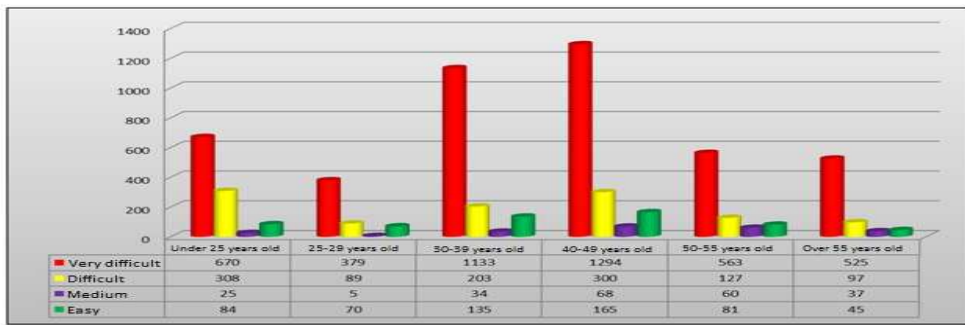
Figure 4: Occupancy rate of unemployed people registered in Bihor County in 2017, in terms of age category
Source: AJOFM Report 2017: 8

The figure shows that the most difficult to hire are unemployed people aged between 30 and 50 years old, followed by young people under 25 years old.

	No studies/ incomplete education	Gymnasium-Primary school	Professional-Training school	High school/ Secondary school	University
■ Very difficult	3465	1023	37	36	3
■ Difficult	4	7	279	615	219
■ Medium	3	60	55	92	19
■ Easy	1	7	171	216	185

Figure 5: Occupancy rate of unemployed people registered in Bihor County in 2017, in terms of the level of training
Source: AJOFM Report, 2017: 8

In terms of the level of training, unemployed people with poor schooling (without education or with incomplete school) fall into the category of very difficult to hire, and those with higher education have few problems from this point of view.

Analyzing the data presented in the three charts, it is clear enough what are the predominant categories that are included in the typologies presented:

- *"Very difficult"* to hire - includes people who are registered as unemployed people without the right to benefit (minimum guaranteed income beneficiaries) aged 40-49 and who have no incomplete education / schooling.

- *"difficult"* to hire - people who are registered as unemployed people beneficiaries of unemployment benefits - 75%, aged under 25 but approximately equal to those aged 40-49 and having high school / secondary education

- "*medium*" to hire - people who are registered as unemployed people beneficiaries of unemployment benefit - 75%, aged 40-49 but approximately equal to those aged 50-55 and having high school / secondary education
- *"Easy"* to hire - people who are registered as unemployed people beneficiaries of unemployment benefits - 75%, aged 40-49 but approximately equal to those aged 30-39 and having high school / secondary education.

2.4. The effectiveness of policies to stimulate the employment of graduates

Although, as previously noted, graduates being included in the category of young people with a higher level of education (medium, secondary and higher) fall, in terms of employability in the category of "medium" and "easy" to hire, we considered that they are eligible for a special analysis starting from the finding that, at both European and Romanian level, youth unemployment is characterized by a rate much higher than the average unemployment rate - in 2016, the average unemployment rate in Romania was 5.9%, while the youth rate was 20%. (Chivu, 2018: 32)

We will continue to present data and information on the most relevant measures to stimulate the employment of people who address AJOFM Bihor, even if in the case of some measures, the situation of the graduates is not expressly highlighted.

Through the information and counselling measure promoted by the law, in the year 2017 there were a number of 8100 newly registered people, along with another 1712 who were among those previously included in such actions. By participating in this measure, 586 people (5.9%) were enrolled in professional training courses and 1121 people (11.4%) were hired exclusively through counselling and professional guidance services.

In the labor mediation services there were 8769 people from which 3894 (44.4%) people were hired, out of which 3,339 people with employment contract for indefinite period and 687 people with fixed-term employment contract.

During the year 2017, 5930 new job vacancies declared by the employers were registered at the labor agency, whose structure confirmed the orientation of the county, but especially of Oradea Municipality, to technical activities, from production engineers to digital control operators or industrial robots.

On the other hand, it is significant for graduates that most of the jobs communicated were addressed to people with high school or professional education (60%) mainly in trading, services and tourism, followed by the technical and medical field. The structure of the job market offers graduates of high school and higher education opportunities for jobs such as: commercial worker, salesman, cashier, security agent, chef/ chef assistant, waiter / waiter assistant, maid, nurse, manufacturing operator / industrial robots / electronic components, mechanical locksmith, technician, maintenance electrician, welder.

It is also relevant that 27.5% of the declared vacancies are offered for unskilled work for which employers require high school or general education: unskilled workers in the light industry - clothing or leather goods and substitutes; cargo handler; component mounter; kitchen worker.

In 2017, AJOFM Bihor organized 30 professional training programs for a total of 586 people and continued another 8 professional training programs initiated in 2016 with 150 people. The 736 people were included in the 38 professional training programs, of which 8 were initial courses, 20 requalification / qualification courses and 10 further training / specialization courses.

Analyzing the structure of the training courses we mention that the highest interest for training is represented by the compensated unemployed people - 519 persons (70.5%), compared to the uncompensated unemployed people - 217 (29.5%); in terms of forms of training, the focus is on re-qualification and specialization programs - 363, respectively 238 persons, compared to the orientation towards initiation courses of only 135 persons. We consider that a plausible explanation for such a trend may be the incompatibility between the professional training network and the structure of the market for qualifications in Bihor County.

From the point of view of the topic we approached, however, the greatest interest is the structure of the participants in the training according to their age, starting from the premise that the graduates are young people, aged up to 35 years old. From this point of view, the data provided in the AJOFM Report for 2017 shows that young people under 25 years old - 334 people, along with those aged between 25 and 35 - 142 people represent the highest share in the total number of people in 2017 in training (64.7%) out of a total of 736 people (figure 6). Corroborating the data with the above mentioned on the tendency of the participants to undertake qualification / requalification and training courses confirms the hypothesis we concluded regarding the existence of a disparity between the structure of the labor market and the structure of the professional training network in Bihor County.
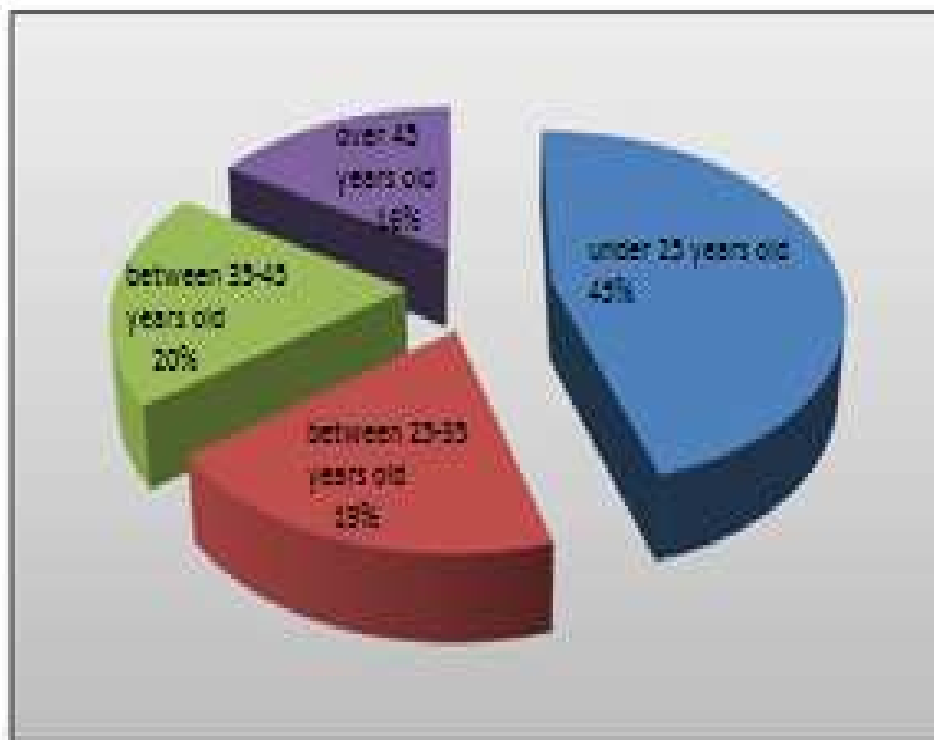
Figure 6: Structure of participants in training courses in 2017 in terms of the age of the participants.
Source: AJOFM Report, 2017:10

Significant for the topic is the structure of participants in training courses in terms of the level of training of the participants. From this point of view, we find that the majority of the participants in the courses are those who have graduated high school and secondary education - 487 (66.1%) and who together with graduates of higher education - 123 people, represent 82.89% of the total number of participants.
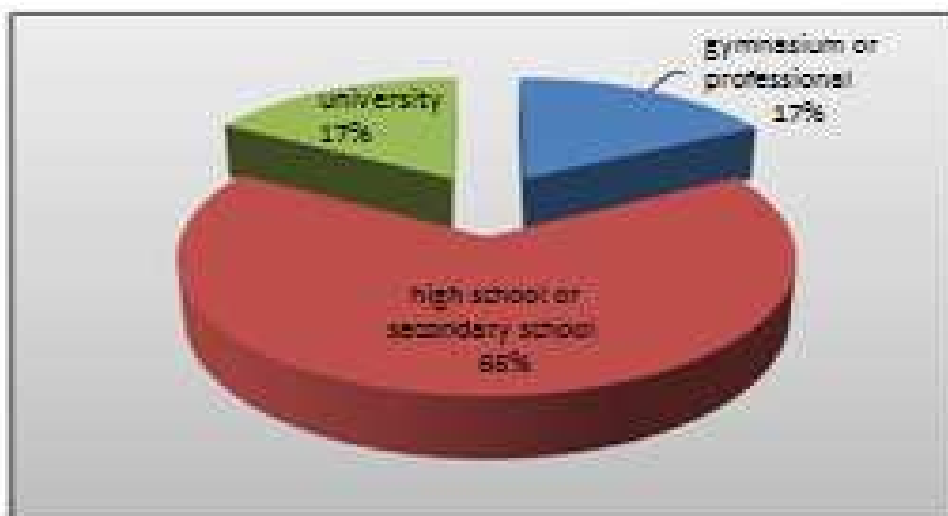
Figure 7: Structure of participants in professional training courses in 2017 in terms of the training level of the participants.
Source: AJOFM Report, 2017: 10

The analysis of vacancies declared by employers during 2017 shows that the structure of the job market offers graduates of high school and higher education opportunities for jobs such as: commercial worker, seller, cashier, security agent, chef / chef assistant, waiter / waiter assistant, maid, nurse, manufacturing operator / industrial robots / electronic components, mechanical locksmith, technician, maintenance electrician, welder. (AJOFM Report, 2017).
The existence of a visible concordance between the structure of the labor market defined by the jobs declared vacant and the structure of the training courses organized by AJOFM Bihor attests, in our opinion, first of all an adequate preoccupation of the specialized institution for the adequacy of the professional training of the labor force market requirements and, on the other hand, raising awareness among the unemployed people of the increase in employment opportunities through involvement in qualification / requalification and specialization training in the jobs required by the labor market.
As we can see in figure 7, most jobs for which training courses are organized are in line with the demand on the labor market presented in the previous paragraph. In addition, courses were organized for hairdressers, hair stylists, masseurs, photographers, automotive mechanics, fitness trainers who did not appear in the vacancy structure, as the people in question were placed on the labor market as self-employed people.

2.5. Stimulating the employment of graduates

Based on the legal provisions on subsidizing graduate employment, in 2017, 243 conventions were signed to subsidize the employment of 284 graduates of which the majority, 153 (53.9%) were graduates of higher education, followed of 114 (40.1%) graduates of secondary education or post-secondary education and only 17 (5.9%) graduates of the lower cycle of high school or of arts and crafts schools.

Besides the fact that employers are very reluctant to conclude such conventions (Onica-Chipea, 2015:145-181), by constantly monitoring the conventions by the specialized institution during 2017 the employment contracts were terminated for 37 graduates for reasons beyond the employer's control.

During the year 75 premiums were awarded acc. to art. 73 (1), of which 52 (69.3) for compensated unemployed people and 23 (30.7%) for people without right to compensations. Most premiums were granted to high school graduates (43 people), followed by higher education graduates (31) and only one to a graduate of professional education.

Figure 8: Structure of professional training courses in 2017 in terms of the profession offered.
Source: AJOFM Report, 2017: 11

In order to prevent long-term unemployment and to stimulate the unemployed people to work before the end of the period of benefit, the financial resources necessary for the allocation of 587 unemployed people were provided, the majority 317 being young people up to 30 years of age, which attests to the fact that this category of

people are more interested in getting hired as soon as possible after the agency's entry.

During the same period, qualification premiums amounting to 500 lei (for uncompensated unemployed people who are hired full-time for more than 3 months after the date of registration with the employment agencies) and qualification premiums for 835 unemployed people without the right to benefit (which means qualification premium). What is relevant for our analysis is that those who benefit mostly from these premiums are young people (41% up to 35 years of age) and on the other hand people with a medium level of training and higher compared to people with precarious training.

Regarding the use of the form of apprenticeship at the workplace, we can see that, although the employer concluding an internship contract, upon request, receives, during the period of the internship contract, a sum of 1350 lei / month, granted from the unemployment insurance budget in 2017, only one employer has used this form of training of the necessary qualified staff.

The same finding can be made in connection with the use of the facility for employers who, although they conclude an internship contract with the graduates of higher education, receive, on request, during the period of the internship contract, an amount in the amount of 1350 lei / month, granted from the unemployment insurance budget, has a reluctance to use this policy, with only one employer applied for this facility in 2017.

To obtain the subsidize provided by Law no. 76/2002 for the employment of pupils and students during the holiday period, in year 2017 there were 81 applications, out of which 77 pupils and 4 students and only 49 requests for the conclusion of the conventions stipulated by this law.

We are aware of the main limitation of our approach of exclusively quantitative approach to the problem under analysis. We believe that for the deepening that generates the behaviors that have been signalled, it is necessary to continue the analysis using qualitative methods such as interviews or focus groups.

3. Conclusions:

- The evolution of the unemployment rate in Bihor County during the transition to the market economy follows a trend similar to the national one, stating that, constantly, the unemployment rate is lower in the county compared to the national average. Explanations could be identified in: the faster pace of privatization; spatial proximity to Europe's developed West, and development of light industry in lohn system.
- In an attempt to create the type of unemployed person difficult to hire, based on the data analyzed, this person would be one who is in the category of uncompensated unemployed people with poor education and professional training in the extreme age groups, either over 50 or under 25;
- Statistical data suggests that the most effective active measure to stimulate employment is mediation of work, starting from the idea that 44.4% of the people involved in the mediation were employed;
- The analysis of the preoccupations for the professional training shows that the youngest people, oriented towards qualification / requalification and improvement of the professional training, are of the highest interest in this form of insertion. This trend could also indicate the existence of a discrepancy between the school network in the county and the structure of the labor market.

The existence of compatibility between the orientation of the unemployed people towards jobs demanded on the labor market and the organization of training courses in accordance with such trends suggests an adequate concern of the specialized institutions to correct the existing dysfunctions.

- Regarding the efficiency of the policies to stimulate the employment of young people there is a more pronounced interest from young people in using employment policies in comparison to other age groups. On the other hand, there is a certain reluctance on the part of the employers to access the state's facilities for the employment of unemployed people.

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EVALUATION OF PROFESSIONAL PERFORMANCE OF EMPLOYEES IN THE PUBLIC SECTOR

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Abstract: *Based on the theoretical grounds presented in the first part of the work, we intend to analyze the way in which evaluation of professional performances in a public institution from Oradea municipality is carried out, both in terms of the management and of employee representatives. The main objectives of the study were to identify the relevant aspects of the professional performance evaluation process, to highlight the perception of management and employees representatives on the usefulness of this process, and to identify suggestions for improving the evaluation activity of professional performance in the institution. Therefore, we performed a qualitative research, a sociological investigation based interviews, and the research tool used was the interview guide, structured on 2 dimensions. The first dimension of the interview guide analyzed data on the procedure for the evaluation of professional performance within the institution, and the second dimension followed the perception of staff on the usefulness of the performance evaluation procedure and the identification of suggestions for improving it. The results of the research revealed that the institution undergoing the research performs the evaluation activity of the employees' professional performances, and the most important stages are the completion of the professional performance evaluation report, the interview and the countersigning of the report. The evaluation is based on a form concluded pursuant to law no.188 / 1999, and among the performance criteria are: the capacity to implement, the ability to solve problems efficiently, the ability to assume responsibilities, the ability to self-improve and to value the acquired experience, ability to analyze and synthesize, creativity and spirit of initiative, planning ability and strategic action, ability to work independently, ability to work in a team, skills in the management of assigned resources. Moreover, most employees claimed that they are satisfied with the way in which the performance evaluation activity is carried out in the institution in which they operate, assigning positive reference to this activity.*

Keywords: *performance evaluation; civil servants; rewards; responsibility; manager; promotion.*

JEL Classification: *J23; J24.*

1. Introduction

Performance evaluation is considered an official system which evaluates the quality of the performance of an employee. However, evaluation should not be considered a purpose in itself, but rather as "an important process in a wider context of the performance management system which links: organizational objectives, daily performance, professional development, rewards and incentives" (Faseeh Ullah

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Khan, 2013: 66). This means that the process is useful on one hand for the organization, and information regarding employee performance is necessary to take decisions about motivating employees, planning and organizing training courses, promoting them, restructuring staff, and also organization of work and supervision. On the other hand, feedback is given to employees through the process, which has a "stimulating role" if it is positive or "mobilizing" when it is negative. Moreover, it can also help the employee in developing his or her own career (Popa, 2008: 59-60).

An especially important aspect of the performance evaluation process is that it has to be considered "in a direct connection with the whole activity of the employees as a process known and understood by them and as a motivator for the future performances that they can prove" (Pânişoară and Pânişoară, 2007: 146).

Considering the points mentioned in the present paper we intend selected public institution from Oradea municipality and analyzed the way in which evaluation of professional performances is carried out, both in terms of the management and of employee representatives. This is why we decided to answer the following questions on which our endeavour was based: What is the way in which the evaluation of professional performance in a public institution is carried out? How do managers and staff perceive this process? What is the usefulness of evaluating professional performance within such an institution? What are the positive and negative aspects of the process and the proposals regarding the improvement of the procedure? The reason for selecting such an institution lies in the fact that there are differences in the status of civil servants and the regulations on which their activity is based as compared to other types of institutions / organizations / companies, which can bring additional information in the field.

2. Theoretical reasons regarding the evaluation of professional performance

Professional performance evaluation is an activity with a widespread area of knowledge, with an increasing evolution over time with regard to the increased number of evaluation methods, attempts to objectively quantify performance and even reduce measurement errors, the necessity to evaluate the performance of human resources being imposed "by the accelerated pace of scientific and technical development, by the implementation of new technologies and the internationalization of the competitive market" (Chraif, 2013: 324).

In our country there were past concerns regarding the performance evaluation of the staff, being among the first countries that legislatively regulated the endeavours through the field through: Law no. 12/1971 and then by Law no. 154/1998, Law no. 188/1999, respectively Government Decisions no. 775/1998 and 1084/2001, which tried to implement a system of staff appreciation in the first stage of civil servants, and then to other categories of staff (Pitariu, 2003).

Performance evaluation is an important human resource management activity that aims to "determine the degree to which company employees efficiently fulfil their tasks or responsibilities" (Lefter, Deaconu and Manolescu, 2012: 198).

The evaluation of human resources actually means evaluating behavior, evaluating potential and the ability to evolve, as well as evaluating the performance acquired. The evaluation of behavior, potential and the ability to evolve directly targets the results acquired by the job occupant, and the performance evaluation reflects the quality of the previous operations (Mathis, Nica and Rusu, 1997).

Professional performance evaluation is a complex process, which is often controversial. In order for the results of this process to be accurate, it is necessary to connect this activity with an advanced evaluation technology which means the establishment of logic-based evaluation criteria, the establishment of realistic performance standards as well as the use of appropriate evaluation methods. In this context, evaluation procedures should comply with the company's vision of how it organizes its activities and guides its staff, the procedures being standardized so as to avoid problems caused by the evaluators, standardization being provided by training evaluators, the use of written documents and audio-visual means. Moreover, in order for the evaluations to be accurate, reliable information will be used to avoid distorting the results (Byar and Rue, 1991).

Manolescu (2001) identifies the following objectives on which performance evaluation is based: appropriate performance of specific human resources activities: promotions, transfers, relegations, dismissals, fair rewarding of employees, identification of training needs and professional development, increasing employee motivation, improving manager-subordinate relationship, discussing the strategy and goals of the employees' careers, improving communication and focusing on collaboration between managers and superiors and subordinates, and applying the principle of equal opportunities.

An important dimension unfolded in the literature for the classification of evaluation techniques relates to the degree of objectivity: objective criteria and subjective criteria. Objective evaluations are usually performed without the consent of the evaluated or the evaluator's intervention, the main advantage of which is the ability to quantify. Here are certain methods of performance: documentary records, meaning capturing objective professional performance data according to specific work process information (e.g. direct productivity estimates or personal data evaluation, etc.) and automated performance evaluation, which involves the registration of some relevant aspects related to the conduct and professional performance of staff with the help of computers (Popa, 2008). Subjective evaluations are based on the appreciation of the superior, colleague, beneficiary of the activity, etc. Specific to this type of evaluation is that it can be done by one or more evaluators. The main methods of evaluation in this category are: evaluation scales, which can be graphical, multiple steps or points; comparative hierarchy systems or person comparison systems, including the "Merit order hierarchy system, pairs comparison system, forced distribution system", "Zapan objective evaluation method", the "feedback 360" method or the "multisource / multi-valuator", "scoring code" method etc. (Pitariu, 2003: 136, Popa, 2008: 68-69)

With regard to the responsibility for designing and implementing evaluation programs, it is the responsibility of the human resources department in most companies. In terms of the position in the organizational structure, in practice we encounter several choices such as: evaluation by direct superiors, evaluation by direct subordinates, evaluation by colleagues from equal positions, evaluation by evaluation committees, self-evaluation and computer evaluation (Stanciu et all, 2003).

In the process of evaluating performance, errors and imperfections of different evaluation methods and techniques inevitably occur which may lead to alteration of results and may lead to adverse consequences for the company, among which: the "halo" effect, the anticipation effect, the "gentle" effect, the central trend error, the constant individual error, the effect of the subjective-selective standards, the

similarity effect, the contrast effect, the logical error (Pânișoară and Pânișoară, 2016).

Performance evaluation activity should be well managed so as to bring benefits to the company. Therefore, it is necessary to meet certain principles aimed at improving the way in which this activity is carried out. The first principle refers to the fact that the evaluation must put the emphasis on employee performance but also on the success they contribute to achieving the company's objectives. According to the second principle, evaluation should focus on how well the employee performs the tasks involved in the job, and not on the subjective impressions of the evaluator on how the evaluated person works. The third principle considers that the two parties, the evaluator and the employee must agree that the evaluation activity has advantages for both the company and the employee, and the last principle refers to the fact that performance evaluation work must represent a basis for improving work productivity within the company (Certo, 2002).

3. Study regarding the evaluation of professional performance in a public institution in Oradea

3.1. Objectives of the study
The main objectives of the study were the following:
1. Identifying the relevant aspects of the performance evaluation process.
2. Highlighting the perception of management and employee representatives regarding the usefulness of this process.
3. Identifying suggestions for improving the work performance evaluation in the institution.

3.2. Methodology of the study
The study was based on a qualitative methodology; the method used being the individual structured interview. The questions which comprised the instrument used for data collection - the interview guide - were structured on 2 dimensions: (1) *data regarding the procedure for evaluating the professional performance within the institution; (2) staff perception regarding the usefulness of the performance evaluation procedure, as well as suggestions for its improvement*. Two interview guides, one for management representatives and the other for staff, were used. The structure of the two guides was similar; the only difference consisted in asking different questions to the two categories of respondents regarding the appreciation of the usefulness of the evaluation process.

3.3. Participants to the study
The study was attended by 13 specialists: 3 management representatives and 10 employees (11 women and 1 man) aged between 35 and 60, performing activities in a public institution from Oradea municipality.
All participants are graduates of higher education (bachelor, master or doctorate level). The accumulated service in their institution is between 2 and 23 years, the total accumulated service being between 10 and 36 years.
The sampling was theoretical, the number of interviews made taking into account achieving theoretical saturation.

3.4. Results and discussions

Interpretation of the results was based on the thematic analysis of the respondents' answers and targeted each dimension.

(1) Data regarding the procedure for the evaluation of professional performance within the institution

Within this dimension, the questions addressed to the participants in the study mainly aimed the means of organizing the professional performance evaluation activity, the meaning of this process, the tools used, the important aspects (relevant items) considered in the evaluation of the professional performances as well as the purpose of the evaluation.

With regard to the period in which the evaluation process takes place in the institution, both management representatives and employees accurately indicated that the activity is "*annual*", usually in January, and relates to the activity performed by the employee in the past year.

The person responsible for the evaluation of professional performance is the "*hierarchical superior", "the department responsible or coordinator", "the public civil servant who coordinates the department where the civil servant is working*".

Taking into account that it is a public institution, the process is regulated by the legislation in force. Therefore, the forms used in the evaluation process are set out in Addendum 6 of "*Government Decision no. 611 of June 4, 2008 for the approval of the rules regarding the organization and development of the career of the civil servants',*" where we also find all the methodological aspects regarding the evaluation process.

The evaluation of professional performance consists in appreciating the fulfilment by employees of "*individual objectives and performance criteria*". These issues are evaluated on a scale from "*1 to 5*", "*the rating expressing the appreciation of the fulfilment of the performance criterion in achieving the individual objectives set*". The stages of the evaluation process that the interviewees referred to are the legislative ones, namely: "*completing the evaluation report by the evaluator, interviewing and countersigning the evaluation report*".

As performance criteria for civil servants, the study participants among the employees indicated "*creativity, effectiveness / efficiency, communication ability, planning ability, independent / teamwork, skills in managing assigned resources.*" Those highlighted by the management representatives are added, namely, "*the ability to efficiently solve problems, the ability to analyze and synthesize, the spirit of initiative, the ability to self-improve and value the experience acquired*".

The answers of all participants to the study on the purpose of the evaluation made reference to two important aspects, namely: "*professional performance evaluation is carried out in order to set the degree of fulfilment by the employees of the professional objectives, related to the duties provided in the job description, as well as performance criteria, but also to set training needs and individual objectives for the year following the assessed period.*" Moreover, the evaluation activity "*records the outstanding results, the objective difficulties encountered by the employees during the evaluated period and any other notes considered relevant*". In the interview, one of the management representatives highlighted that it is "*a legal requirement*", but also that the process "*provides a motivational system by rewarding civil servants who have achieved outstanding results so as to increase the individual*

professional performance or that results determine the participation in future promotions. "Promoting / relegating" are issues that have been discussed in this context by one of the employees.

Another relevant piece of information acquired during the interview is the transparency of the evaluation process. All participants to the study highlighted that the results were delivered to them and that they received a copy, signed by both parties.

With regard to the way the results acquired can influence the staff decisions, the representatives of the management of the institution claimed that this is possible in two directions: the development of the employees' career, respectively the designing of the training / improvement strategy. They motivated the answer by the fact that, on one hand, the results of the evaluations "*are the basis of the design of the employees' career", "the career development of civil servants is conditional on them",* and on the other hand*, "the human resources department can suggest the management of the institution to use the results in order to train and improve the staff ".*

(2) Staff perception regarding the usefulness of the performance evaluation procedure and suggestions for improving it

The questions addressed to the study participants mainly referred to the way in which the results of the evaluations may contribute to changes in income and promotion, but also to the degree of satisfaction with the way in which the performance evaluation is carried out. Moreover, they were required, starting from identifying the positive and negative aspects of the process, to make proposals to improve this activity.

In this context, the representatives of the management of the institution were required to appreciate, based on the feedback received so far from the employees, the degree of satisfaction with the procedure of evaluating the professional performances. Their answers were "*satisfied*," "*they are largely satisfied*". The opinion of the employees participating in the study on this question was similar to that of the management representatives. They claimed they were satisfied motivating the answers. Here are some of the answers: "*I think I was accurately evaluated, the rating I received was Very Good"; "Yes. I know the hierarchical superior's view regarding the activity I perform "; "Yes, it helps me improve my professional skills"; "Yes, because the criteria are clearly established"; "Yes, because the evaluation criteria and the process itself is transparent, based on the attributions in the job description".*

We notice from the information that the evaluation process is transparent, that the activity is analyzed taking into account the specific attributions of the jobs. Moreover, it is also relevant that employees appreciate the evaluation activity positively by being able to receive feedback from the superiors, but also because it can help improve professional skills.

Asked if the results of the evaluations can lead to changes in terms of wage, the participants' answers focused on the legislation in force. Therefore, "*the income is only influenced by the promotion in higher professional status than the one previously detained*". If the evaluated clerk acquires the "*unsatisfactory*" rating in the *evaluation of the individual professional performance, the dismissal from the public position by administrative act for the professional incompetence shall be ordered*". A similar question focused on how the evaluation result can influence the promotion in

the institution. And this time the answers focused on the legislation in force "*only in the case of promotion to a higher professional degree;... according the legal provisions regarding the career of civil servants*".

From the point of view of the institution's management, the positive aspects of the professional performance evaluation process are the following: "*the objectivity given by the standard structure of the evaluation report; support in inventorying your own training needs; identification of improvement requirements; efficient distribution of tasks* ".

The other participants in the study referred, in addition to the issues highlighted by management representatives, to the way in which the performance criteria, self-evaluation compared to other employees, or the ability to compare their own results, but also to other relevant aspects can be found in the evaluation report: "*I believe that the performance criteria are very well established;... the ability to know where you are on the value scale within the company; comparing past and future performance with company standards; the evaluation report records the outstanding results of the civil servant, the objective difficulties encountered by the civil servant during the evaluated period and any other notes considered relevant*".

With regard to the negative aspects of the evaluation process, the representatives of the institution's management identified the following: "*possible suspicions regarding the objectivity of the evaluator; in the event of a modest rating, the possibility for the civil servant to advance in professional grade or salary level is limited; are associated with a so-called "blacklist" in the event of staff cuts, often evaluation is a source of dissatisfaction; the possibility of subjective aspects in the evaluation of staff* ". To these are added those identified by the staff members: "*comparing the people among them not taking into account the performance standards; sometimes the professional performance evaluation has a formal look, not all stages are completed* ".

One of the questions addressed to management representatives referred to the errors identified in the selection process. Therefore, they highlighted two types of error, one attributed to the evaluator and the other methodology itself: "*the tendency of the evaluator to avoid presenting negative aspects that may affect the image of the institution and the preoccupation to prevent recording the poor performance of the employee becoming part of permanent unfavourable appreciation as well as the fact that there may be errors in determining the correct performance indicators or correlating them with the set objectives*".

In the last part of the interview, all participants in the study were required to identify solutions for improving the evaluation activity. Unlike management representatives, other participants were reserved in giving answers. Therefore, their proposals referred to informal evaluations and the need to improve communication and collaboration: "*Informal evaluations that mediate the inconsistencies between the rigid structure of the report provided by the law and the specific needs of the institution; improving collaboration and communication between employees*".

4. Conclusions

Professional performance evaluation is a very important process in human resource management, representing a requirement for all institutions, regardless of their type. Generally, the process of evaluating the performances of the employees provides feedback to the management of the institutions, and further steps can lead to improved performance.

If in some companies, organizations etc. the evaluation process is a flexible one, the tools can be permanently created / improved to serve the proposed goal, we can see from the study performed in the present paper that the evaluation activity within the selected public institution is regulated by the legislation in force, the methodological norms being very clearly set. The highlighted strengths of such procedures are the following: the transparency of the process, the possibility of objective performance evaluations according to the criteria established on the basis of job-specific tasks, the possibility that it offers for the design of the necessary training courses for the assignment, but also for the development of employees' careers. In the same time, however, it is perceived as a procedure that can raise some suspicions about the evaluator's objectivity or the correctness of the evaluation by the fact that some negative results are not presented in order to keep a positive image of the institution.

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POTENTIAL PERFOMANCE MEASUREMENTS OF ROMANIAN AGRICULTURAL COMPANIES

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Abstract: *Measuring the performance of agricultural companies is not only a difficult task in Romania but in the whole world, as there are complicated processes in almost every company's life. In order to get more accurate information about companies, it is recommended to set up a performance measurement system for the given companies. In my article, I present the potential performance measurements based on a survey of 25 Romanian agricultural companies. The survey was supported by the Tempus Public Foundation.*

Keywords: *performance measurement; transport cost; agriculture; competitiveness.*

JEL Classification: *Q4.*

1. The definition and importance of performance measurement

To have an extensive view on this topic, it is important to understand how performance measurement works.

Based on the 2004 work of Adams et.al. the performance measurement system renders it possible to make well-established decisions and actions that quantifies the effectiveness and efficiency of past actions by collecting, processing and analyzing the adequate data (Adams et.al., 2004).

The 2004 work of Chris et.al., also confirms that the performance of a company depends on its previous effectiveness and efficiency. According to Chris and Adams, performance measurements quantify previous actions, which basically determine the current performance of a company (Chris et. al, 2004; Adams et.al. 2004).

Considering the above-mentioned reasons, the goal of performance management is to follow the business performance and to utilize the relevant data to achieve its goals and to improve performance by taking the previous actions into account. The goals and developments are most concentrated in the fields of efficiency, effectiveness and cost-effectiveness (Wimmer, 2014).

Measuring the business performance is crucial in a company's life, as profit-making is one of the keys of appropriate performance. In order to increase profit in the future, it is recommended to make measurements in every sector of a company: production, corporate strategy, client satisfaction, performance of the company (Waters, 2010).

At the same time, performance measurement is also important because business performance measurement provides feedback, thus it helps the preparation of a decision and the decision-making itself. Market, financial and operational features also help performance measurement; however, it is also important to notice that economic, social and environmental factors are also significant. The correlations are illustrated in Figure 1. (Wimmer, 2014). As it is shown, business performance has four levels, where environmental and social performance is at the bottom and these are followed by operational performance. The second level is characterized by

flexibility, cost and time. This is the basis of the third level, which is market performance. Market performance can be calculated from market shares, sales and customer responses. On the fourth level, we can find yield, profit and cash flow; this level gives financial performance for a given company.
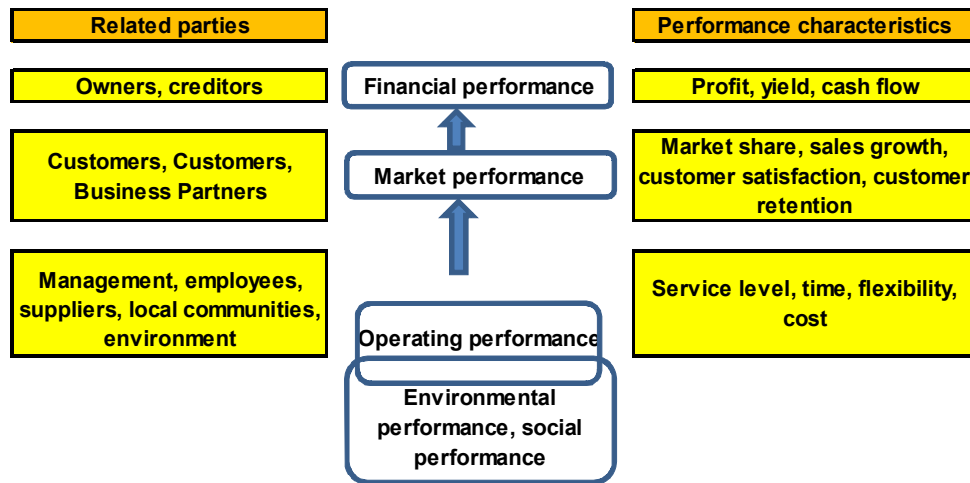
Figure 1. Levels of business performance
Source: Own edited, based on Wimmer (2014)

2. Indicators of business performance

As it was described in the first section, for performance measurement, performance indicators (performance criteria) are required. The performance measurement system collects all the data, from which it calculates a given performance index that makes it easier to characterize the company (Schönsleben, 2007).
Another approach is that the performance index provides such information about the company, which supports the management of the company and its goals, and it is in a close relation with certain specifications and standards (Duma, 2005).
Based on the related literature, these indicators can be divided into groups according to different criteria. One of the most frequent grouping distinguishes global and local measurements. Global indexes are a group of indicators that give a comprehensive view of the company's performance, such as cash flow, capacity, and utilization. Local indicators are related to a given resource or process that could influence global performance indicators, such as lead time, change in stock, location utilization (Schönsleben, 2007).
Another classification distinguishes external and internal performance indexes, and financial and non-financial indicators (the most significant are the input and output process meters) (Duma, 2005). Input performance meters, such as efficiency and utilization indicators, measure input of the given activities. Process meters can be characterized by transformation characteristics (inventory, speed of rotation, etc.), productivity and flexibility. Outputs can be characterized by output meters, such as performance and reliability (I01).
Within performance measurements, logistics performance measurements have a significant role; it will be described in the next section.

3. The definition and importance of logistics performance measurement

Logistics is one of the most significant factors of competitiveness; an appropriate (objective) measurement of logistics performance is extremely important. As a matter of course, for companies, the primary index of success is the achievement of the highest financial performance. However, in many cases it is not enough to run a company successfully. In order to accomplish their business and financial goals, companies have to measure their performance extensively (Némon, 2002).

Examining logistics performance means the measuring of the combination of the followings: service quality, customer satisfaction and economic efficiency. It is shown in Figure 2. It can be seen that in sales, the aim of logistics is to maximize customer satisfaction (by assuring quality). Examining economic efficiency, it is necessary to measure the performance of inputs that are required to the given service; it influences the quality of the given product (service), which determines the quality of the service and customer satisfaction (Némon 2002).
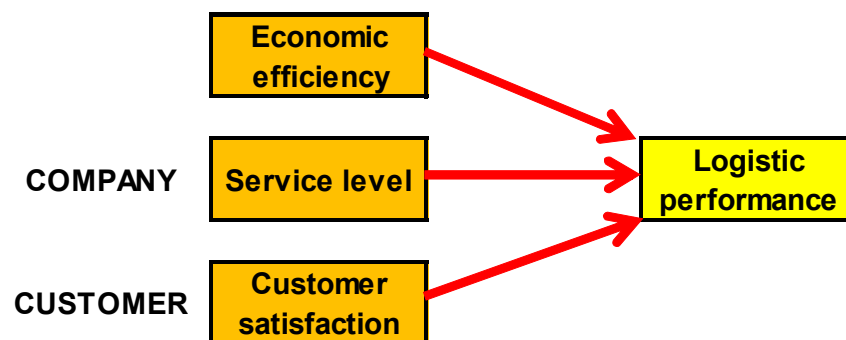
Figure 2: The most important influencing factors of logistics performance measurement
Source: Own edited, based on Duma (2005)

Based on these correlations, Schönsleben explained that logistics performance measurement analyses logistic activities, considering the whole company, by using various indicators. Its areas are quality, cost, flexibility and transport (Schönsleben, 2007).

Thus, logistics performance measurement is an area of high priority in companies' lives, as it supports the preparation of decisions. By measuring logistics performance, information can be gained on different activities; it also influences the company's future behavior and motivates it to make its performance better (Monczka, et al., 2009).

As the above-mentioned explanations show, performance measurement can be used to solve multiple problems, which is different in every company's case (their comparison is therefore difficult). For the sake of easier comparison, I present the different types in the next section.

4. Classification of main indicators of logistics performance measurement

The factors presented in the previous section are essential elements of performance measurement; however, there are more complex and extensive groups of performance measurement. The most significant classification is associated with name of Némon, where two main groups can be distinguished: internal and external performance measurements. Internal performance measurement focuses on comparing corporate activities and processes with earlier results or goals (for example logistics costs, logistics service quality, productivity, tools, quality). Comparing to these, the aim of external performance measurement is to acquaint the customers' requests, which is measured by customer satisfaction, and to get the best criteria of corporate performances. This is benchmarking, which is a comparative analysis of products (services) with the competitors or industry (Némon, et. al., 2006).

Besides these, the following point of views can be considered:
- **By activity**: it focuses specifically on logistics. (The same indicator cannot be used for different areas of logistics/warehousing, transport, stockpiling, shipping, sales/.) (Orbán, 2012).
- **By participants:** differentiation of market participants (e.g. logistics service, company, customer, supply chain).
- **By measured features**: either operational performance (a measurable point in an organization's output, e.g. speed of transport, reliability etc.) or financial/business performance should be measured. In every case, the main aspect is to keep efficiency in mind.
- **By its type**: it can be complex (it is characterized by a series of activities) or a partial performance index (each component of a given performance is measured individually).

In each of the companies I have examined, I have always found that the given companies always choose the potential performance measurements based on their objectives of logistics. It is therefore necessary that the first step is to define the objectives, and then to choose the proper indicators of the performance and to determine their requirements (Némon, 2002).
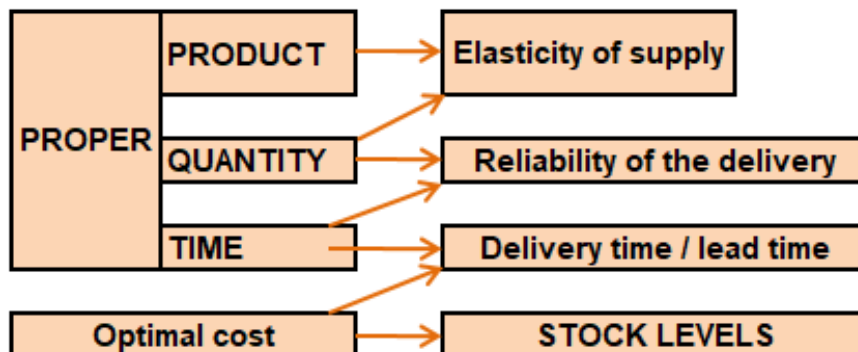
Figure 3: Requirement system of logistics
Source: Own edited, based on Némon (2002)

The structure of the logistics requirements system is shown in Figure 3. It can be seen that there are quite strong correlations among the elements. Company and customer goals are on the same level. It is important that the first step is to define the goals, to which the requirement system should be assigned, and then the indexes. Necessarily, the aim is to keep the right product in the right place at the right time at optimal cost and with reliable transport. If these conditions are fulfilled (requirement system is complete), then according to Némon (2002), norms and control ranges must be fixed, and based on these, the methods and tools of performance measurement should be chosen (Némon, 2002).

In the next section, I will present a classification based on activities, as the performance measurement of transport was crucial for each of the companies I examined.

5. The aim and development of performance measurement of transportation

The task of transporting activity is to establish a connection between the two phases of the supply chain. The supplying activity is in the interest of the customer, however it also has to be economic, so the performance indexes focus on these two requirements (Némon, 2002). The other goal of the performance measurement of transportation is to have feedback, which is needed for development. Both the transporters and the companies need these feedbacks to evaluate their current situation (by getting feedbacks, it is possible to fix errors and keep developing). It is also important for them to trust the other party and thus share essential business information that is necessary for progress. Therefore, they want to maintain a relationship that can be profitable and assists to their growth.

In order to properly develop the performance measurement indexes, it is important to ask the following questions: What are our expectations for our transporters? What are their expectations for us? What strategies should we use to fulfil these expectations? Which processes should be effective to implement the strategy? What capabilities should we built to operate the processes?

Based on the answers to these questions, we need to decide who our most important transporters are: which transporters are the best, what are their costs etc. In order to satisfy all the requirements, we have to rank. Only after these, performance indexes should be chosen.

6. The main indicators of transportation performance measurement

From the explanations above, it can be stated that indicators of performance measurement can be grouped according to many different aspects. The most significant classifications are listed in Table 1. (which are related to the questions mentioned earlier). Our demands towards our transporters can be connected to the complaints related to their performance, and the number of issues related to the products after sale (Adams, et. al., 2004). At the examined companies, the followings are amongst the transporters' demands: the average duration of cooperation, accuracy of demand forecasting, or even the ratio of expired transportation demands. The effective implementation of strategies can be characterized by the number of processed transport accounts, while the ability to operate can be characterized by the cost of managing transport invoices, the size of inventory shortages and the financial stability of transporters.

Table 1: Indicators of transportation performance measurement

Indicator group	Indicator
Lead time related	**1.** lead time of transport **2.** Speed of transport
Quality related	**1.** quality of transport **2.** Reliability of transport
Resource related	**1.** utilization of capacity of vehicles **2.** Efficiency of vehicles

Source: Own edited

Besides the main groups, we also have to calculate the smallest figures, which can be summed up by the following indicators (I03):

1. Regarding *productivity indicators*, the most important is the time of delivery per order; utilization of means of transport in percentage; transport performance, the total quantity of goods supplied in relation to all the time spent on transportation; the distance travelled by one vehicle; the distance driven by one driver; the average time spent on repair; average time of transport; average amount of quantity of goods per order; effectiveness of distribution; transportation performance correlated to annual working days

2. *Economic indicators* focus on costs: average transport cost per order; cost of transport per unit of mass**;** cost of transport per ton-kilometre; cost of transport in percentage of production; average running costs of each means of transport; ratio of transport costs to total costs; transport cost per unit of mass; number of executed orders; etc.

3. *Indicators of quality*, from which the most important are: degree of service in percentage; meeting the deadlines in percentage; percentage of accidents; frequency of damage; loyalty of the transporter

In the analysis of logistics performance, it is also important to use different forecasts, as changes in stock exchange rates, changes in consumer habits, changes of the economic cycle and the future requests of manufactured products are determined by forecasting.

There are several different kinds of methods. Within the methods, qualitative and quantitative forecasts are distinguished. The qualitative method means that there are no numerical data for the past, or if there is, it is not suitable for forecasting future requests. The quantitative method is used, when there is related numerical data. Quantitative methods can be divided into further groups, so it is inevitable to differentiate according to the trend or seasonality of the series of data (Koltai, 2006). As a first step for the companies I have examined, I have calculated the quarterly transport costs. Then I used a line diagram to examine if there was any tendency in different data sets. As a 75% decline tendency showed up, I found it useful to use the Holt-Winter exponential smoothing method. The point of the moving average is to approximate the corresponding elements with the average of the elements in its environment. This can be 2, 3, 4, and 5, depending on how many elements are averaged. The double moving average is different from the simple moving average in the sense that we are averaging the simple moving average and building our forecast on that (Hunyadi – Vita, 2008).

Steps of my calculation:

- 1. simple moving average calculation: $M_t = (Y_t+Y_{t-1}+....Y_{t-k+1})/k$, where Y_t is the data for the t period, Y_{t-1} is the data of the t-1 period, k is the number of elements

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- 2. Double moving average calculation: $D_t = (M_t + M_{t-1} + \ldots M_{t-k+1})/k$, where M_t is the moving average of the t-th period, M_{t-1} is the moving average of the t-1 period, k is the number of elements
- 3. Defining the basic level**:** $E_t = 2M_t - D_t$, where M_t is the moving average of the given period and D_t is the double moving period of the given period
- 4. Defining the trend: $T_t = (2M_t - D_t)/(k-1)$, where $2M_t$ is the 2 times moving period of the t-th period, $k-1$ is the number of elements – 1
- 5. Defining the forecast: $Y^{^}_{t+n} = E_t + nT_t$, where E_t is the basic level of the t-th date, nT_t is the t-th time trend (Winstone, 2003)

Since forecasts are uncertain, the possible errors should be measured. From the most commonly used indicators, I used MSE or residual variances first with the formula $\Sigma i (Y_i - Y'_i)2/n$, where Y_i is the actual value of the T-period and Y'_I is the predicted value. Then I used the square root of MSE, RMSE. If the value of the indicators is low, then the forecast is quite accurate, but if it is high then it is uncertain. The above-mentioned indicators were calculated for all the three forecasts (Hunyadi – Vita, 2008).

As the received forecasts did not exactly follow my basic data line, I used the Holt method, the double exponential smoothing method. The point of the process is that we do not evenly consider the requests of the different periods. Since the rate of growth between periods is also fluctuating, we need alpha and beta parameters. Thus, the forecasts came from the sum of these two, separately smoothed data (I02). Steps of my calculation:
- 1. Defining the basic level: $E_t = \alpha Y_t + (1-\alpha)(E_{t-1} + T_{t-1})$, where α is the smoothing parameter, Y_t is the data of the t-period, E_{t-1} is the basic level of the t-1 period, T_{t-1} is the trend of the t-1 period
- 2. Calculation of the expected trend value: $T_t = \beta(E_t - E_{t-1}) + (1 - \beta)T_{t-1}$, where β is the smoothing parameter, E_t is the basic level of the t-th date
- 3. Making the forecast: $Y^{^}_{t+n} = E_t + nT_t$, where E_t is the basic level of the t-date, nT_t is the t-th time trend (I13).

After the Holt method, I also made Holt-Winter forecast models. Holt-Winter forecast models can be done by addictive and multiplicative seasonal effects. As my data was mostly characterized by the multiplicative season, I chose that as the main guideline. This means that seasonal fluctuations are roughly identical to the trend (Hunyadi – Vita, 2008).

The Holt-Winter model is practically a version of exponential smoothing, where the constant element, seasonality and trend are present at the same time. All three must be evaluated separately, and then a forecast can be made based on the evaluations (Winston, 2003). Steps of my calculation:
- 1. Defining the basic level: $E_t = \alpha(Y_t/S_{t-p}) + (1-\alpha)(E_{t-1} + T_{t-1})$, where α is the smoothing parameter, Y_t is the data for the t-th period, S_{t-p} is the seasonal factor for period 1, E_{t-1} is the basic trend of the t-1 period, T_{t-1} is the trend of the t-1 period
- 2. Calculating the trend: $T_t = \beta(E_t - E_{t-1}) + (1-\beta)T_{t-1}$, where β is the smoothing parameter, E_t is the basic trend of t-th period, E_{t-1} is the basic trend of the t-th period, T_{t-1} is the trend of the t-1-th period
- 3. Defining the season factor: $S_t = \gamma(Y_t/E_t) + (1-\gamma) S_{t-p}$, where γ is the smoothing parameter, Y_t is the data of the t-th period, E_t is the basic trend for the t period, S_{t-p} is the season factor of the 1. period,

- 4. Making the forecast: $\hat{Y}_{t+n} = (E_t + nT_t) S_{t+n-p}$, where E_t is the basic level of the t-date, nT_t is the trend of the t-th time, S_{t+n-p} is the season factor of the 1.period (Winston, 2003).

7. Presentation of a forecast for the transport data series of a Romanian agricultural company

After analyzing and evaluating the transportation performance indicators, I prepared a forecast for the expected transport costs. I believe that agriculture can change so suddenly that it will have a significant impact on transporters, manufacturers and sellers at the same time. Considering these factors, I have prepared the forecast for transport costs of 2018; the first step is shown in Figure 4.
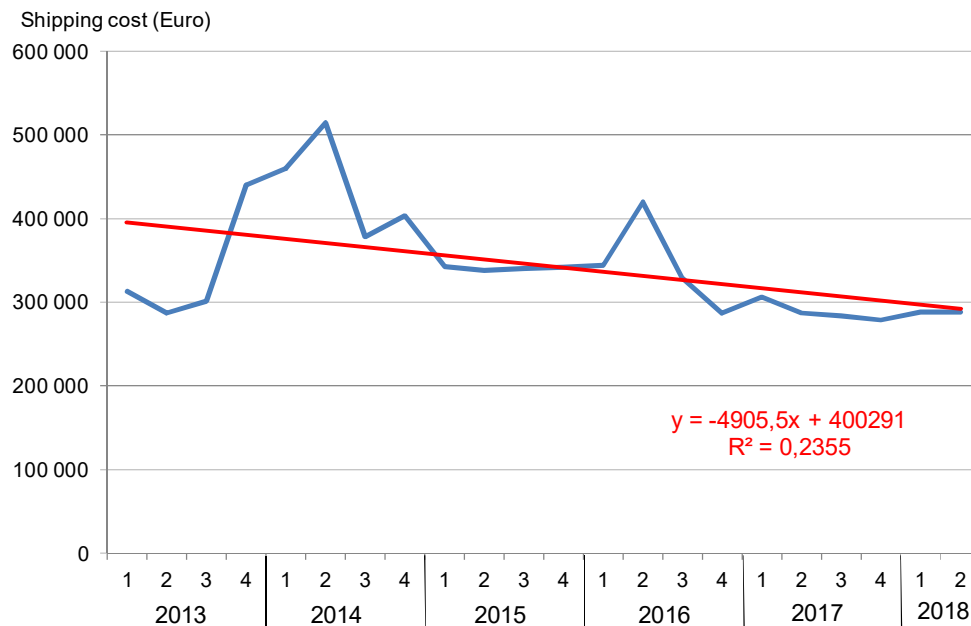
Figure 4: Transport costs in euro with the trend line
Source: Own calculations, based on the data of a Romanian agricultural company (the survey was supported by Tempus Public Foundation) (2018)

In Figure 4, I concluded with the help of a line diagram and a trend line that a trend effect is prevailing in transport costs during the observed period. This trend effect is decreasing, which means that the values of the basic level are not moving around a constant value, but they are showing a decreasing tendency. There are peak periods, when the swing is the largest in transport costs. This peak period is the second quarter of 2014, when more than 500.000 EUR was spent on transport by the given Romanian company, and at the same time, it also means that it was the highest cost between 2013 and 2017. In the fourth quarter of the same year another peak was observed, however, this was far behind the result achieved in the second quarter, while the peak of the second quarter of 2016 was much closer to it.

8. Double moving average forecast

After I observed that there was a decreasing trend in transport costs, I prepared my first forecast model by using double moving average method. This is illustrated in Figure 5.
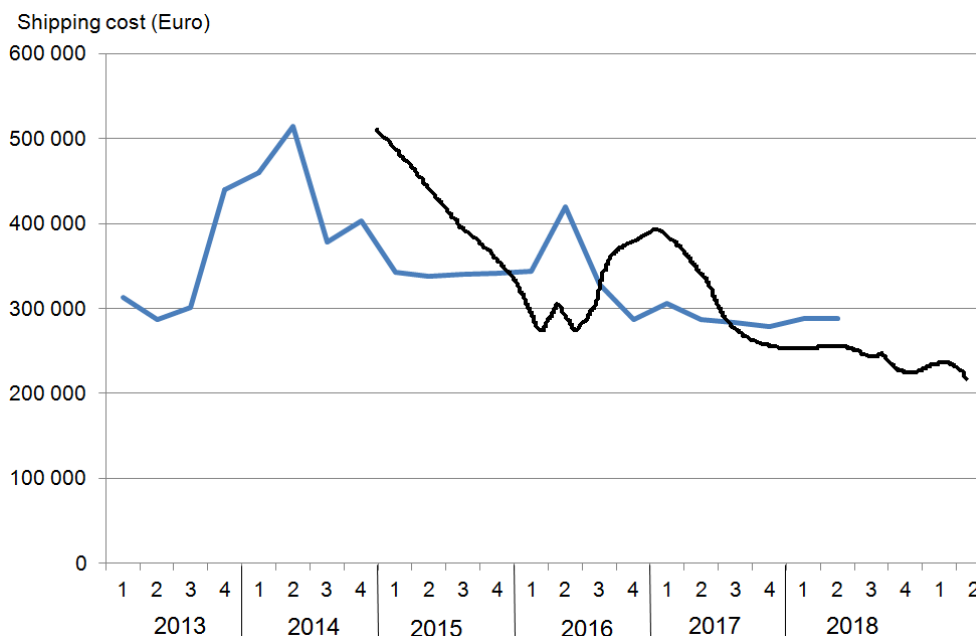
Figure 5: Double moving average forecast
Source: Own calculations, based on the data of a Romanian agricultural company (supported by the Tempus Public Foundation) (2018)

As it is shown in Figure 5, the forecast was made from the fourth quarter of 2014, as the double moving average is based on a four-member moving average. My forecast model smooths fluctuations in transport costs; according to this model, costs will decrease in 2018. The transport cost is at its peak in the first quarter of 2018, but afterwards, it describes a decreasing tendency in all the other quarters. This forecast model is quite fluctuant, so it does not follow the basic data perfectly, thus an accurate forecast cannot be provided. This fact is also supported by residual variance and residual deviation; their values were very high in the case of the double moving average model. As a result, I had to make further forecasts that would smooth these deflections further.

9. Double exponential smoothing (Holt method)

Based on the pervious data, I had to make further forecast models, since the double moving average model did not show accurate forecast. To eliminate errors and deviations, I used the exponential smoothing method (Holt method) that is shown in Figure 6.
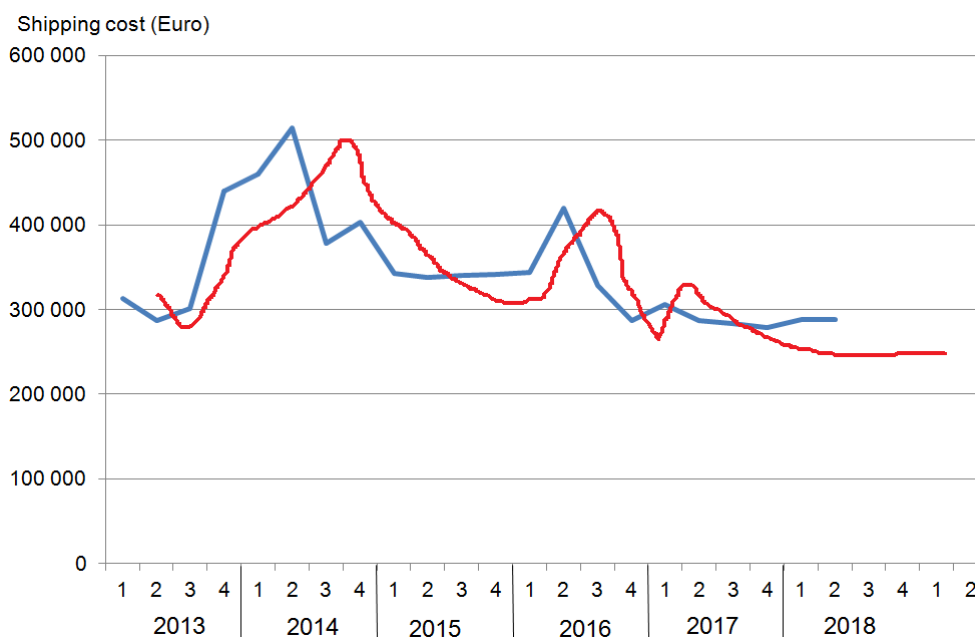
Figure 6: Forecast with double exponential smoothing
Source: Own calculations, based on the data of a Romanian agricultural company (supported by the Tempus Public Foundation) (2018)

It can be observed that the double exponential smoothing forecast model follows the original data line better. I used Solver extension to create the model, with which, I could determine whether the forecast will adjust to the basic tendency or to the trend. Since alpha is 0.66, while beta is 0, the forecast will follow the basic tendency. I also determined the values of MSE and RMSE, which were much lower than those of the double moving average forecast model. From these results, I assume that this forecast could give a more accurate picture of future transport costs. However, by using the Holt-Winter forecast model, I could further smooth the fluctuations in the line diagram, so I have also prepared this forecast.

The Holt-Winter model uses gamma parameter besides alpha and beta, with which it takes seasonality into account. Since my basic model has a multiplicative seasonal effect, I used the Holt-Winter method that is shown in Figure 7.

Figure 7 shows that the Holt-Winter model does not fit exactly to my basic model; the difference is shown by the high values of MSE and RMSE. In these calculations, I also used Solver to determine alpha, beta and gamma. Based on the results, it can be stated that my forecast takes seasonality into account, as the gamma has the highest value. In my opinion, this is the reason of the difference, since seasonality is not as significant in my basic model as Holt-Winter assumes.
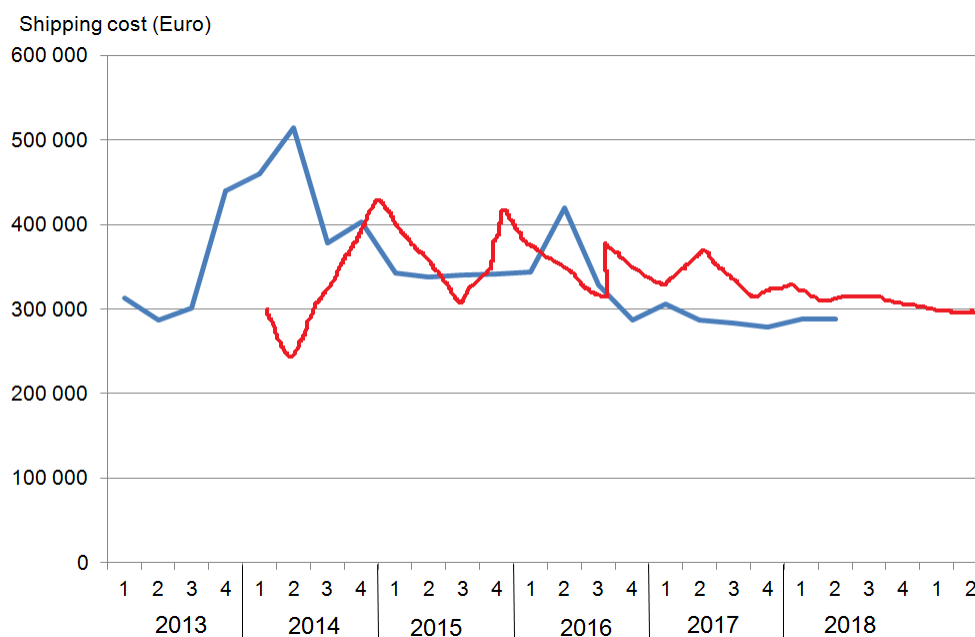
Figure 7: Holt-Winter forecast model
Source: Own calculations, based on the data of a Romanian agricultural company (supported by the Tempus Public Foundation) (2018)

10. Conclusion

In my article, I examined the possibility of logistics performance measurement for Romanian agricultural companies. The main guideline of my observation was the cost of transport, suppliers, as it has an important role in every agricultural companies. Based on my calculations (supported by Tempus Public Foundation), it can be stated that one of the most important issues for a company is to determine optimal transport costs.

Based on the present three models, it is shown that none of them gave an accurate picture of the costs expected in 2018. However, the Holt model, i.e. the double exponential smoothing forecast, was the closest to my basic curve. All the three forecasts assumed that the transport costs would decrease in 2018, although the Holt model showed a minimal decrease. However, it was the double exponential smoothing model that, after comparing the MSE and RMSE values, provided the least indeterminate forecast.

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URBAN DEVELOPMENT STRATEGIES: BAIA MARE CITY CASE.

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Abstract: *Cluster development is today an option for many economic structures, given its valences of integrating complementary activities and services into a coherent framework. More recently emerging in economic theory and practice, urban clusters aim at integrated urban development. The article presents a proposal to apply the new economic development model by setting up regional clusters between county residences in order to develop them by linking and completing governmental and non-governmental institutions, research-development centers and companies in order to attract European funds and implicitly to get out of the economic latency state. We used the Baia Mare case for this purpose.*

Keywords: *urban development; city cluster; strategies.*

JEL Classification: *R51.*

1. The urbanization process

The emergence and development of cities is attributable to the functions they have achieved over time: the religious function (Mumford,1961), cities hosting temples where religion could be practiced on a larger scale; military function (Lopez, 1975), most of the cities being born around defensive fortresses or like walled cities; economic function (commercial and industrial) (Benevolo, 2003), many cities developing from the old fairs serving the needs of population exchange; the cultural function; administrative function; political function, educational function.
Starting from these functions, cities can be defined from different perspectives: the historians focus on political function, the geographers on the environment, the sociologists on the relationship between the population and the environment and on inter-human relations, and the economists on the economic function (Racine, 1993). Cities, as a form of territorial administrative organization, are known for their economic power since ancient times. They developed as centers around which later rural areas were gravitated, which ensured the flow of agricultural and industrial products (Toynbee, 1979). This is how the megapolises, population concentrations and extremely beneficial economic activities originated, but which proved to be generating major shortcomings in time: increased pollution, difficult transport, high crime rate, and so on (Burgel, 1993). Their number increased from 16 in 1900, 49 in 1950, 99 in 1960, to 250 in 2000, and more than 550 in 2020
Even if in Romania the megalopolis is not really a reality (maybe with the exception of Bucharest), urban agglomerations were felt immediately after the opening of cities after 1989. A World Bank report shows that "between 2002 and 2011, 1.1 millions of Romanians moved to the functional urban areas of Bucharest and to the 40 county residences. This move meant for them not only an increase in the standard of living, but also productivity" (BM, 2018).

The deficiencies encountered in the context of large urban agglomerations have made the internal migration of the population change its meaning: if during the flowering of the cities the rural population settled in the urban area for job opportunities, for higher incomes and, implicitly, for a better living, today, a large proportion of the urban population retreats to the outskirts of cities or even to rural areas, opting for less polluted, quieter and greener areas. Sometimes this migratory process can be seen as a form of protest "in the face of the changes and the abandonment of a society in which they do not find the place they would want" (Voicu, 2005: 2).

One such tendency, visible today, is the decline in the importance of small and medium-sized towns, even county residences (as in the case of Baia Mare), due to their inability to recover after the collapse of the mono-industrial system before 1989 and the migration flow of the population. Under these conditions, the interest focused long time on rural areas, associated with the poverty, must also be directed to the urban areas that have lost the struggle with economic development

2. City cluster development

Globalization and widespread use of information technology have led to space dispersion of production and the emergence of "advanced services"(financial, commercial, services, tourist, etc.), which has affected the functioning of urban systems (Hall, 2003).

Medium-sized cities and small cities in Romania are currently facing a double competition: the big cities in the country and the developed European regions. In order to cope with this double competition, cities are looking for specific development strategies, using the advantages and capitalizing on existing market opportunities.

The possibility of increasing economic competitiveness through the integration of several industries or services has been the objective of many economists and geographers (Audretsch and Feldman 1996, Held 1996, Lindfield 1998, Porter 1990, Roberts 1998). This was followed by the integration of urban infrastructure and services in industrial clusters to create productive nodes in urban areas (Roberts 1997, Roberts and Lindfield 2000).

The competitive advantages of integration and economic concentration have been identified by economists since the late nineteenth century (Marshall, 1890) and early twentieth centuries (Schumpeter (1939). Subsequently, in the 1990s, Etzkowitz (1993) and Leydesdorff (1995) laid the foundations of the Triple Helix concept of the university-industry-government triad relationship, including elements of the precursors work Lowe (1982) and Sábato & Mackenzi (1982) through the transition from fordism to an increasing relationship between university-industry-government in the knowledge society.

The conceptual framework of "clusters" was initiated by M. Porter (1990). "Clusters" are groups of companies and institutions co-located in a specific geographic region and linked by interdependence in the provision of a product group and / or related services. They are characterized by the geographical proximity of component elements, by offering a range of specialized and personalized services and by organizational and social dynamics, the so-called institutional fix or social glue, intense contacts and exchanges of information, know-how and expertise technique. (EU, 2008: 14).

Cluster development is increasingly receiving global attention as a form of economic development strategy involving business clusters. Only in Europe there are over 2000 regional clusters of nearly 1,000 potential, which means that not all the possibilities of regional cluster construction have yet been explored. Of the existing ones, 155 (7.68%) are considered to be very competitive, three stars, 524 (25.98%) two stars, and 1338 (66.34%), therefore it is possible to optimize the activity of the most many of them (EU, 2014).

Since it was initially proposed in 1990 by M. Porter, governments and academics have come to see this concept as a means of stimulating urban and regional economic growth. Although the types of clusters may vary according to the environment or the context in which we are interested in enhancing the competitiveness of the business, their main objective is to ensure complementarity in the horizontal economic and social development.

M. Porter proposes a model by which companies in a particular country manage to become competitive through the continuous innovation of products and services and overcome barriers to change to achieve maximum performance. Known as the "diamond" model in which there are the four determinants of competitiveness that act individually or together within a system, namely:

- Characteristics of the factors of production
- Demand conditions in the internal market for the products or services industry
- Links between industrial branches (upstream and downstream) so that within a state there may be or may be missing certain branches of suppliers or related industries
- Strategy, structure and competition of the firm, as well as the governmental context and the chance, as additional factors (Porter, 1990)

A new challenge for the development of industrial clusters is that: "In recent years, most industries associated to rapid urbanization are influenced by global forces that favour specialization and depend on widely dispersed networks rather than on linear processes like supply chains" (Choe, Laquian, 2008: 8). For many countries, City Cluster Development, well designed and implemented, has generated many benefits:

- urban infrastructure and services provided in an integrated manner for whole urban regions rather than for individual cities, towns, villages, and rural areas;
- availability of financial and other resources to develop whole urban regions by developing common taxation standards and operations throughout those regions, improving the credit rating of whole cities in the urban region, and setting up a more equitable tax burden among cities, towns, villages, and rural areas within the region;
- better opportunities for attracting private sector participation in area-wide development projects, especially those involving urban infrastructure and services;
- improved capacity for dealing with urban problems, such as environmental pollution that do not respect the political and administrative boundaries of individual cities, towns, villages, and rural areas;
- Inclusive development for both urban and rural areas (Choe, Laquian, 2008: 15).

Below are some examples of clusters that are working or are predominant in Romania:

- Balneary cluster in the Center area, Harghita and Covasna, Mureş, Sibiu, Braşov and Alba counties, the region with the richest natural resources of therapeutic value and the very diverse factors that can be used for treating many diseases
- Tourist Cluster Bucharest – Brașov – Constanța, ideal for capitalizing urban, mountain and Black Sea tourism in all seasons of the year
- Educational Cluster Bucharest – Cluj-Napoca – Iași – Timișoara superior which aims at integrating and capitalizing on the educational experience of the four major university centers and increasing the quality of higher education
- Complex Cluster ”Patrulaterul vestului” Oradea – Cluj-Napoca – Arad – Timișoara which aims to integrate transport, but also production and education infrastructure.
- FurnitureTransilvania: https://www.mobiliertransilvan.ro/
- iTech Transilvania Cluster - Cluster for Human Resources Training in Advanced Technologies http://itech.aries-transilvania.ro/
- Transnational Cluster in Renewable Energy http://www.trec-cluster.ro/
- Cluster for a Sustainable Environment - CLEMS: http://clems.ro/
- Creative Industries Cluster of Transylvania

All these prove that there are both possibilities and availability in Romanian society and among local authorities to identify new ways of sustainable and competitive economic growth and development.

3. Baia Mare City case

Maramureş County is part of the Northwest Development Region of Romania, alongside Cluj, Bihor, Satu Mare and Salaj County, and the Baia Mare county residence is considered a development pole (alongside Oradea and Satu Mare), Cluj Napoca being a pole of growth. The city of Baia Mare occupied the 50th rank in 1912, the rank of 53 in 1930, the rank 18 in 1966 and 1977, respectively the rank 17 in the years 1992 and 2002 (Ianoş, Tălângă, 1994), in other words a spectacular advance from the beginning until the middle of the 20th century, after which it remained at the same level until now.

An analysis of the current situation as the basis for a future development prediction of Baia Mare highlights several opportunities, but also numerous shortcomings.
Opportunities:

- Opportunities for cross-border development, considering the proximity of the county with Ukraine and Hungary
- The existence of local traditions and customs known and appreciated in the country and abroad
- The existence of a significant forest exploitable area and numerous private exploitation and processing of wood
- The existence of an airport which, although presently non-functional, can open possibilities for cooperation by operating races that meet the needs of the municipality and the region

These opportunities can pave the way for conceiving cross-border clusters through consultations and analyses with local authorities in the geographical proximity areas of Ukraine and Hungary, to identify areas and possibilities of cooperation, of complementarities in different economic, social, tourism, educational activities, etc. By developing a modern transport network, Baia Mare can become a pole of supra-regional development with trans-regional influences, expanding its sphere of influence over the neighbouring areas of Ukraine. In this respect, this co-operation with Ukraine and Hungary can be done through catalytic institutions such as the Association of the Local Council of Small and Medium Enterprises, affiliated to the national body *Consiliul Naţional al Întreprinderilor Private Mici şi Mijlocii din Romania* (CNIPMMR), whose main activity is economic development. By means of this type of non-governmental associations, business relations between enterprises at regional, national or transnational level can be organized by organizing exhibitions, symposiums, trade fairs, meetings between businessmen, and meetings with financial institutions, governmental or non-governmental organizations. These activities may also be mediated by honorary consuls who may be Romanian citizens residing in Ukraine or Hungary, whose duties may be:

- to engage in stimulating the development of economic and trade relations between Romanian and foreign companies,
- to provide information on the evolution of economic, commercial, cultural and scientific activities
- Promote the Romanian cultural model in the environments in which it interacts
- Stimulating collaboration between foreign and Romanian universities
- Dissemination of information about the interests of Maramureş County on an economic or social level at the level of mass media or local governments

Another viable perspective could be the development of a tourist-ethnographic cluster that includes all communities, institutions, manufactures and spaces with visibility from all over Maramureş County. Such a Cluster could offer quality touristic services during the entire year, including: spiritual tourism (wood churches, the Happy Cemetery, local monasteries), mountain tourism (skiing during the winter and hiking during the summer, the steam train on Vaser Valley), balneary tourism, all of them being supported by plenty quality accommodation offers. The competitive advantages that the town of Baia Mare can use at this moment are as follows:

- Huge surfaces covered with forest
- The multitude of touristic objectives in Maramures – 100 monument churches out of which 8 are part of the UNESCO patrimony
- The Chestnut Tree Reservation, due to its uniqueness could become a brand for this field of activity
- 38 of protected areas
- Human resource skilled in the field of tourism

Baia Mare also has 7 museums, a planetarium, concert hall, a public library, theatres, cinemas, The Painters' Colony Art House, Stephan's Tower, Buthchers's Bastion, Monetary House, Iancu de Hunedoara House, Pocol Castle, two cathedrals and 38 churches from different religions present in the area, sports facilities which constantly attract spectators, the Cuprom tower with a height of 351 meters making it the tallest in Romania and standing as proof of the vast mining industry that used to be the backbone of the town.

A new alternative for improving the quality of life in the big urban areas could be the creativity industry. Named also cultural industries, those are activities that give incentives for individual creativity and personal skill development through recognising and safeguarding the private property right. " (Zuhdi, 2015:1179). Some measures that would be taken in order to develop the Creative Industry could be:

- The encouragement and development of culture, sports and other recreational activities
- The implementation of thematic schools or boot camps that would offer the possibility to attend workshops and conferences
- The diversification of local industry through tourism development and knowledge based economics, while using the natural resources and innovative potential
- The encouragement of projects to rehabilitate or construct new buildings in the central areas of the town in order to better empower the current historical and cultural heritage

For Baia Mare this is a viable option considering the arts and crafts proclivity in the area.

The realization of an agricultural and eco-tourism cluster can also be an opportunity, given the attraction of some agricultural producers alongside agri-food production units and gourmet event organizers who value this potential, to make it known and to attract tourists from inside and outside the country. As a matter of fact, the agrotouristic accommodation facilities in the area already have a high flow of tourists, especially during the holiday's season, the main attraction being the highly appreciated gastronomy of the region.

The preconfiguration of a modular regional cluster Baia Mare - Satu Mare - Bistrița - Zalău - Oradea - Cluj Napoca by identifying possible complementarities in the industry and services of the six major cities in the NW region of Romania is also a way out of anonymity and contribution consistent with the economic development of the area.

The 6 cities can be sorted by the number of inhabitants on four levels as follows: Cluj Napoca with over 300.000 inhabitants and regional functionality, Oradea with over 200.000 inhabitants, Baia Mare with over 100.000 inhabitants, Zalau and Bistrita with over 50.000 inhabitants. Baia Mare could in fact, pending on the interests and possibilities, generate different types of clusters together with some of these cities or to integrate itself in clusters proposed by others.

Not to cross of the list is also the possibility of implementing the Smart City concept for Baia Mare, meaning that an urban improvement strategy should be put together for having a sustainable development of the town especially through IT. This would mean, according to Deakin and Al Wear opinions (2011):

- The application of a wide range of electronic and digital technologies to communities and cities
- The use of ICT to transform life and working environments within the region
- The embedding of such Information and Communications Technologies (ICTs) in government systems
- The territorialisation of practices that brings ICTs and people together to enhance the innovation and knowledge that they offer.

Such an initiative could make up the starting point for the clusters because it would make the town more attractive for any potential teammates.

All these possible solutions, however, are conditioned by the existence of a transport infrastructure that facilitates mobility, high quality living conditions (housing, water, air, and waste management), an adequate educational infrastructure and a skilled workforce. Unfortunately, many of these conditions are missing as it results from the lack of colour inventory.

Shortcomings:

- The precarious state of the economy, explained by lack of investors, lack of adequate business infrastructure, limited funding opportunities and difficult access to European funds
- Environmental problems, such as the pollution caused by former mining industries (copper, lead, gold) currently in storage or closed, inappropriate waste management, which leads to further abandonment of the city in favour of internal or external locations more promising
- Social problems deriving mainly from external migration of the population and aging and lack of skills of the remaining. This is accompanied by the loss of opportunities in the field of tertiary education as a result of the annexation of the North University of Baia Mare at "Babeş-Bolyai" University of Cluj Napoca, meaning that a large number of students, after completing their studies, are heading to Cluj where they find more favourable employment conditions on the labor market
- Poor quality of the urban, metropolitan, interurban, regional, national and international transport infrastructure, which condemns the city to isolation, rendering it unattractive to potential investors (Baia Mare Integrated Urban Development Strategy, 2017)

In other words, the opportunities are few and far, the shortcomings are numerous and generating risks.

Given the current risks faced by the city today, one of the viable strategies (maybe the only one) might be to "move" the city, leaving the location that abounds in minerals to a very low depth (a few centimetres) important source of pollution. At the same time, the extraction area of these ores would be liberated, also providing jobs for the population, in a traditionally established activity in the area. In other words, it would be necessary to "overtake" the city, on other principles, on other development options, on other sites. It would have the chance to attract investors, real estate developers, to projects that should not adapt to a particular location, infrastructure, but to come up with creative, exclusive projects, which then associate the appropriate infrastructure. Undoubtedly, it would be an experiment, but an attractive and interesting one. Otherwise, it risks becoming an isolated city that will face depopulation, poverty and isolation.

4. Conclusions

At present, medium-sized cities are facing the challenge of urban regeneration, which requires urban territory to overcome territorial urban relations, regional co-operation, and resource allocation to better capitalize and, implicitly, ensure sustainable economic development.

There are many urban development strategies. Baia Mare's local administration must analyze all options and potential solutions to establish viable strategy so the city comes out of isolation and numbness. City cluster is one of these options, achievable in different variants. The analysis of the opportunities and risks that Baia

Mare presents today highlights the possibility of realizing viable clusters, conditioned by removing the shortcomings that the city faces or turning them into opportunities. In this context, a broad consultation of the authorities with Romanian and foreign experts in the field of urban development, with researchers from different domains, as well as consultation of the population civil society, media, business environment, innovation groups etc. and its mobilization in decision making is necessary.

Of course that, at this point, it's not to be disregarded the habitation function of the town and implicitly having a friendly and safe environment for the population, all that being translated into a proper infrastructure for living and traveling, cleanliness, medical services, good education facilities, communication possibilities and places to find work.

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FEMALE UNEMPLOYMENT IN BIHOR COUNTY

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Abstract: *The contemporary world is in a continuous dynamic process that calls for perennial flexibility to change in the labor market. Unemployment is an important reality that influences people's lives from an economic, social point of view, as well as the development and economic growth of society as a whole. The purpose of this article is to illustrate the evolution of female unemployment in Bihor County during 2006-2016. We also carried out a comparative analysis of the female unemployment rate registered at national level to illustrate the variations that occurred during the above-mentioned period.*

1. Introduction

The issue of unemployment among women requires a specific approach, the factors that influence this phenomenon, but its effects are also significantly different in relation to male unemployment. Studies in this regard have been developed by Gordon Marshall (1984), Franz W. (1985), Albanesi S., Sahin A. (2018) and others. Popescu Gh. and Ciurlău C. (2013: 280) define the labor market as an economic and social area in which interactions, confrontations, negotiations between labor demand and supply of labor arise. Overlapping labor demand with labor supply is reduced due to differences in the structure and dynamics of the two components. Another definition attributed to the labor market is that in which it is described as "the whole of the relationship between demand and supply of resources according to the salary level and oscillations, on the basis of which the process of occupying the active population in size, structure and quality corresponds to the requirements of the market" (Fruja, 1994, p. 86).

Unemployment is considered "an imbalance between labor demand and labor supply, lower demand than supply, an imbalance between the active human potential and the human potential used, hence relative active overpopulation" (Bădulescu, 2006: 13).

The International Labor Organization (ILO) provides a strict definition claiming that "unemployment refers to people without a paid or profitable job seeking and is available to start working for a salary or profit in the specified reference periods"(https://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/WCMS_470304/lang--en/index.htm, 2018).

According to the International Labor Bureau, the unemployed are those aged 15-74 who meet the following three conditions simultaneously:

- do not have a job;
- it is available to start work in the next two weeks;
- have been actively seeking a job at any time during the last four weeks

(http://www.insse.ro/cms/files/statistici/comunicate/somaj_BIM/a18/precizari_m
etodologice_mai.pdf)

2. Causes and forms of unemployment

Among the multiple forms of unemployment, we recall: seasonal unemployment, which results from the diminution of production capacities affected by seasonal weather conditions or meteorological vicissitudes, short-term unemployment emerges in crisis situations under certain circumstances and structural unemployment is that category of unemployment which arises from a mismatch between vacancies on the labor market and the skills available to workers on the market(Wolfgang Dorow et al., 2001).

In August-September 2018, the Institute for Public Policies, in cooperation with the Romanian Institute for Evaluation and Strategy, carried out an opinion poll on a sample of 1220 people over the age of 18 who, in the previous period, they came. The results of the survey were confronted with the results of two focus groups. The research findings highlight the important changes in the labor market caused by the high degree of automation of activities, the development of "artificial intelligence. Numerous jobs are expected to disappear in areas that involve, in particular, routine work and lower-level skills, thus emphasizing the need to implement professional reconversion programs for better insertion into the labor market. It also notes the insecurity of those in the workforce, 1 in 5 employees consider the probability of being laid off in the next period of up to 6 months, and 1 in 4 interviewees think it would be difficult for them to re-enter the labor market under the conditions dismissals. More prominent is the flexibility of the living conditions from which the activities take place, for example 1 in 5 respondents claim that they work at home for at least part of a week, while 7% work in public places such as café, airport etc. New forms of work such as telework, work using communications and information technology, casual work, 1 out of 4 respondents say they have been involved in at least one of the new forms of work. Communication skills and knowledge in computer science are considered imperative to get a good job." (https://www.ipp.ro/angajatii-din-romania-se-adapteaza-rapid-schimbarilor-din-piata-fortei-de-munca-asimiland-noile-forme-de-munca-gig-economy-in-ciuda-legislatiei-neadaptate/, n.d.)

Structural unemployment is often considered permanent because of the difficulty of acquiring new skills adapted to changes in the labor market as well as moving workers to other areas where such skills are required. Governments set up programs and policies designed to prevent unemployment. "Many social problems become more severe during periods of high unemployment. Among them are the increase in the incidence of thefts, alcoholism, depression, suicide and domestic violence " (Parkin, 1997). However, incentive-based policies cannot completely eliminate structural unemployment because sometimes acquired skills are no longer used in production. Eliminating those jobs that require the use of low-level, routine skills means that there are other job opportunities that involve different skills.

Unemployment costs are multiple, as L. Andrei concludes (2011):

social costs reflected in the sense of marginalization faced by the unemployed, house-specific costs generated by the decrease in contributions to national budgets and the increase in social aid and economic costs arising from the inactive labor productivity.

3. Results of the survey on female unemployment in Bihor County

Bihor County recorded during the period 2006-2016. The research was carried out at the Bihor County Agency for Employment. The County Agency for Employment (AJOFM) Bihor has its headquarters in Oradea, on Transilvaniei Street, no. 2, having the subordination: Local Agency Oradea, Alesd Work Point, Beiuş Work Point, Marghita Work Point, and Salonta Work Point.

The purpose of the study was to identify the evolution of the female unemployment structure in the aforementioned period. The objectives of the study were as follows: to identify the evolution of the female unemployment rate in Bihor County over the period 2006-2016, to highlight the gender distribution of the unemployed registered with the County Agency for Employment (AJOFM) Bihor and to perform a comparative analysis between the female unemployment rate in Bihor county and the female unemployment rate at national level in the analyzed time frame.

The hypothesis of the study was that there are discrepancies between the level of female unemployment in Bihor County and the level of unemployment at national level, registered in Romania.

The applied research method was the analysis of the documents and statistics of the County Agency for Employment of Bihor regarding the structure and evolution of female unemployment at county level, as well as the statistics provided by the National Institute of Statistics, in order to carry out a comparative analysis with the evolution of female unemployment at national level. Subjects involved were female unemployed registered with the Bihor County Agency for Employment during the period 2006-2016.

Table 1: Number of unemployed registered in Bihor County during the period 2006-2016 (thousands of persons)

Years	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	7,6	6,7	8,6	16,7	16,7	11,6	11,7	10,3	10,0	9,6	8,2
Men	4,6	4,1	4,7	9,7	9,9	6,6	6,7	5,9	5,7	5,4	5,1
Women	3,0	2,6	3,9	7,0	6,8	5,0	5,0	4,4	4,3	4,2	3,1

Source: Bihor County Statistical Office (http://www.bihor.insse.ro/wp-content/uploads/2018/06/ANUAR.pdf)

Table 1 shows that the number of unemployed men registered in Bihor County was higher than the number of women unemployed throughout the analyzed period. We consider that the number of unemployed women is lower than that of unemployed men because:

women have attended in a larger number the training courses organized by the County Agency for Employment Bihor, it was observed that women tend to accept less paid jobs and below the level of their qualification, the share of women enrolled in higher education institutions was higher than that of men, the number of vacancies in the light industry sector was increasing and the number of divorces increased in 2006-2011.

Following the statistics provided by EUROSTAT, it can be noticed that, unlike Bihor County, at European level, women have recorded a higher unemployment rate throughout history. "In 2000, the female unemployment rate in the EU-28 was about 10%, while the male rate was below 8%. At the end of 2002, the gender gap narrowed by about 1.4%, between 2002 and mid-2007, this difference remained more or less constant. Since the first quarter of 2008, the lowest levels of 6.3% and 7.4% were recorded, male and female unemployment rates were converging, and in the third quarter of 2009 the male unemployment rate was higher. The decline in the male unemployment rate in 2010 and the first half of 2011 and the stability of the female unemployment rate over the same period again brought the male unemployment rate below the female unemployment rate. Since then, the two rates have grown at the same rate until mid-2013, when they peaked at 10.9% for men and 11% for women. Since the end of 2013, both rates have fallen to 7.1% and 7.6% by the end of 2017" (https://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics#Male_and_female_unemployment).
After analyzing the data provided by the County Agency for Employment of Bihor for the year 2006, it was pointed out that the unemployment rate in Bihor County fluctuated during the analyzed period with decreasing tendencies, its level of 2.9% being lower than the unemployment rate at country level 7.3%. Compared with the previous year, the unemployment rate increased by 0.7%. The female unemployment rate in the county of Bihor for the year 2006 was 2.1%. At national level there was a female unemployment rate of 6,10% (Institutul Național de Statistică, 2007). The share of men in this situation was higher than that of women. At the end of December 2006, 7647 unemployed were registered, of which 2962 were women. The age groups most exposed to unemployment are between 30-39 years and 40-49 years of age, at least in absolute terms. In the same period, 897 unemployed women were registered, out of a total of 2262 unemployed in the 30-39 age group and 625 unemployed women out of a total of 1587 unemployed people aged 40-49. The unemployment rate in Bihor County at the end of 2011 was 4.11%, 1.2 points higher than in 2006. However, statistics show that the unemployment rate registered at the end of 2011 was 1.71 points lower than in 2010 and 1.79 points lower than in 2009. In 2011, 5048 women were registered as unemployed, out of a total of 11,633, with a decrease compared to 2010 and 2009. Women unemployed aged between 30-39 years and 40-49 years old are also in a majority proportion compared to other age groups. And during the three years 2009, 2010 and 2011 the number of unemployed women who have post-secondary and university studies is lower than those who have completed primary, secondary or vocational education. Appearance that reveals that there is a shortage of skills in the Bihor labor market due to the failure to continue with advanced level studies.
In 2011, the County Agency for Employment (AJOFM) Bihor undertook actions aimed at: reducing long-term youth unemployment, promoting the earliest employment of unemployed persons receiving unemployment benefits, subsidizing jobs for certain categories of people such as unemployed aged over 45, unemployed who are the only family carers, the drop in the number of unemployed who are living in rural areas and Roma communities. In 2011, the Bihor County Labor Agency organized a total of 55 courses attended by 1132 people, of which 663 women, thus:
- ▪ on forms of training: 214 people participated in initiation programs, 625 people participated in re-qualification programs, 237 people participated in training program, 56 people participated in specialization programs;

- target groups: 4 people with disabilities and 31 Roma followed the courses of the Bihor County Agency for Employment;
- by residence area: 386 people living in the countryside and 746 people from the urban area attended the courses of the Bihor County Labor Agency;

Implementation of the vocational training program had the expected effects, with 212 people being enrolled as a result of the graduation of the vocational training courses, representing a percentage of 141% of the number of people scheduled to be employed at the end of the year (The County Agency for Employment, Bihor).

Table 2: Female unemployment rate in Bihor County during 2006-2016

Years	Female unemployment rate
2006	2,10%
2007	1,90%
2008	2,90%
2009	5,3%
2010	4,8%
2011	3,64%
2012	3,71%
2013	3,40%
2014	3,30%
2015	3,30%
2016	2,40%

Source: County Agency for Employment Bihor AJOFM Bihor

Bihor County registered during 2006-2016 is fluctuating. The largest variations occurred in 2008-2009, when the female unemployment rate increased by 2.4 percentage points compared to the previous year. The effects of the economic crisis are acute, highlighting the rise in unemployment. National unemployment also follows the same upward trend, with a female unemployment rate of 5.80% in 2009, 1.1% more than in 2008. From 2012, this indicator is on a relative downward slope. As can be seen in Figure1, there are some discrepancies between the evolutions of the female unemployment rate in Bihor County as compared to the evolution of the national unemployment rate in 2006-2016. In 2008, the female unemployment rate in Bihor County increased by 1% compared to 2007. In Romania at the end of 2008 the female unemployment rate decreased by 0.7 percentage points compared to the same period of 2007. In 2010, there is a decrease in the female unemployment rate in Bihor County compared to the previous year by 0.50 percentage points, unlike the female unemployment rate at national level, which increased by 0.7 percentage points, from 5.80% in 2009, to 6.50% in 2010. Also, 2011 shows a decrease of the female unemployment rate in Bihor County by 1.16 percentage points compared to 2010, while the same rate in the country is 0.3 percentage points higher than last year. Another variation of this type can be seen at the end of 2013, when in Bihor County the female unemployment rate is decreasing compared to the previous year, the gap being of 0.31 points. At national level over the same period, the female unemployment rate is increasing by 0.2 percentage points, from 6.40% in 2012 to 6.60% in 2013. Thus, the study hypothesis that there are discrepancies between the

female unemployment rate registered in Bihor County and the female unemployment rate at national level, over the time frame, was confirmed by the results obtained.

We consider that one of the factors that led to the decrease of the female unemployment rate during the analyzed period is the increase of vacancies in the industrial field. Table 3 illustrates that the number of women employed in the industry followed a relatively upward trend, especially in the manufacturing sector, reaching 30,968 in 2016.
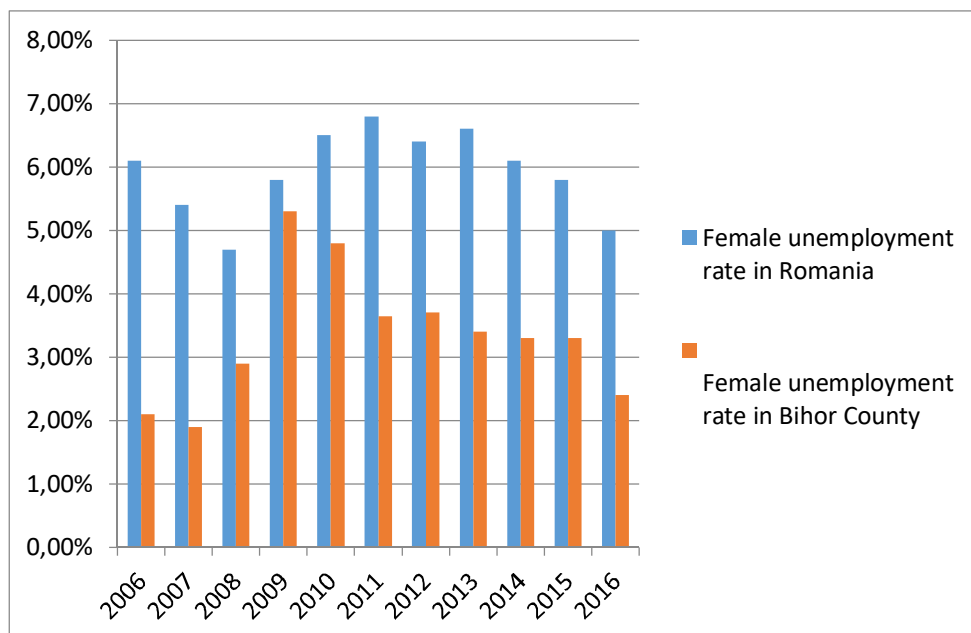
Figure 1: Comparison of female unemployment rates in Romania and Bihor County recorded during 2006-2016
Source: County Agency for Employment Bihor, National Institute of Statistics (http://www.insse.ro)

Table 3: Employees' Efficiency by Gender and Industry Activity at NACE Rev.2 Division at the end of the year in Bihor County

Activity (CAEN Rev.2 division)	2012		2013		2014		2015		2016	
	Total	Women	Total	Women	Total	Women	Total	Women	Total	Women
Industry total	56986	28595	57033	27956	59320	29039	61167	30411	63433	32122
Extractive industry	2042	273	1956	244	1932	261	1706	225	1903	225
Manufacturing	50226	27392	50566	26844	52942	27967	55088	29360	56912	30968
Production and supply of electricity and gas, hot water and air conditioning	2084	299	1888	340	1835	241	1687	247	1529	231

Activity (CAEN Rev.2 division)	2012 Total	2012 Women	2013 Total	2013 Women	2014 Total	2014 Women	2015 Total	2015 Women	2016 Total	2016 Women
Water distribution, sanitation, management of decontamination activities	2634	631	2623	528	2611	570	2686	579	3089	698

Source: National Institute of Statistics, Bihor County Statistical Office
(http://www.bihor.insse.ro/wp-content/uploads/2018/06/ANUAR.pdf)

It has also been observed that the number of graduate women in Bihor County was higher than that of men over the entire period, although the trend was a downward trend. The number of graduates is decreasing. For the academic year 2006-2007 no data are available as can be seen in Table 4.

Table 4: Students enrolled in higher education (day, evening, short and open distance) on the Territory of Bihor County

Years	Total enrolled students	Of which women
2007 / 2008	22.075	12.150
2008 / 2009	21.013	10.756
2009 / 2010	19.182	9.952
2010 / 2011	17.497	8.958
2011 / 2012	15.790	8.159
2012 / 2013	14.795	7.597
2013 / 2014	13.710	7.110
2014 / 2015	16.540	8.707
2015 / 2016	16.304	8.614

Source: National Institute of Statistics, Bihor County Statistical Office
(http://www.bihor.insse.ro/wp-content/uploads/2018/06/ANUAR.pdf)
We are of the opinion that the increasing number of divorces during 2006-2011 is one of the factors that influenced the decrease of the female unemployment rate in Bihor County because women had to look for a job to support themselves, not being in the posture to be financially supported by life partners.

Table 5: Divorces by number of children left marriage in Bihor County

Years	Total	No children	1 child	2 children	3 children	4 children	5 children and above
2006	425	174	181	58	9	2	1
2007	512	218	234	51	7	1	1
2008	528	270	186	63	8	-	1
2009	637	351	223	60	1	2	-
2010	1016	512	370	116	12	5	1
2011	1158	532	448	157	10	8	3
2012	873	443	297	121	5	6	1

Years	Total	No children	1 child	2 children	3 children	4 children	5 children and above
2013	797	430	256	102	6	3	-
2014	743	429	227	75	9	3	-
2015	1005	507	338	144	12	3	1
2016	1028	538	334	132	20	4	-

Source: National Institute of Statistics, Bihor County Statistical Office (http://www.bihor.insse.ro/wp-content/uploads/2018/06/ANUAR.pdf)

International Labor Office concludes that "employment trends are directly and indirectly influenced by macroeconomic, demographic, environmental and technological changes, and dynamics that are otherwise complex"(Naoko Otube , International Labour Office, p. 1).

4. Conclusion

The results of the study conducted at the Bihor County Agency for Employment, as well as the data collected through the National Institute of Statistics, showed that the female unemployment rate in the Bihor County differed in comparison with the female unemployment rate at national level in the years 2008, 2010, 2011 and 2013. The female unemployment rate in Bihor County has been decreasing in the mentioned periods compared to the national unemployment rate, which is increasing during the same periods.

We consider that these decreases in the level of unemployment among women in Bihor County are due to the implementation by the County Agency for Employment of active measures for: reducing long-term youth unemployment, promoting full employment, supporting the unemployed from rural areas, as well as those considered socially disadvantaged or marginalized.

Also, the number of vacancies in light industry has been rising, which has favoured employment for women. As well as the number of divorces registered at the county level registered an ascending trend, especially during 2006-2011, women being forced to find a job to support themselves. It was also pointed out that throughout the analyzed period the number of graduates of higher education was higher than that of men, facilitating their insertion into the labor market, due to their acquired competencies.

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Bio-note
Lavinia Stan is a *PhD student* in the *Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea*. As a PhD student, Lavinia focused on the study of the labor market in the conditions of unemployment and the lack of competencies of the employees.

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SECTION: *FINANCE, BANKING, ACCOUNTING AND AUDIT*

ECONOMIC AND FISCAL IMPLICATIONS IN THE POST-CRISIS PERIOD

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Abstract: *The post-crisis period was defined by an acute imbalance in the socio-economic environment of the countries. The fiscal policies applied at that time, designed to relieve the detrimental changes in the national economic structure, have been identified as being ineffective. They have not succeeded to generate positive effects, whether it is about short-term or long-term effects. This paper aims to identify some causes that have contributed to the financial crisis, as well as its effects by analysing some indicators from five emerging countries (Romania, Poland, Slovakia, Estonia and Lithuania) and five developed countries (Germany, the Netherlands, Italy, Sweden and Denmark) for a period of nine years, more exactly, from 2008 to 2016. The outcome of the analysis reveals that the imbalance in the economy, especially in emerging countries, has led to a major increase in the population exodus, all of which are closely linked to the development inability of the business environment. Moreover, there has been analysed the influence of investments (GFCF) and real labour productivity (LP) on gross domestic product (GDP) by applying the prospective Forward method in the SPSS statistical program, demonstrating that the business environment is a factor of influence in the economic growth of a country.*

Keywords: *fiscal policy; real labour productivity; financial crisis; emigration; tax burden; business environment.*

JEL Classification: *E62; E24; G01; F22; H20; M20.*

1. Introduction

The financial crisis, which had its origin in the United States of America, began in Europe in the last quarter of 2007. This had a clear impact on both social life and the entire economic environment. The lack of political initiative and the ineffectiveness of anti-crisis fiscal policies have generated an unfavourable situation for an immediate recovery, thus affecting the economy of countries for a long time. The post-crisis period is defined by the emigration of a large population number towards countries that were recognized as protective social centres, but also by the demobilizing impact on the business environment. These economic and social aspects will be analysed in the present paper. It will be considered to study the interdependence between the emigration of the population, the economic growth and the business environment, starting from the hypothesis that there is a circuit generated by the financial crisis. The diminishing of the gross domestic product determines the emigration of the population, and this, in turn, has an impact on the business environment. This circuit will also close by affecting the gross domestic product. Consideration will be given to identify the effects of the financial crisis and

how they have governed fiscal policies for economic recovery by submitting a detailed analysis of a sample of five developed countries and five emerging countries. The real gross domestic product will be a benchmark in this paper because it presides over the evolution of economic growth. The emigration and the spending on social security contributions will provide clues about the incidence of the financial crisis on the social environment. The investments (gross fixed capital formation) and the real labour productivity will be studied as the main factors of influence on the gross domestic product, macroeconomic indicators that will serve to investigate the evolution of the business environment in the post-crisis period. Thus, the evolving framework of the economic environment of a country will prove to be in constant dependence with different aspects of social life.

To better capture the economic and fiscal implications in the post-crisis period, this article is structured as follows: Section 2 Literature Review, Section 3 The social and fiscal effects in the post-crisis period, Section 4 The impact of the financial crisis on the private business environment, Section 5 Conclusions, followed by References and Bio-note.

2. Literature review

The impact of the crisis on the social life aspects, as well as on the economy has generated a wide range of polemics about identifying the main determining causes and recovery levers through the implementation of favourable fiscal policies. Analysing the impact of emigration on the economic growth in Eastern Europe, Atoyan et al. (2016) demonstrated that "net emigration has been associated with higher social spending in Baltics and SEE countries in relation to GDP". Farris (2015) studied the association between the slowdown in the economic growth and the negative impact of the emigrant labour in the low-skilled jobs. Cordero and Simón (2015) analysed the impact of the economic crisis on democracy, also taking into account the implications of the democratic institutions, pointing out that "perceptions of the state of the economy have an impact both on satisfaction with and support for democracy, and, secondly, that citizens' support for democracy is greater in bailed-out countries". As politics plays an important role in the implementation of the decisions of national interest, Rohrschneider and Whitefield (2016) examined the reaction of the political parties, particularly the mainstream ones, to the growth in public European Union-scepticism since the financial crisis and concluded that mainstream parties respond fairly little over time, leaving a representative opening for extreme parties. Thus, the economic development of a state is also influenced by the political environment due to the decision makers. The effects of the financial crisis in 2008 also had repercussions on the private business environment, so Lins et al. (2017) performed an analysis of the performance of the enterprises taking into account the assessment of their share capital. An analysis on the largest corporations in the Forbes 2000 Global List, based in Europe, was carried out by Raźniak and Winiarczyk-Raźniak (2015), surprising the changes in their financial performance following the financial crisis from 2008.

3. The social and fiscal effects in the post-crisis period

The financial crisis that diverted on European countries in the last quarter of 2007 also had repercussions on individuals. The unfavourable economic environment

favoured the exodus of the population to the developed countries, which offered financial stability up to meeting of the personal needs. The inefficiency of the educational system, the lack of involvement of specialized institutions in the different aspects of social life, and the inability of the individual to have access to decent living are among the determining factors of emigration. The emerging countries, including Romania, tended to focus on the effects of the crisis and not on the causes. In this situation, an important role was played by the fiscal policy that hoped to rebalance the economy, having as the main instrument, the taxation. The tendency of the countries, especially the emerging ones, was to increase the percentage of the compulsory taxes in order to cover the existing deficit without taking into account the long-term effects. These decisions that changed the fiscal policy also affected the individual, who was unable to integrate financially into the society. Thus, emigration can be identified as a result generated, not mainly by the economic crisis, but the decisions that underlying the change in fiscal policies. *Table 1* summarizes the number of emigrants in 10 developed and emerging European countries from 2008 to 2016. At European Union level, in 2008 the largest population exodus was present in Romania, namely 300.465 people, followed at a significant difference by Germany with 174.759 persons and Poland with 67.329 persons. The large number of emigrants is visible until the end of the analysed years in these three countries. Within the nine years under review, the exodus of the population of Poland reached values close to those of Romania, with a difference of only 10.414 people, becoming the second country at the level of the European Union in terms of the increased number of people which leaved the origin country. Romania has reached the threshold of almost two million emigrants, followed by Poland and Germany by analysing the total population that emigrated from the residence country.

Table 1: Number of emigrants by country

Year	Number of emigrants by country									
	Romania	**Poland**	**Slovakia**	**Estonia**	**Lithuania**	**Germany**	**Netherlands**	**Italy**	**Sweden**	**Denmark**
2008	300.465	67.329	1.547	3.860	21.793	174.759	59.364	53.924	26.052	15.730
2009	245.127	178.915	1.432	3.972	33.522	120.374	52.817	48.327	20.883	14.379
2010	196.550	169.527	1.512	4.665	79.315	112.303	51.872	45.954	26.792	14.661
2011	194.090	214.758	1.703	5.608	51.505	112.049	57.155	50.057	27.506	15.031
2012	169.200	206.693	1.923	5.968	38.479	101.384	56.181	67.998	25.116	14.753
2013	154.374	226.969	2.732	6.414	35.492	104.245	57.090	82.095	26.112	13.572
2014	171.967	199.696	3.575	4.314	33.115	113.884	57.924	88.859	24.861	13.999
2015	186.129	169.375	3.835	8.957	36.976	106.682	58.369	102.259	24.497	14.020
2016	206.798	196.384	3.674	9.141	46.070	225.337	53.450	114.512	22.425	15.273
Total	**1.824.700**	**1.629.646**	**21.933**	**52.899**	**376.267**	**1.171.017**	**504.222**	**653.985**	**224.244**	**131.418**

Source: Eurostat data and own calculations

The opposite was Slovakia, where the number of emigrants was 1.547 in 2008, doubling until 2016, followed by Estonia and Denmark. A determinant aspect for Denmark, Sweden and the Netherlands is the constant number of emigrants. This

feature is specific to developed countries, characterized by the efficiency of the fiscal policies that are geared towards a sustainable development of the economy and, implicitly, of the socio-economic life of individuals.

Exodus of the population should have had a negative and significant influence on gross domestic product, but in reality it turned out that there is a distorted economic growth. A contribution to the economic growth is brought by the social security contributions. Graph 1 presents the increase in real gross domestic product in the five emerging countries under the study. Poland experienced the strongest boom after the economic crisis which overrun the Europe in early 2008, so its real GDP grew by 27% in 2016 compared to 2008. The situation was different for Romania, Slovakia, Estonia and Lithuania. The economic crisis could also be identified in terms of the real GDP growth rate in these countries, as it had low values until 2013-2014, when both national and foreign factors contributed to the recovery of the economy. The real GDP of Romania grew by only 11% in 2016 compared to 2008, unlike Poland.
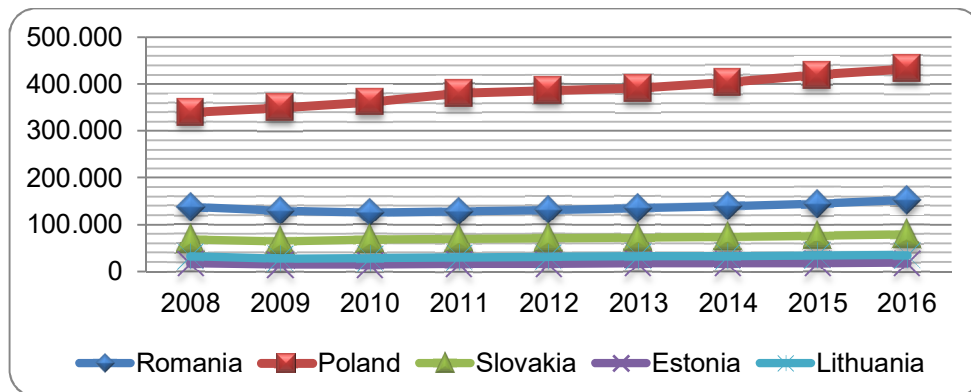
Chart 1: Real GDP in emergent countries
Source: Own editing based on Eurostat data

Chart 2 shows the growth of gross domestic product in the developed countries, the economic crisis having an impact on them as well. The real gross domestic product of Germany grew by 9% in 2016 compared to 2008. A special situation has been identified in Italy, where real GDP fell by 5,9% in 2016 compared to 2008, which is also highlighted in the chart of representation. The lack of economic recovery in this country may be due to the applied tax policies that have failed to balance the crisis situation, taking into account other economic, political and social conjectural factors. Lagravinese (2015) stated that this "crisis has exacerbated the strong imbalances between the North and South making rebalancing policies necessary to place the country on a sustainable growth path". Sweden, the Netherlands and Denmark, although affected by the crisis, experienced an economic recovery as in the case of the emerging countries in the years 2013-2014.
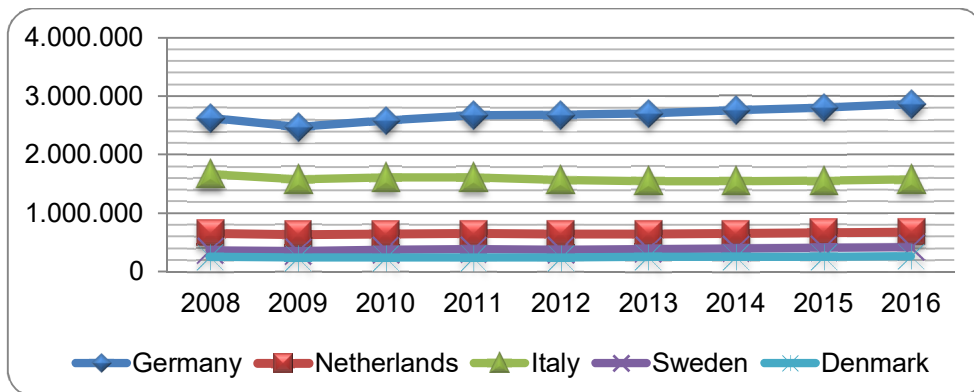
Chart 2: Real GDP in developed countries
Source: Own editing based on Eurostat data

The increase in the tax burden specific to the social security contributions was essentially a substitution for the existing deficit, defined by a distorted gross domestic product growth in the years after the economic crisis. Emigration has led to an increase in the share of elderly in the population in countries of origin, which entails a suppression of the future generations that will have to bear the increasing burden of the social security contributions. The share of the social security contributions in GDP in the years after the economic crisis is presented in *Table 2*, which has increased significantly since 2009 in each analysed country. Thus, there is a correlation between the large number of emigrants presented in *Table 1* and the increase in the share of social security contributions in GDP. In Romania, the exodus of the population, in the first year after the crisis, led to an increase in social security contributions of 9% in 2009 compared to 7.3% in 2008. This may also be due to the large number of hiring of the native population in the host countries and which contributed to the payment of this type of compulsory contributions.

Table 2: Expenditure on pensions (% of GDP)

Year	Romania	Poland	Slovakia	Estonia	Lithuania	Germany	Nether-lands	Italy	Sweden	Denmark
2008	7,3	11,5	7,0	6,9	7,3	12,0	11,2	14,3	11,3	11,7
2009	9,0	12,2	8,3	8,9	9,5	12,8	12,1	15,5	12,4	13,0
2010	9,3	11,8	8,2	8,7	8,4	12,4	12,2	15,5	11,6	12,6
2011	9,1	11,3	8,1	7,8	7,6	11,9	12,5	15,5	11,4	12,7
2012	8,7	11,5	8,3	7,6	7,6	11,9	12,9	16,1	11,8	12,7
2013	8,3	11,9	8,4	7,6	7,2	11,9	13,1	16,5	12,1	13,4
2014	8,2	11,8	8,7	7,5	7,0	11,7	13,2	16,5	11,7	14,0
2015	8,1	11,6	8,6	8,0	6,8	11,8	13,0	16,5	11,4	13,5
2016	8,1	11,4	8,7	8,0	6,8	11,8	13,1	16,2	11,3	14,0

Source: Own editing based on Eurostat data

These economic and social events contributed, to a certain extent, to the distorted growth of the economy, respectively to the real gross domestic product. The exodus

of the active population generated an increase in the share of the social security contributions in GDP, as its move to the host countries did not necessarily represent a process concluded by establishing the residence abroad.

4. The impact of the financial crisis on the private business environment

The prosperity of the private business environment is not entirely due to the managerial decisions, the competitive market or the customer register, a determinant factor being also the fiscal policies applied. These determine the evolving business environment in most cases because a defective fiscal policy can destabilize the entire business environment of a country. Moreover, an unfavourable macroeconomic impulse can affect the national financial equilibrium more than an impulse from the inside, as it was in the case of the crisis from 2008. Both the economy of Romania and the other European countries were destabilized, affecting all sectors of activity, whether it was about the primary or secondary sectors. All this made the relations between the state and the business environment vulnerable. European Union Membership for Romania in 2007 preceded the financial crisis of 2008. These stages in the economic development of this country stirred up suspicion from entrepreneurs who felt unable to manage the activity of their corporations until economic maturity, many of these closing their activity in the early years. Thus, Euroscepticism was to transpose from ideology into a way for businesses to act in the context of an economy that no longer had the prerequisites of sustaining the sustainable development of the business environment. Mistrust in the European economic environment for entrepreneurial development was initiated on the very background of the financial crisis that had its origin outside of this space. However, the fiscal policies should have been in the process of creating strategies both in the short and long term, to relaunch the entire economic activity. Many countries, especially emerging countries, have seen this economic recovery late, as the fiscal policies applied have not been able to generate positive effects. In order to identify the effects of the financial crisis on economic growth, and more specifically, on the development of the business environment, as an extension to the effects of the crisis on social life, the prospective – Forward procedure was applied. The chosen model is multifactorial, using three variables: gross domestic product (GDP), investments (GFCF) and labour productivity (LP). Both gross domestic product and investments were deflated using GDP deflator with base in 2010 and expressed in real terms. Real labour productivity was expressed in real terms using Eurostat database. The variables that best explain the model chosen on the basis of the F sequential test were chosen for each country. In determining the influence of the economic crisis on the macroeconomic indicators, the nature of the link between the dependent variable, gross domestic product (GDP) and independent variables, investments (GFCF) and real labour productivity (LP) will be verified. The determination coefficient R^2 will provide information about the degree of influence of the independent variables on the dependent variable. The basic condition for a model to be retained in the analysis is that Sig $<\alpha$ (0.05). Table 3 shows the sig. value of the model for each country, as follows:

Table 3: Sig. value of the model by country

Dependent variable (GDP)	Independent variables Sig.	
	GFCF	LP
Romania	0.000	
Poland	/////	0.000
Slovakia	/////	0.000
Estonia	0.003	
Lithuania	0.000	
Germany	0.000	/////
Netherlands	/////	0.000
Italy	0.000	
Sweden	/////	0.000
Denmark	0.000	

Source: Own calculation in SPSS software

The model did not exclude any variables for Romania and Lithuania, being accepted at a sig. value of 0.000. The situation is the same in Estonia, where the sig. value is 0.003. The model rejected the independent variable GFCF, accepting only the LP variable at a sig. value of 0.000, in the case of Poland and Slovakia. Regarding the developed countries, Italy and Denmark, the model accepted both variables, GFGF and LP at a sig. value of 0.000. The model proposed for the Netherlands and Sweden rejected the GFCF variable, accepting only the LP variable, as shown in *Table 3*. Germany is an exception among the developed countries. The LP variable was rejected and only the GFCF variable was accepted at a sig. value of 0.000. These results can be transposed by a mutual influence between the studied variables. The financial crisis that affected the entire economic activity had an impact both on investments and on the real labour productivity. There was a decrease in the value of investments and implicitly in productivity from 2008 up to 2013-2014, also influencing the real gross domestic product. In countries such as Slovakia, the Netherlands and Sweden, the determination of the model based on the GDP dependent variable and the LP independent variable reveals a possible link with the lowest value of the population exodus. Thus, a small number of emigrants represent, in fact, a growing active population in the origin country involved in the economic sectors of the state. Since the results identified in Germany only indicated the model comprised from the GDP and GFCF variables, it can be argued that the technology led to an increase in investments, thus explaining the variation of gross domestic product and the exclusion of real labour productivity from the analysis.

5. Conclusions

Analysing the economic and fiscal implications in the post-crisis period, a significant influence was brought about by the individuals of the society. The aspects of the social life will permanently govern the economic development of a country. Migration has had a significant impact on the economic growth, being identified a distorted increase in the gross domestic product. This increase was mainly due to the social security contributions resulting from the exodus of active population in the origin country, so the income came from the host country. In countries with a large number of emigrants, the highest real GDP growth was seen in 2016 compared to 2008. In Poland, the real GDP grew by 27% in 2008 compared to 2016 and in Romania by 11%. Moreover, the exodus of the active population generated an increase in the share of social security contributions in GDP. In Romania, a major increase in social security contributions was identified from 7.3% in 2008 to 9% in 2009 and in Lithuania from 7.3% to 9.5%. The situation is identical in the other developed countries as well as in the emerging countries under analysis.

The business environment was another component of the economy affected by the financial crisis. The use of the macroeconomic indicators in analysing the effects of the shock which origin was outside the European space, contributed to the creation of an overall view. More specifically, it was concluded that each country surveyed, regardless of the degree of economic development, was affected by the financial crisis. This may be due to defective fiscal policies that were not able to rebalance the economic activity in the short term, nor in the long run. In this context, the business environment, an important generator of revenues to the general consolidated budget, was affected both by the effects of the external financial crisis and by the entire national decision-making apparatus. It was possible to determine the influence of independent variables, GFCF and LP on the resulting variable, GDP by using the prospective – Forward method. A positive correlation between the variables of the model was identified for all analysed countries. The growth of the investments and the labour productivity will produce the gross domestic product growth. Thus, a sustainable development of the business environment will have a positive effect on gross domestic product, recognized as an important indicator of economic growth.

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Bio-note
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THE CORRELATION BETWEEN FISCAL REVENUES OF ROMANIA AND GROSS DOMESTIC PRODUCT IN THE LAST 12 YEARS

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Abstract: *The aim of this paper is to study and analyze the evolution of the Romanian fiscal pressure between 2006 and 2017, from a statistical point of view, and the main purpose is to highlight the correlation between fiscal revenues of Romania and gross domestic product. The first part of the paper is based on a comparative research into the level of taxation at the level of direct, indirect taxes and social contributions. This study seeks to highlight the impact of the Romanian fiscal pressure on the economy. The second part of the article seeks to see the correlation between fiscal revenues and gross domestic product (GDP), especially the impact of fiscal revenues on the growth or decline of GDP. In order to study the correlation, we used the Eviews9 statistical interpretation program. The research methodology was based on obtaining data from the main official sources, such as the National Institute of Statistics and the Ministry of Finance; the study of the specialized literature; the study of the evolution of the fiscal pressure, as well as the interpretation of the data obtained from the influence of the fiscal revenues on the gross domestic product. At the end of the paper some conclusions were drawn, as well as some proposals regarding the studied ones.*

Keywords: *fiscal pressure; tax revenues; gross domestic product; evolution; correlation.*

JEL Classification: *H2; H71.*

1. Introduction

The fact that the state cannot exist without taxes is a well-known and self-evident thing. Thus, at the beginning of the article it will be made a short presentation of the literature. The case study will be concretized by analyzing the evolution of the gross domestic product, as well as the fiscal pressure related to the direct taxes and indirect taxes, as well as the fiscal pressure related to the social contributions, during 2006-2017. This study is a first step in discovering the influence of taxes in Romania's economy, in stimulating or inhibiting citizens' interest in carrying out economic activities or carrying out commercial relations with foreign states, in consuming goods and services, etc. Thus, the actuality of the studied topic is conditioned by the importance of taxes on the development or even the economic growth. The objective of this paper is to study the economic situation of Romania in the period 2006-2017, in terms of evolution of gross domestic product, but also fiscal pressure. The research methods used are the deduction, synthesis and the study of the evolutionary trend.

2. Literature review

The relationship between the tax system and the economy has been extensively studied both by autochthonous and foreign authors.

For example, if it is desired an economic growth, sustained and stimulated by countries' financial development, must be implemented anti-inflationary measures along with effective labor market policies, to reduce the high unemployment rate, which on the long run can lead to high economic growth (Afonso and Blanco-Arana, 2018).

Also, fiscal pressure influences not only budget revenues but also investment, demand, supply and prices. All of these have a direct and indirect influence on economic activity and production capacity (Abuselidze, 2012). However, the impact of taxes on economic growth is contradictory, which may be the consequence of the fact that different fiscal policy instruments can lead to opposite effects on economic growth: on the one hand, a greater involvement of the public sector in the economy tends to promote growth, but on the other hand, high taxation affects economic growth (Braşoveanu-Obreja, 2007).

Castro, Ramirez Camarillo (2014), Stoilova (2017), Mahdavi (2008) and Ungureanu (2017) are among the authors who studied the fiscal pressure on the tax and fees system and made comparisons in several developed and developing countries in Europe. They also attempted to show the connection between the fiscal pressure and the changes in the economic indicators.

3. Evolution of the Romanian fiscal pressure during 2006-2017

Analyzing the trend of gross domestic product, the main indicator characterizing the evolution of the national economy, from own processing, based on data available from the National Institute of Statistics and Ministry of Finance, it can be noticed that during the first part of the analysis period it recorded a significant increase in 2007 and 2008, compared to 2006, which can be explained by the accession of Romania to the European Union. The sharp decline of 3.24 percentage points in 2009 compared to 2008 is mainly due the emergence of the economic-financial crisis, which has also impacted Romania.
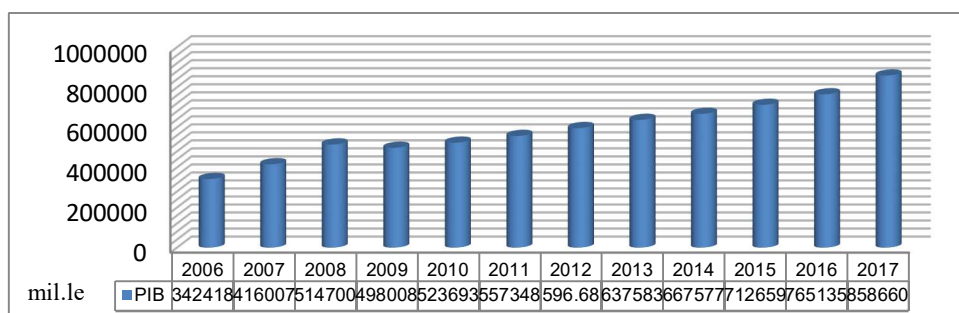
Figure 1: Evolution of Gross Domestic Product
Source: own processing, based on data available from the National Institute of Statistics

However, following the analysis of the evolution of this indicator in the post-2009 period, from Figure 1, GDP has been steadily rising, with a significant year-on-year increase. Calculating the evolution based on the data available in the INSSE statistical bulletins, these increases were 5.16% in 2010, 6.43% in 2011, 7.06% in 2012, 6.85% in 2013, 4.70% in 2014, 6.75% in 2015 and 7.36% in 2016, as compared to the previous year, reaching a maximum of 858.660 million lei in 2017. Based on the analysis of Romania's tax pressure in the period 2006-2017, from Figure 2, calculated by the ratio between the tax revenues and the gross domestic product, it can be observed that this indicator has a oscillating trend from year to year. The decrease of the fiscal pressure at the time of Romania's accession to the European Union in 2007 had as objective the alignment with the European tax regulations. Over the analyzed period, the highest value was in 2006 -28.26%, while the lowest values, namely 25.84% and 24.68%, have been in the last 2 years of analysis, at 5 years difference from the last attained minimum, namely 26.5% in 2009.
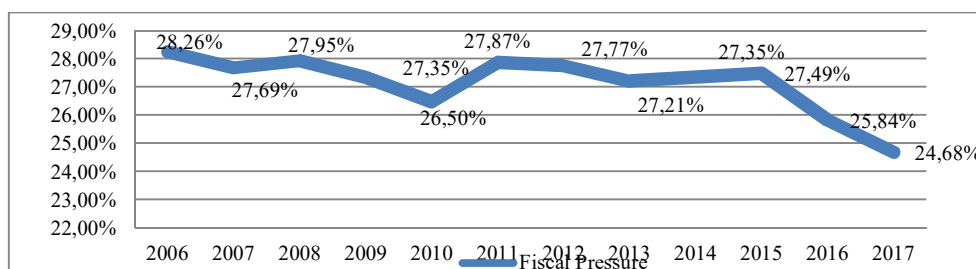
Figure 2: Evolution of the fiscal pressure
Source: own processing, based on data available from the Ministry of Finance (Consolidated General Budget for the years 2006-2017)

Next, we will study the fiscal pressure on direct, indirect taxes and social contributions in the 12 years of analysis. Thus, as can be seen in Figure 3, the highest fiscal pressure we encounter in the case of indirect taxes with values between 10.15-12.88%, the minimum value being in 2017 and the maximum in 2012. The low level of fiscal pressure from indirect taxes occurring after 2015 can be mainly explained by the drop of the standard VAT rate from 24% to 20% from 1 January 2016 and to 19% from 1 January 2017, but also the application of the 9% rate for certain categories of services and products (Law 227/2015 regarding Fiscal Code), which may suggest a relaxation of the taxpayer regarding his tax burden.
Regarding the tax burden related to direct taxes, over the period under review, this tax pressure has half the value of indirect taxes' tax burden. Its values are on a relatively constant trend, around 6-7%, values that can be explained by keeping the 16% tax rate for income and profit tax.
Analyzing the evolution of the tax burden on social contributions, its level is at half the tax burden on taxes (indirect+ direct taxes), and its trend is ascending, registering a peak in the first half of the analysis period, followed by a downward trajectory after 2011, reaching the minimum value of 8.01% in 2016.

	20 06	20 07	20 08	20 09	20 10	20 11	20 12	20 13	20 14	20 15	20 16	20 17
Fiscal Pressure- social contributions	9,63%	9,34%	9,52%	9,61%	8,73%	9,09%	8,66%	8,53%	8,63%	8,08%	8,01%	8,35%
Fiscal Pressure- indirect taxes	12,28	11,28	11,31	10,59	11,44	12,60	12,88	12,45	12,13	12,63	11,11	10,15
Fiscal Pressure- direct taxes	6,32%	7,03%	7,03%	7,07%	6,25%	6,12%	6,17%	6,17%	6,53%	6,71%	6,62%	6,09%
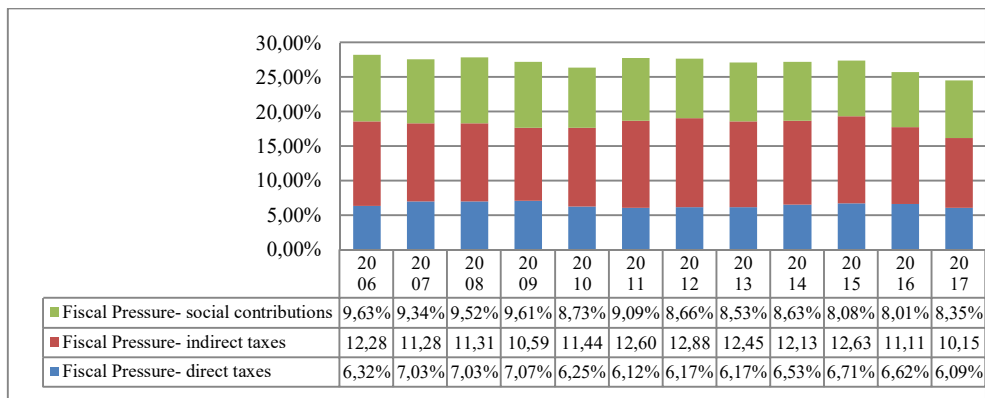
Figure 3: Evolution of fiscal pressure on taxes and social contributions
Source: own processing, based on data available from the Ministry of Finance

The tax pressure calculated for the main types of taxes, such as profit tax, income tax, value added tax, excise duties and customs duties, has undergone an interesting evolution in the analyzed period, as can be seen in Figure 4. On the basis of the data obtained from the Romanian Consolidated General Budgets and based on the calculations made, we have found that the lowest limits are encountered in the case of the tax burden related to customs duties, with a low weight in the gross domestic product, namely between 0.1 and 0.75%. The evolution of this indicator followed a year-on-year downward trend, similar to the profit tax, which reached relatively linear values between 1.71-2.54%.

	200 6	200 7	200 8	200 9	201 0	201 1	201 2	201 3	201 4	201 5	201 6	201 7
Profit tax	2,30%	2,54%	2,54%	2,39%	1,93%	1,85%	1,82%	1,71%	1,83%	1,94%	2,02%	1,72%
Income tax	2,83%	3,46%	3,59%	3,73%	3,43%	3,42%	3,51%	3,57%	3,55%	3,74%	3,63%	3,51%
VAT	8,06%	7,51%	7,94%	6,89%	7,49%	8,60%	8,47%	8,13%	7,62%	8,02%	6,75%	6,24%
Custom duties	0,75%	0,21%	0,19%	0,13%	0,11%	0,12%	0,12%	0,10%	0,10%	0,11%	0,12%	0,11%
Excise duties	3,07%	3,01%	2,65%	3,13%	3,32%	3,43%	3,40%	3,31%	3,61%	3,65%	3,52%	3,10%
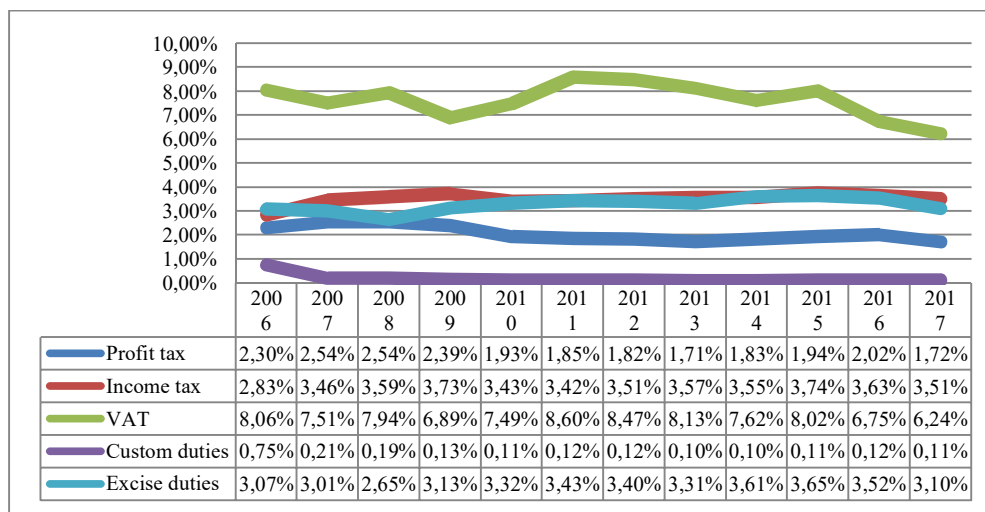
Figure 4: Evolution of the tax burden related to the main taxes
Source: own processing, based on data available from the National Institute of Statistics and Ministry of Finance

Analyzing the graph above, we can observe that tax pressures of the excise duties and income tax overlap in the reference period, predominantly in 2010-2016. These

fiscal pressures, combined, are close to the fiscal pressure from value added tax, which shows that VAT exerts a double or even a triple tax pressure, compared to other taxes. The decreasing of consumption, which was an effect of the 2009 economic and financial crisis, led to a decrease in the collection of VAT to the state budget.

The recovery of this tax took place in 2010, when the VAT rate has increased from 19% to 24%. Changes in tax rates through VAT was passed, were the authorities' response to the negative effects of the crisis, the state only wanting to cover public spending and debt. However, this tax throughout the analysis period was a constant source of income for the state budget; being the *leader of indirect taxes* (Cristea L.A., 2017), because it represents, on average, more than 50% of their total.

On the basis of the statistical analysis, we can say that Romania concentrates its entire hope based on indirect taxation in order to collect the tax revenues to the state budget.

4. The correlation between fiscal revenues and gross domestic product

In order to highlight the correlation between fiscal revenues (VF) and gross domestic product (GDP), we have studied a year-to-year evolution of these two indicators with the help of the Eviews9 econometric program. The reference period is 2006-2017 and the graphic representation can be seen in Figure 5, below.
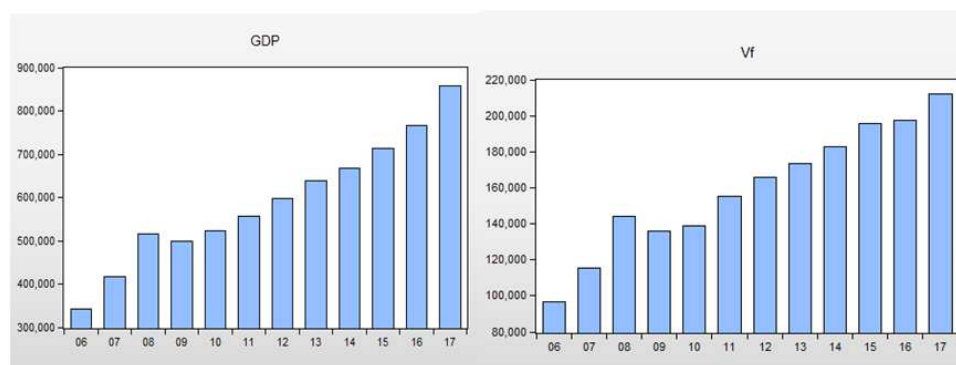
Figure 5: Comparative evolution of gross domestic product and fiscal revenues
Source: own processing based on data provided by the Ministry of Finance

It can be noticed that both indicators, the fiscal revenues and the GDP, after the year of Romania's accession to the European Union, namely 2007, have a significant growth, which unfortunately did not continue, given the sudden decline in 2008 caused by the economic and financial crisis. However, after this year, both indicators had an ascending trajectory over the period studied.
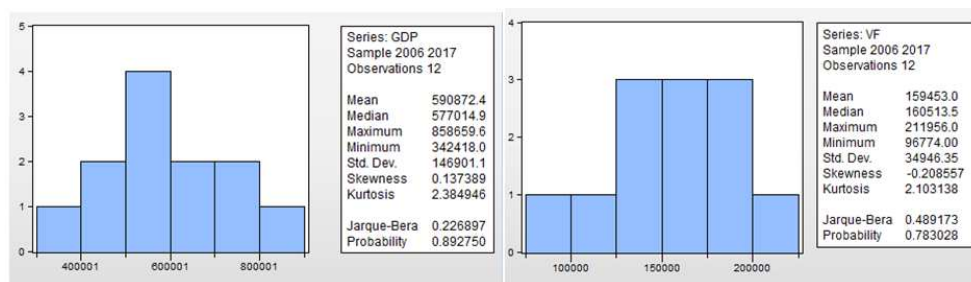
Figure 6: The main statistical tests performed on GDP and VF values
Source: own processing based on data provided by the Ministry of Finance

In order to have a clearer picture of these two indicators, we conducted a series of statistical tests on GDP and VF values over the period 2006-2017, using the Eviews data processing program.

It can be seen from Figure 6, that the average gross domestic product between 2006 and 2017 is 590872,4 mil. lei, an average value ranging from the minimum of 342418 million lei at the end of 2006 and the maximum of 858659,6 mil. lei reached after 11 years, respectively in 2017, which shows that the trajectory of the gross domestic product was an ascending one. As for the average value of the tax revenues, it was 160513.5 million lei, the value being between the minimum of 96774 million lei at the end of 2006 and the maximum of 211956 million lei in 2017, the same situation being encountered as in the case of gross domestic product.

Since "skewness" is the measure of symmetry of the studied data, by observing the above figure and taking into account the displayed values, we can say that the distribution of GDP-related values in the studied period is not perfectly symmetrical (skewness ≠ 0), the value being 0,1373> 0, which shows a positive distribution, with a predominant inclination to the right. And in terms of the distribution fiscal revenue values, the skewness of -0.2085<0, shows a negative distribution, with a predominant inclination to the left. Following symmetry testing, we can say that these two indicators do not have a perfectly symmetrical distribution in the 12 years studied.

From the above observations, we can draw an interesting conclusion on the correlation between these indicators taken into account. As shown in Figure 5 and Figure 6, they have a similar trajectory, with ups and downs: significant increases have occurred between 2006 and 2008, followed by a sudden fall, highlighted at the end of 2009, and then the whole route had an upward path by 2017, reaching the full point in this year. Based on this observation, we can deduce that there is some interdependence between the values of the gross domestic product and the values related to the fiscal revenues. In order to confirm this, we have a graphical representation of the correlation between these indicators and as can be seen in Figure 7, their values correspond to a linear correlation.
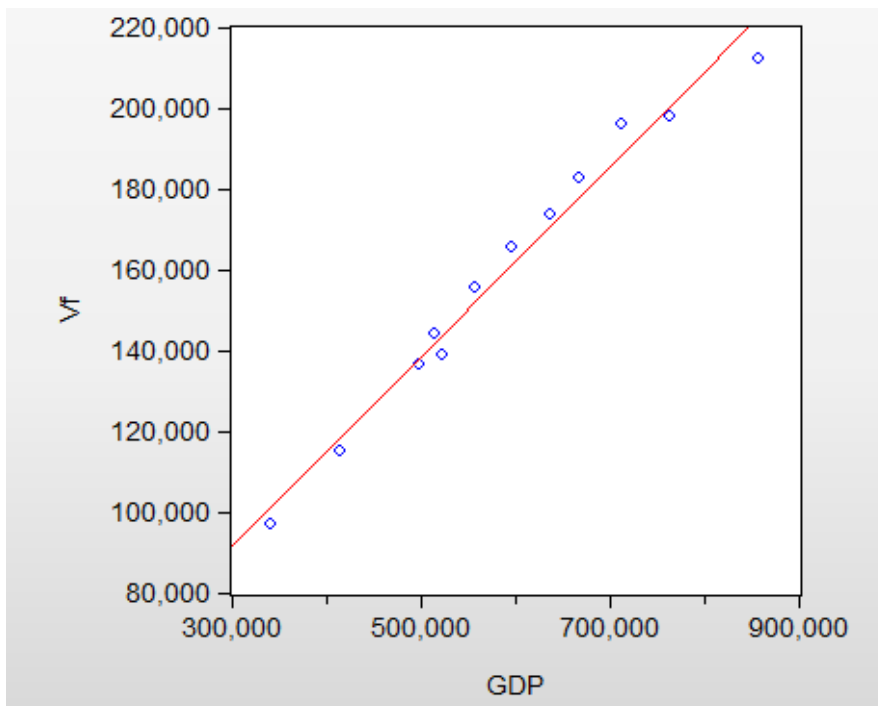
Figure 7: Dispersion diagram GDP-Vf (scatter plots)
Source: own processing based on data provided by the Ministry of Finance

Starting from the above representation, in order to highlight the impact of tax revenues on Romania's gross domestic product during 2006-2017, we will use the simple linear regression technique:

$$Y=\alpha+\beta*X \text{ where,}$$

- Y is the dependent variable;
- X represents the independent variable;
- α is the free term of the regression line (value for X = 0);
- β is the regression coefficient (the amount with which Y changes when X changes with one unit).

The regression equation, by which I will determine the correlation mentioned above, will have the Gross Domestic Product (GDP) as a dependent variable, and the independent variable will be fiscal revenues (Vf). Thus, the regression equation becomes:

$$GDP=c\ (1) + c\ (2)*Vf, \text{ where,}$$

- c (1) and c(2) represent the parameters of the equation.

Using the LS (Least Squares method) of the Eviews 9 program, the correlation between these two variables for the period 2006-2017 is shown in the figure below.

```
Dependent Variable: GDP
Method: Least Squares (Gauss-Newton / Marquardt steps)
Date: 11/07/18   Time: 11:26
Sample: 2006 2017
Included observations: 12
GDP=C(1)+C(2)*VF
```

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-71611.49	32935.06	-2.174324	0.0548
C(2)	4.154729	0.202148	20.55291	0.0000

R-squared	0.976874	Mean dependent var		590872.4
Adjusted R-squared	0.974562	S.D. dependent var		146901.1
S.E. of regression	23429.74	Akaike info criterion		23.11241
Sum squared resid	5.49E+09	Schwarz criterion		23.19323
Log likelihood	-136.6745	Hannan-Quinn criter.		23.08249
F-statistic	422.4223	Durbin-Watson stat		1.015246
Prob(F-statistic)	0.000000			

Figure 9: The correlation between Gross Domestic Product and Fiscal Income, based on Eviews 9
Source: own processing based on data provided by the Ministry of Finance

The value of the coefficient of determination regression (R-squared) indicates that there is a probability of 97.7% that GDP variation is explained by the change in fiscal revenues, and based on the figures in Figure 9, the regression equation between tax revenue (Vf) and GDP is as follows:

$$GDP = -71611,49 + 4,1547*Vf$$

From this econometric relationship, we note that the correlation between tax revenues and GDP is directly proportional between 2006 and 2017. On the basis of this positive relationship, we can interpret the fact that an increase of one percentage point in the value of tax revenues will lead to an increase in gross domestic product of 4.1547 monetary units. This is plausible, given that over the period under study, tax revenues have had percentages of significance in GDP, and the state budget is mainly based on fiscal revenues.

Also based on the analysis of this regression equation, we can observe that the free term of the relationship, i.e. -71611,49, shows the negative influence of other factors, not included in the model, exert on the gross domestic product.

By synthesizing the information obtained, we can say that Romania's GDP, during the studied period, is influenced in a significant proportion by the changes in fiscal revenues.

5. Conclusions

In conclusion, we note that taxation is the only way to finance the public expenditures related to services and goods, which the entire population of Romania benefits from.

That is why the fiscal pressure exerted by each tax, as well as the taxes and duties, are to be optimized to facilitate a high degree of voluntary compliance with payment, without discouraging economic activity and making budget revenues without resorting to excessive borrowing. An optimal fiscal pressure will lead to a higher collection of tax revenues, respectively to a better cover public spending, but also it will encourage investment, which would inevitably lead to economic development and general welfare.

Regarding the influence of the fiscal revenues on Romania's gross domestic product, they exert a direct influence: at each increase of one percentage point of fiscal revenues, there are positive changes in GDP. Of course, as future directions in research, we intend to study the influence of the entire system of taxes and duties on the Romanian economy.

On the one hand, we believe that there must be an education of the Romanian taxpayer, regarding compliance with the payment of taxes. He needs to understand that the tax revenues of the state, that is taxes and duties he pays to the state, are in a closed and repetitive circuit. In other words, if there isn't an efficient collection to the state budget, the state would not be able to provide services to the citizens, and it wouldn't be able to cover its public expenditures. This fact would inevitably lead to degradation at socially, financially and economically level. On the other hand, we believe that in order to be a voluntary compliance of the citizen, the fiscal control body plays an important role; it has to be educated in such a way that the desire for compliance of the citizen is created, given the fact that most of the state revenue is formed from taxes.

Acknowledgements

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CONSIDERATIONS REGARDING THE EVOLUTION OF THE LIQUIDITY AND SOLVENCY INDICATORS OF THE MOST IMPORTANT ROMANIAN PRODUCTION COMPANIES IN THE PERIOD 2014-2017

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Abstract: *The production sector from Romania had to face a huge number of challenges from 1990 to 2017. Most of these challenges were witnessed by the previously owned state companies which had to reform in order to survive. This process was a very long and difficult one, since most of the previously state-owned companies had difficulties in adapting to the private environment. Thus, the number of these companies which are still active on the Romanian Stock Exchange and which constitute interest for the private investors was reduced significantly. Under these circumstances the goal of the current paper was to analyze the financial health of 10 most significant production companies registered on the Bucharest Stock Exchange (BVB) especially when considering the evolution of their liquidity and solvency indicators. The study considered for analysis the financial data presented in their balance sheets and profit and loss accounts which were reported on the Bucharest Stock Exchange website: www.bvb.ro or published in their annual reports. The study concentrated on a set of six liquidity and solvency indicators considered most representatives by both the investors, banks and the business environment. The notions of liquidity and solvency are two of the most important issues in financial analysis at the level of the companies both from theoretical and practical point of views. Both referring to the financial health of the companies these indicators have some considerable differences in calculation and interpretation, but are considered equally important. In order to have a healthy company the financial manager should make proper decisions to obtain, at least, satisfactory results on both set of indicators*

Keywords: *solvency; efficiency; liquidity; corporate finance.*

JEL Classification: *G32; G11; G17.*

1. Introduction

Solvency and liquidity at the level of companies were some of the first financial indicators to be researched and later implemented by the financial professionals. Kajananthan and Velnampy (2014) mentioned the research of Horrigan (1965) which claimed that the first solvency and liquidity indicators were calculated in the 19th century and that the development of financial ratio is a "unique product of the evolution of accounting procedures and practices".

These indicators are considered to be some of the most important indicators which can be used to analyse the financial health of the company. Berk&De Marzo (2014) urged the importance of these indicators for both creditors and owners of companies. They considered that healthy companies should possess adequate liquidity and also be solvent. In their representative book Brealey et all (2013) are mentioning that

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solvency is the main indicator for long term financial health of a company and it shows how the company can fulfil its long-term financial commitments.

Similar approaches were mentioned by other authors such as: Fenyves et all (2018), Karanovic and Karanovic (2016), Rozsa (2014) or Droj (2015). According to the definition published in www.investopedia.com a company can be considered solvent if it "owns more than it owes" and accomplishes two requirements: has a positive net worth and has a good financial management of the debt load (Stancu, 2006 and Droj, 2012).

Brealey et all, (2017), Stancu (2006), Droj (2012) and Pierre (2004) previously identified several indicators which can be used with excellent results in analysis of the solvency and liquidity rates. In the next chapter we will identify and define the main indicators which will be proposed for the case study.

2. Construction of the case study – identification of indicators

The first proposed solvency indicator is actually the Solvency Rate (RSv) which was already used to test the solvency for companies located in the Romania-Hungary cross-border area. This indicator it's showing the extent to which the value of total debts are covered by the value of total assets, and reflects the security enjoyed by creditors, as well as the creditworthiness of the company(Droj, 2012).

$$\text{Rsv} = \frac{Total\ assets}{Total\ debts} x100 \qquad (1)$$

Other indicator used in the same study by Droj (2012) is the g**lobal financial autonomy rate (RAFG)** – which shows how much of the company's assets are financed from their own resources. This indicator it is showing the weight of the shared capital in total financing sources.

$$RAFG = \frac{Equity}{Total\ liabilities} x100 \qquad (2)$$

The third indicator used in this paper is the interest coverage ratio which was proposed on www.investopedia.com. A rising debt-to-equity ratio implies higher *interest expenses*, and beyond a certain point it may affect a company's credit rating, making it more expensive to raise more debt (Investopedia, 2018).

$$\text{Interest coverage ratio} = \frac{Operating\ income\ (or\ EBIT)}{Interest\ expense} \qquad (3)$$

As mentioned on the web site this ratio measures the company's ability to cover the interest expense on its debt based on its EBIT. While solvency is a long term indicator, liquidity is indicating the short term financial health of the company. Based on the earlier study we used the General liquidity rate and the cash Ratio.

$$RL = \frac{Current\ assets}{Short\ term\ debts\ (Current\ Liabilities)} \qquad (4)$$

Immediate liquidity rate also known as the cash ration (RLI) reflects the capacity of the company to pay current debts only based on its current cash and bank accounts. The value of this rate provides little relevant information because of the unpredictability of its cash flow management; usually additional information is needed regarding its activity (Ross et. all, 2013).

$$RLR = \frac{Cash}{Short\,term\,debts(Current\ Liabilities)} \qquad (5)$$

3. Case study - Financial analysis of the solvency and liquidity of the Romanian production companies between 2014-2017

In order to realize the case study and to test the efficiency of the proposed indicators we selected 10 key production companies from BVB stock exchange and we collected their financial information for a period of four years: 2014-2017.
The companies are: OMV Petrom SA, Nuclearelectrica SA, Romgaz SA, Electrica SA, Transgaz SA, IAR SA, Rompetrol SA, Aerostar SA and Artego SA. These companies are considered highly representative for their field of activity and most of them have a contribution in Bucharest Stock Exchange Index.
The first analysed company is SNGN Romgaz a natural gas producer and operator and the results at the level of this company have been outstanding with increasing values over the entire analysed period.

Table 1. Solvency and Liquidity test for SNGN Romgaz SA

1	S.N.G.N. ROMGAZ S.A.			
Indicators	2014	2015	2016	2017
RAFG	86,9406	87,66805	85,29854762	84,14158653
RLG	6,748876	6,795675	5,270556103	3,642591931
RLR	2,148769	1,659784	1,490877058	1,141068291
RLI	0,110136	0,131391	0,191363216	0,120295841
RSV	7,657321	8,109019	6,802049035	6,305801032
ROA	0,126211	0,108025	0,09032003	0,167612004
ROE	0,145169	0,123221	0,10588695	0,199202333

Source: Calculation of the author based on the data from www.bvb.ro

The second case study subject is the largest company which is registered at BVB: OMV Petrom which registered mixed results: from losses in 2015 to record profit in 2017. The liquidity and solvency indicators improved significantly in this period showing a strengthening financial health.

Table 2. Solvency and Liquidity test for OMV Petrom SA

2	SC OMV PETROM SA			
Indicators	2014	2015	2016	2017
RAFG	60,95185	61,35585	63,04984099	66,99468547
RLG	1,311396	1,600159	2,235870334	2,362052077
RLR	0,773553	1,126337	1,718701364	1,940942783
RLI	0,007495	0,194156	0,596804105	0,989054649
RSV	2,560941	2,587714	2,7063483	3,02981509
ROA	0,042552	-0,015421	0,022014697	0,058339285
ROE	0,069812	-0,025134	0,034916341	0,087080467

Source: Calculation of the author based on data collected from www.bvb.ro

The next two companies which were subjected to test over their liquidity and solvency, are the two electrical power producers: Nuclearelectrica SA and Electrica SA. For both companies the years 2014 and 2017 were the best years in this analysis, showing weaker liquidity and solvency results in the years 2015 and 2016. Their results are similar and this is caused probably by the fact that they operate in the same economic environment.

Table 3. Solvency and Liquidity test for Nuclearelectrica SA and Electrica SA

Indicators	SN NUCLEARELECTRICA SA				ELECTRICA SA			
	2014	2015	2016	2017	2014	2015	2016	2017
RAFG	75,95751	78,34979	78,94835691	80,77734659	97,53713	97,4025218	97,8809939	97,39296
RLG	3,873385	4,762572	4,890428616	5,535690046	23,65724	32,5516	26,0927454	11,36378
RLR	3,000818	1,093697	1,045160193	1,744157291	12,68864	5,71049492	3,36752093	2,935464
RLI	2,493984	0,661465	0,642997633	1,375388097	11,35604	4,002061	2,40542639	1,421156
RSV	4,159303	4,631066	4,763478232	5,218264293	40,60303	38,4988796	47,1919368	38,35764
ROA	0,013897	0,015605	0,012190847	0,033069232	0,067928	0,0746451	0,06648619	0,064073
ROE	0,018296	0,019917	0,015441546	0,040938746	0,069644	0,0766357	0,06792554	0,065788

Source: Calculation of the author based on data collected from www.bvb.ro

Another company which operates in the energy field is the owner of the Romanian gas distribution system: Transgaz SA which achieved amazingly steady and healthy liquidity and solvency results.
The aircraft production companies IAR SA and Aerostar SA were analysed in parallel, but surprisingly the results were not similar. In which concerns IAR SA the Brasov based company improved significantly all its liquidity and return ratios but underperformed in the solvency analysis. On the other hand Aerostar SA seems healthy on medium and long term but with warning signals in the short term since the short term liquidity rates show clear degradation.

Table 4. Solvency and Liquidity test for Transgaz SA

5	SNTGN TRANSGAZ SA MEDIAS			
Indicators	**2014**	**2015**	**2016**	**2017**
RAFG	70,41199	72,08493	72,2121335	71,31940317
RLG	60,75452	6,560858	9,175400873	9,897463482
RLR	0,188544	0,631766	5,602666436	7,497889536
RLI	0,082769	0,047171	0,880889444	2,860043932
RSV	3,379747	3,582295	3,598692976	3,486677791
ROA	0,106353	0,098705	0,111876348	0,111557572
ROE	0,151043	0,136928	0,154927354	0,156419665

Source: Calculation of the author based on data collected from www.bvb.ro

Table 5. Solvency and Liquidity test for IAR SA and AEROSTAR SA

	IAR SA				AEROSTAR SA			
Indicators	**2014**	**2015**	**2016**	**2017**	**2014**	**2015**	**2016**	**2017**
RAFG	60,95185	53,1492	48,64254994	38,55803768	46,80231	50,4527096	52,0341022	58,47225
RLG	1,311396	4,640308	4,993437975	12,62585737	3,071836	4,10969976	4,41488494	6,560265
RLR	0,773553	3,38048	3,534250322	7,262346191	1,522142	1,6249572	1,37607689	1,12573
RLI	0,007495	2,757525	2,472198152	2,948396662	0,734904	0,38294399	0,69794713	0,156923
RSV	2,560941	2,134435	1,947137171	1,627552185	1,879781	2,01827384	2,08481452	2,408028
ROA	0,042552	0,060048	0,053267045	0,072035493	0,064709	0,14527945	0,1373696	0,122899
ROE	0,069812	0,112981	0,109507098	0,186823544	0,138261	0,28795173	0,26399918	0,210184

Source: Calculation of the author based on data collected from www.bvb.ro

Parallel analysis have been realised for two production giants: Teraplast SA and ARTEGO SA. They do not operate in the same field of activity and they do not cover the same market but both companies witnessed a moderate improvement of the indicators in the analysed period with up and downs from one year to another.

Table 6. Solvency and Liquidity test for Teraplast SA and ARTEGO SA

	TERAPLAST				ARTEGO SA			
Indicators	**2014**	**2015**	**2016**	**2017**	**2014**	**2015**	**2016**	**2017**
RAFG	57,58833	61,79135	78,7344024	50,79058993	59,91267	50,2917848	60,7851947	58,60171
RLG	1,191064	1,487871	3,121284443	1,618617441	1,590978	1,31972483	1,31718754	1,517656
RLR	0,733638	1,03883	1,721535837	0,86420133	0,736525	0,72781735	0,81737501	0,647106
RLI	0,046154	0,143667	0,323673291	0,053525313	0,094301	0,08318099	0,09877639	0,117301
RSV	2,357842	2,617208	4,702430746	2,032131656	2,494554	2,0117399	2,11830239	2,415558
ROA	0,043916	0,115966	0,177318859	0,037606726	0,033405	0,07408287	0,03868107	0,04674
ROE	0,076258	0,187673	0,225211411	0,074042705	0,055756	0,14730611	0,06363567	0,079759

Source: Calculation of the author based on data collected from www.bvb.ro

The last company which was analysed is a petroleum production giant: Rompetrol SA. Their results were influenced by the fact that between 2015-2016 they registered net losses, similar to the other petroleum giant: OMV Petrom SA. An interesting element to be note dis the drastically erodation of the cash ratio which decreased from 0,73 to a disturbing 0,34.

Table 7. Solvency and Liquidity test for Rompetrol SA

8	ROMPETROL			
Indicators	**2014**	**2015**	**2016**	**2017**
RAFG	90,38096	0,077692	91,36817194	91,21070914
RLG	10,1971	11,05231	9,243910209	10,08632623
RLR	9,78442	10,53869	8,966227092	9,673133388
RLI	0,753722	0,932405	0,73545999	0,345370853
RSV	10,39605	13,44971	11,5850315	11,37748217
ROA	0,049621	-0,217392	-0,04420304	0,043373363
ROE	0,054902	-279,8126	-0,04837904	0,047552928

Source: Calculation of the author based on data collected from www.bvb.ro

4. Conclusions

After analysing the results of the study separately we decided to create an aggregate set of indicators combining the results at the level of all these companies. The aggregated results table shows a healthy Romanian production sector, especially when comparing solvency and liquidity indicators. Also shows that the negative return results of the year 2015 for the main petroleum companies influenced directly the results for the entire sector. The tendency in the sector is to have a slight increase of return indicators versus a slight decrease at the level of liquidity and solvency indicators.

Table 8. Aggregate Indicators for the most representative production companies registered at BVB

Indicators	**2014**	**2015**	**2016**	**2017**
RAFG	70,7435199	61,26239	72,89542942	69,82593
RLG	5,29532759	6,831992	7,075570646	6,52103
RLR	3,21620532	2,690109	2,964039113	3,483204
RLI	1,56042316	0,92888	0,904553574	1,038746
RSV	7,80495111	7,964034	8,750022171	7,625895
ROA	0,05911433	0,045954	0,066532164	0,075731
ROE	0,08489531	-27,87451	0,099307205	0,114779

Source: Calculation of the author based on data collected from www.bvb.ro

On the other hand when projecting the graphic evolution at the level of the indicators other facts are highlighted:"
- Direct relation between the evolution of ROE and RAFG which seem to be constant even if they are situated in the opposite sections of the graphic
- Strong correlation between ROA, solvency and the liquidity rates which have the similar evolution over the four years'

Table 9. Aggregate Indicators for the most representative production companies registered at BSE
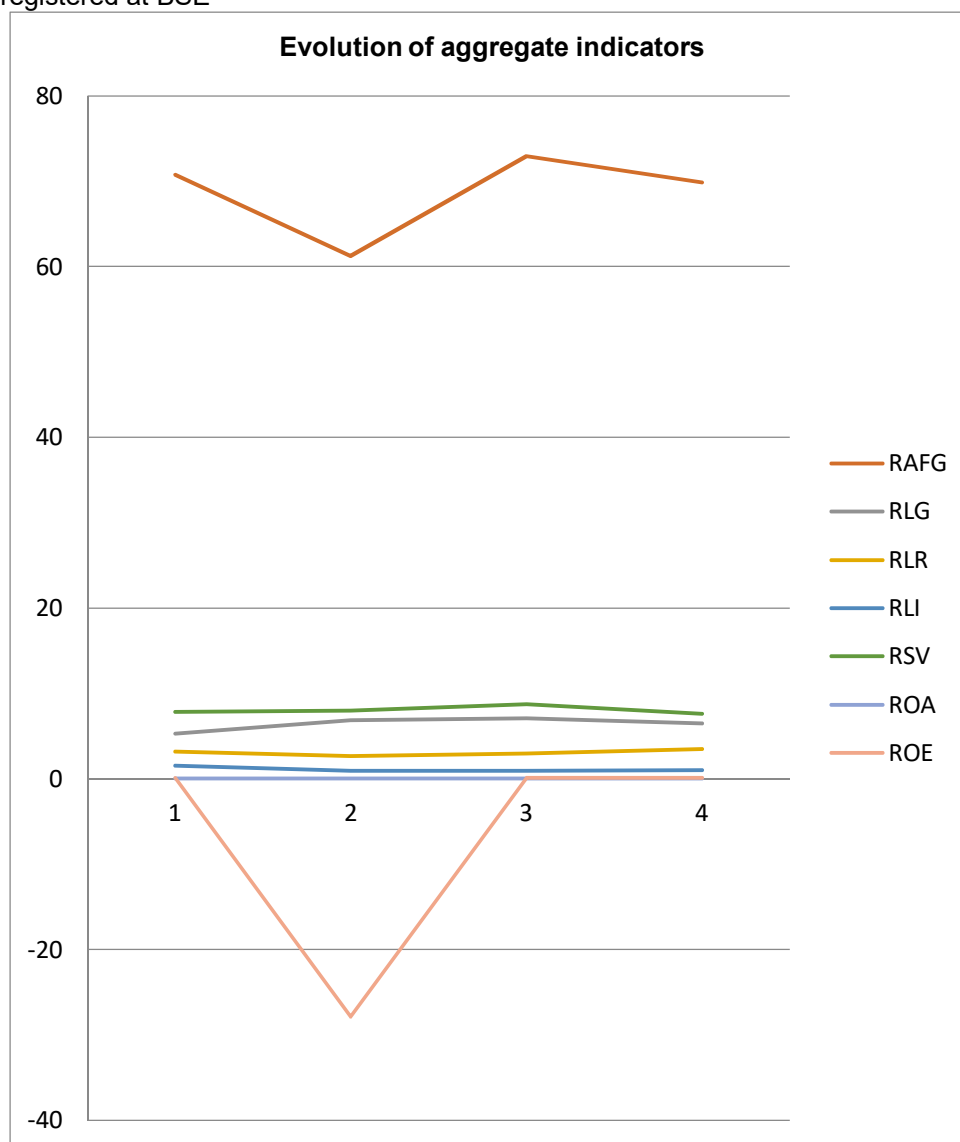
Source: Calculation of the author based on data collected from www.bvb.ro

An explanation for these results is that the Romanian main production companies are strongly inter-related to each other and are influenced directly by the internal and external economic environment. On the other hand, the similarities of results between these companies show that this study is representative for all big public or privately-owned production companies located in Romania and can be extended to other fields as well. An interesting study can be realized for comparing the results for the production companies with companies from different fields of activities or with a study realized on smaller and medium companies.

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EARLY WARNING INDICATORS - EVOLUTION FOR THE MEDICAL COMPANIES REGISTERED AT BSE

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Abstract: *Setting up and analysis of financial early warning indicators for public or private companies is a much-debated scientific and practical subject. Theories and experiments, which led to the establishment of a common set of early warning indicators, are quite old, starting from the 1950's. These indicators came aggressively back into academic study and practice after the current world crisis. In the last years, several methods were tested by academic researchers and also by Banks and Audit agencies. The results seem to be different from one case study to another and seems to be linked with the financial data at the disposal of the researchers. The financial results of the medical companies are influenced by a large number of factors both internal and external: starting from state regulation, fierce international competition, innovation, so on. In this context, the current paper is proposing a brief analysis in the evolution of the financial early warning indicators for several medical and pharmaceutical companies registered in the Bucharest Stock Exchange. These elements are important since the selected companies are having a powerful national and regional influence over the economy and in the same time, these companies constitute primary contributors to Romania's GDP.*

Keywords: *bankruptcy; solvency; efficiency; financial early warning indicators; ROE; ROA; corporate finance.*

JEL Classification: *G32; G11; G17.*

1. Introduction

Identification and establishment of a financial early warning bankruptcy indicator system for private or public companies is an issue which proved to be interesting for both researchers and professionals from the field of science. Starting with the early research in bankruptcy and financial risks realized by Beaver (1966) and Altman (1968), and continuing with later published papers in the period 1970 – 2000 by authors such Deakin (1972), Ohlson (1980), Gilbert, Menon and Schwartz (1990), Altman (1993), Charitou, Neophytou and Charalambous (2004) the research for an early warning bankruptcy indicator system was developed in several steps:
- − Simple bankruptcy analysis pioneered by Beaver(1966) based on statistical methods
- − Z-score model proposed by Altman (1968) a very popular model until now
- − Multiple logistic regression models as proposed by Ohlson(1980)
- − Neural networks championed by Charitou, Neophytou and Charalambous (2004)
- − Econometric/Combined models (Tarnoczi and Fenyves, 2011, Bedenik et al., 2012)

Most of these studies and other complementary studies (Karanovic et all, 2018) are tackling issues such bankruptcy, insolvency or excessive debt at the level of companies. The study of early warning indicators re-emerged in the last years as one of the most strategic instruments for the financial managers of the companies, for company owners, investors, bankers or for other professionals.

Starting from the last financial crisis new elements have been introduced in the analysis since both academic researchers and audit agencies realized that, for a proper measurement of the phenomenon more financial and non-financial factors should be analysed. The results seem to be different from one case study to another and seems to be linked with the financial data at the disposal of the researchers.

Authors Dimittrov and Yangyozov (2013) considered that the early warning indicators should be used for different purposes including increase of competitiveness and increase in revenues of the companies. They championed the idea of optimization: "a process which is improving over time".

Taken into consideration the above, the authors of this paper are trying to establish several indicators, which can be part of an financial early warning method, adapted for big utility and petroleum production or distribution companies operating in Romania. The authors selected several financial early warning indicators, which can be suitable for the proposed model. These are indicators including both classical liquidity or solvency indicators (Droj, 2012) and financial or economic efficiency indicators (Droj, 2015).

2. Selection of the Financial Indicators Suitable for the Financial Early Warning Detection Method

The financial indicators which will be used to test the companies registered at the Romanian stock market were presented earlier by the author in other studies (Droj, 2012, Droj 2015 and Droj 2016). Several other authors dealt with analysis of financial indicators in the region: Rozsa (2014), Fenyves et all (2018) or Karanovic and Karanovic (2016)

As mentioned earlier the indicators selected are representative for the issues of financial efficiency, liquidity and solvency were selected the following indicators:

Liquidity indicator:

Current ratio (WCR) is used to analyse the ability of a company to pay its current liabilities its current assets. This ratio is also known as the working capital ratio.

$$WCR = \frac{Current\ assets}{Current\ Liabilities}$$

Solvency ratio:

- shows the extent to which total debts are covered by total assets, and reflects the security enjoyed by creditors, as well as the creditworthiness of the company (Droj, 2012).

$$Sv = \frac{Total\ assets}{Total\ debts} x100$$

Return Indicators as presented by Droj (2015) and Rozsa (2012):

The **Return of Assets (ROA)** reflects the difference between an economic result: net profit, known in specialized literature as EBIT and the assets used for its achievement (Pierre, 2004).

$$ROA = \frac{Net\,Pr\,ofit}{Total\,assets}$$

- The **Return on Equity (ROE)**, also known in French economic literature as "financial return rate", and abbreviated in the specialized literature as ROE. This indicator shows the efficiency of the capital invested by shareholders. ROE constitutes one of the most important return indicators, being used by company owners and potential investors in the investment decision-making process.

$$ROE = \frac{Net\,Pr\,ofit}{Equity}$$

These indicators were tested by analyzing the Financial Reports of the most important medical and pharmaceutical companies from the Romanian Stock Market in the period 2014-2017.

3. Financial Early Warning Indicators at Medical and Pharmaceutical Companies from Romania in the Period 2012-2016

The analyzed period (2012-2016) was a period in which the Bucharest Stock Exchange regained steadily its values following the difficult period after the last financial crisis. Also an important event for BSB was the IPO of Medlife, December 2016 since Medlife is the biggest Romanian private health operator and completed an extremely successful IPO, despite poor financial results.

Other important facts in this period were the consolidation of major stockholders in Zentiva and Biofarm. The financial and current operations of these companies are influenced, directly, by the international market where the medical and pharmaceutical fields acknowledged increasing globalization tendencies. A strong influence over these companies was also brought by the fluctuation of prices for petrochemical products, natural gas and chemical industries.

As mentioned above the selected companies are the following: Antibiotice SA, Biofarm SA, Zentiva SA, Sintofarm Bucuresti SA, Farmaceutica Remedia SA, Ropharma SA and Medlife SA.

Since all these companies are public listed companies at Bucharest Stock Exchange the data was collected from Bucharest Stock Exchange (www.bvb.ro), the section of financial reports.

In order to confront the financial information were analyzed the websites of these companies. The study was based on analysis of the six financial indicators presented above based on the financial data reported in the period 2012-2016.

Table 1. Financial Early warning Indicators for Antibiotice SA

Indicators	2012	2016	Δ	Δ%
ROE	7,82%	7,42%	-0,40%	-5,10
Economic efficiency	220361,0724	238150,4134	17789,34103	8,07
Solvency	3,29428923	4,65987149	1,36558226	41,45
ROA	13,33%	14,00%	0,01	4,99

Source: Calculation of the authors based on the data from www.bvb.ro

As observed Antibiotice SA achieved mostly positive results in this period consolidating their solvency and increasing their economic efficiency.

Other company with good financial results is Biofarm SA, where all the analysed indicators shown that the company has a healthy financial life and also has a very low risk of bankruptcy.

Table 2. Financial Early warning Indicators for Biofarm SA

Indicators	2012	2016	Δ	Δ%
ROE	12,78%	14,95%	2,17%	16,95
Economic efficiency	327621,7794	390066,9948	62445,21543	19,06
Solvency	6,128480992	6,215355766	0,086874775	1,42
ROA	10,60%	12,40%	0,02	16,98

Source: Calculation of the authors based on the data from www.bvb.ro

Zentiva SA, part of the Sanofi Group, obtained excellent results as well in this period since both ROE and ROA achieved record level for the pharmaceutical company.

Table 3. Financial Early warning Indicators for Zentiva SA

Indicators	2012	2016	Δ	Δ%
ROE	12,78%	16,94%	0,0416238	32,575841
Economic efficiency	493640,6045	818667,1751	325026,57	65,842754
Solvency	6,189469353	4,860023417	-1,329446	-21,479159
ROA	9,96%	11,94%	0,0197874	19,866497

Source: Calculation of the authors based on the data from www.bvb.ro

The following two companies had declining financial indicators probably caused by the strong competition in the sector and turbulences in the chemical and petroleum industry market:

Table 4. Financial Early warning Indicators for Sintofarm SA and Farmaceutica Remedia SA

FARMACEUTICA REMEDIA SA				SINTOFARM SA BUCURESTI			
Indicators	2012	2016	Δ	Indicator	2012	2016	Δ
ROE	0,135071	0,006091	-0,12898	ROE	0,111279	0,011827	-0,09945
Economic e	565369,8	261035,9	-304334	Economic e	154467,3	145711,1	-8756,2
Solvency	1,268415	2,178427	0,910012	Solvency	6,077107	5,856446	-0,22066
ROA	0,028019	0,003295	-0,02472	ROA	0,092968	0,009808	-0,08316

Source: Calculation of the authors based on the data from www.bvb.ro

The surprising underperformers in this category were Ropharma and especially Medlife SA, which in the year of its IPO reported net losses, and therefore negative ROE and ROA.

Table 5. Financial Early warning Indicators for Ropharma SA and Medlife SA

ROPHARMA SA				Medlife SA			
Indicators	2012	2016	Δ	Indicators	2012	2016	Δ
ROE	0,064845	0,053451	-0,01139	ROE	0	0	0
Economic efficiency	515173,2	483741,4	-31431,8	Economic efficiency	131809,7	223667	91857,25
Solvency	1,434077	2,761751	1,327674	Solvency	1,283781	1,348899	0,065118
ROA	0,025583	0,038225	0,012641	ROA	0	0	0

Source: Calculation of the authors based on the data from www.bvb.ro

When analysing the cumulated results for the financial early warning indicators can be observed, as a general evolution that a synergy is obtained between the ROE and solvency indicators. But it can be observed that the economic efficiency indicator and ROE are not at all in line with the other indicators proving that an financial early warning detection system for the companies must include several other categories of indicators in order to be functional.

Table 6. Financial Early warning Indicators – aggregate result
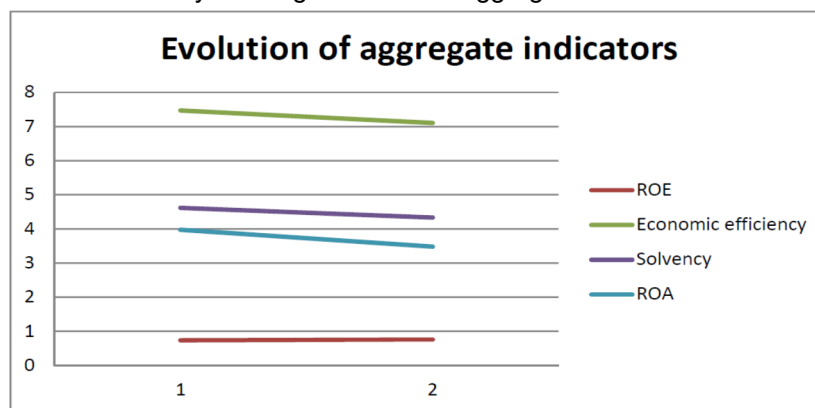
Source: Calculation of the authors based on the data from www.bvb.ro

4. Conclusions

Identification and establishment of a financial early warning bankruptcy indicator system for private or public companies is an issue which proved to be interesting for both researchers and professionals from the field of science.

Table 7. Financial Early warning Indicators – aggregate result
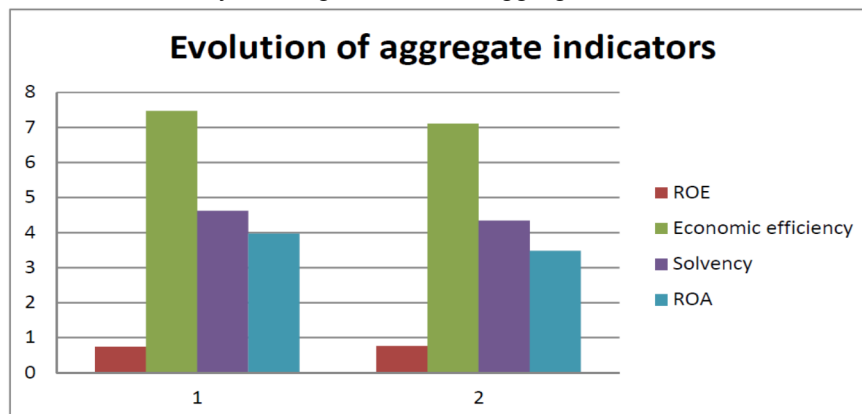
Source: Calculation of the authors based on the data from www.bvb.ro

In which concerns the analysed companies the aggregate results showed a totally surprising result: in contrast with the general situation of BVB index did not improved significantly over the four-year period of analyses, in some cases even deteriorating in this period.

As a general conclusion of the paper we can consider that the four indicators used in this study are not sufficient to establish decent conclusions in establishing a financial early   warning model. These indicators must be accompanied by several other types of indicators both financial, macro-economic, sectorial and also non-financial qualitative or quantitative. This study should be continued on a larger scale and including other indicators in order to establish a real functioning model for early warning in case of public and private companies.

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THE IMPACT OF TAX COMPETITION AND HARMONISATION IN THE EU IN RELATION TO FISCAL OPTIMISATION

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Abstract: *Fiscal competition and harmonisation are topical issues and the controversy generated by preferences for one or the other is due to the effects they generate in the economies of the EU member states. The practice of tax competition to a smaller or larger extent by some of the Member States is often identified with tax optimisation practices. Thus, in the economies of developed or emerging countries, the effects are both on the labour market, in the collection of indirect taxes (VAT or excise duties), but also in the transfer of profits versus transfer prices. The European fora are working hard for the uniformity of European legislation, but also to determine the governments of the Member States to apply the legislation adopted at European level in their national legislation. The European Commission's legislative perspectives are included in the EU's fiscal policy strategy, which is explained in the Commission's Communication entitled "Taxation Policy within the European Union – Priorities for Future Years", focus on the main priorities of the EU's fiscal policy, as follows: removing tax barriers that hamper cross-border economic activity, the fight against harmful tax competition and tax evasion, wider promotion of collaboration between financial administrations, in order to control and combat fraud. In line with the established objectives, it is suggested that greater fiscal policy coordination would ensure the support of wider EU policy objectives through fiscal policies of the Member States as set out in the Europe 2020 Strategy for smart, sustainable and inclusive growth and in the single market act.*

1. Introduction- General Framework

Over the last few years, we have witnessed increasingly consistent efforts to harmonise the economic and political systems of the Member States of the European Union. However, economic globalisation and increased capital mobility have created a framework conducive to the emergence of fiscal competition between Member States.

The absence now of an EU-wide integrated tax system at EU level marks the way in which the same tax policy decision is transmitted and perceived at each Member State level. In the absence of an integrated European tax system, there is currently only a connection of different national tax systems. Such plurality has made possible the tax competition generated by national tax systems.

In the literature, debates and opinions on harmonisation and tax competition at the European Union level have been visible, especially since the 1990s, when

economists, politicians and authors of various scientific works have pronounced themselves differently on the architecture of a common fiscal policy, oscillating between a centralised fiscal policy as a result of a tax standardisation, including tax rates (total harmonisation) or of compatibility of varieties, as a result of a simple coordination of national tax systems.

According to Ungureanu (2018) the general fiscal policy framework of the European Union is reflected in the law and actions of the Community authorities to regulate taxes unitarily in the EU. In a narrow sense, the financial and fiscal policy aims at the way to obtain and spend the money resources in the budget and the multi-criteria foundation of each country's contributions to the EU budget.

In a comprehensive sense, financial and fiscal policy aims at actions jointly undertaken by member states through strict adherence to unanimity, reducing their asperities in order to achieve, over time, the goals and functionality of the Single Market.

The EU's fiscal policy strategy, as explained in the Commission's Communication "Taxation Policy within the European Union - Priorities for Future Years", focuses on the main priorities of the EU's fiscal policy as follows: removing tax barriers that hamper cross-border economic activity, the fight against harmful tax competition and tax evasion, greater promotion of collaboration between financial administrations, in order to control and combat fraud.

In line with the established objectives, it is suggested that greater fiscal policy coordination would ensure the support of wider EU policy objectives through fiscal policies of the Member States as set out in the Europe 2020 Strategy for smart, sustainable and inclusive growth and in the Single Market Act.

At the same time, according to the same strategy, the fiscal powers belong to the Member States, with the EU having competences limited only at European level. Each Member State is a decision-maker in choosing its own tax system that it considers the most appropriate, provided it complies with EU rules.

The most recent EU policy priority has been to combat tax evasion and tax avoidance practices. As the EU fiscal policy aims at the smooth functioning of the single market, the harmonisation of indirect taxation rules has been dealt with before the direct one.

The way the EU countries' economy is currently functioning due to the complexity of the mechanisms and implications of the integration process and the need for alignment to the Constitutional Treaties of the European Union, the operation and objectives of the tax system at a Member State level, demonstrate that fiscal policy cannot be addressed individually, at a Member State level, since in many cases interaction with other states has negative externalities, in particular on the good functioning of the European single market. Tax measures should therefore be unanimously adopted by the Member States.

Specialised publications bring many arguments for or against the process of tax harmonisation, in terms of the degree and limits this process should be continued, by resorting to the option of total harmonisation or harmonisation based on fiscal coordination, which also implies the acceptance of some elements of tax competition.

 Thus, some form of tax harmonisation becomes inevitable, and a number of issues can be argued for tax harmonisation, such as: eliminating the risk of double taxation which is not beneficial for those who earn income in a country other than their State of residence, nor for the States concerned (the source and the home State), eliminating discrimination, preventing tax evasion, particularly in intra-Community

transactions. preventing revenue losses associated with tax competition and fragile revenue, in particular by migrating national tax bases between Member States in search of a more favourable tax regime, reducing the compliance costs of non-residents' employment under the various tax systems, the non-use by some Member States against others of the benefits of a single market, but also from the point of view of the international distribution of tax revenues, the distortion of the constitution and implicitly the equitable allocation of budgetary resources, with negative consequences on the level of financing of the public expenditures.

Harmonisation of fiscal policies is delayed and, as an effect, we are witnessing the emergence of more dynamic and competitive economies on the market, while EU countries are in a position to apply certain aspects of tax competition.

As a general definition currently applicable at EU level, tax competition is the reduction by a Member State of tax rates and taxes, with the main consequence that certain categories of direct or indirect taxpayers, both natural and legal persons, opt for locating wealth or income sources in that State, that tax residence that best meets the best combination between a reduced tax pressure and/or public goods received. Thus, the governments of EU Member States applying tax competition have various purposes such as:

- generating jobs, a goal achievable by attracting foreign direct investments;
- attracting mobile financial capital, which is useful for financing investments, for stability of financial markets and for obtaining comparative advantages in the provision of financial services;
- attracting internal financial flows from multinationals that can be directed to their own tax jurisdiction by attracting those corporate functions used for the international transfer of profits;
- generating interest on the niche of skilled labour force generating added value
- attracting potential buyers in cross-border areas and not only, in particular, for products on which indirect taxes, such as VAT or excise duties apply, where there are significant differences between them.

Keen (2008) defines fiscal competition as a "strategic fiscal context, within the wider framework of non-cooperation between tax jurisdictions (countries, states or regions of a federation), where each establishes some parameters of the tax system according to the taxes practiced by others."

In order to achieve a higher return on income, direct or indirect taxpayers operating on the market will be clearly attracted by EU tax competition. This can be seen as a competition between the tax jurisdictions of the Member States where everyone wants to become more attractive from the tax point of view. This must be seen from the perspective of qualitative and quantitative parameters such as:

- acceptability of tax rates by setting lower rates than others in other tax jurisdictions;
- granting facilities (discounts, deductions, exemptions) in establishing tax bases;
- flexibility and transparency of regulations and methods for calculating taxes;
- infrastructure and functionality of the local and central fiscal management and administration system;
- providing facilities related to environmental problems, or in providing the infrastructure required to attract foreign investment.

One of the most discussed and controversial issues also by the finance ministers of the EU member states is the harmonisation of the tax rates of European companies' profits. There is a difference between fiscal policy, such as the one-off tax rate, of some governments that aim to increase the competitiveness of national economies

and fiscal policy preferred by other governments that rely on a high tax rate in order to provide the resources needed for funding state. Also, the emotional factor is likely to greatly influence the harmonisation trends, and a number of Member States consider that joining a Community-wide harmonised tax system is waiving an important component of national sovereignty.

However, by harmonising, it should not be understood that all Member States shall have the same tax rate on profits but that the same types of resources shall be imposed so that such harmonisation does not affect the independence of the national fiscal policies of the States that will accept such a measure.

2. Harmonisation or tax competition in the field of direct taxes and indirect taxes

The European Parliament has highlighted the immediate need for the European Union to combat as effectively as possible tax evasion and aggressive fiscal planning and to act swiftly, particularly in the direction of improving cooperation and transparency, in particular by ensuring that direct taxes are paid by the taxpayer where the value has been created, respectively in the case of indirect ones where the goods are consumed.

In order to adopt the most beneficial measures aimed at combating fraud and tax evasion, as well as the widespread phenomenon of money laundering, an EU-level initiative has been generated materialised on a VAT Action Plan 2016 which includes: the principles of a future European single VAT system, anti-fraud measures in the field of VAT, an update of the framework for the establishment of VAT rates, simplifying and modernizing VAT rules for e-commerce, a package of VAT measures that comes with real support for SMEs.

As a consequence, one of the niches of the European Union's tax system is the common system of generalized VAT application, which involves harmonisation by uniformity of the tax base, the obligation to fit the rate between minimum and maximum thresholds, the abolition of tax frontiers for the intra-community movement of goods and services, generalization of the destination principle, actions to reduce fraud and evasion in the field, in accordance with Directive IV and later.

Currently, there are harmonised VAT rules in the EU, but their application may be different from one country to another.

In principle, VAT must be paid for all goods and services, including when sold to the final consumer. Value-added tax is charged at each stage of the production process (purchase of components, assembling, transport etc.).

Thus, the VAT rates currently applicable in the EU member states, both standard and reduced. In this respect, an overview of VAT rates in each of the EU Member States would be edifying in order to be able to compare and see where each of the Member States fits.

As shown in Table 1, the highest VAT rate between EU Member States is practiced by Hungary, respectively 27%, and the lowest in Luxembourg is 10% here the percentage is ten percent lower, 17% respectively.

Table 1. List of VAT rates currently applied in Member States

Member State	Country Code	Standard Rate	Reduced Quota	Very Low Share	„Parking" Rate Share
Austria	AT	20	10 / 13	-	13
Belgium	BE	21	6 / 12	-	12
Bulgaria	BG	20	9	-	-
Cyprus	CY	19	5 / 9	-	-
Czech Republic	CZ	21	10 / 15	-	-
Germany	DE	19	7	-	-
Denmark	DK	25	-	-	-
Estonia	EE	20	9	-	-
Greece	EL	24	6 / 13	-	-
Spain	ES	21	10	4	-
Finland	FI	24	10 / 14	-	-
France	FR	20	5.5 / 10	2,1	-
Croatia	HR	25	5 / 13	-	-
Hungary	HU	27	5 / 18	-	-
Ireland	IE	23	9 / 13,5	4,8	13,5
Italy	IT	22	5 / 10	4	-
Lithuania	LT	21	5 / 9	-	-
Luxembourg	LU	17	8	3	14
Latvia	LV	21	12	-	-
Malta	MT	18	5 / 7	-	-
Netherlands	NL	21	6	-	-
Poland	PL	23	5 / 8	-	-
Portugal	PT	23	6 / 13	-	13
Romania	RO	19	5 / 9	-	-
Sweden	SE	25	6 / 12	-	-
Slovenia	SI	22	9,5	-	-
Slovakia	SK	20	10	-	-
United Kingdom	UK	20	5	-	-

Source: https://europa.eu/youreurope/business/taxation/vat/vat-rules-rates/index_ro.htm

From Figure 1, one may see a tendency to harmonise the VAT rate in the last three years for four of the five countries in the previous example, namely Germany, France (EU founding countries), and apply a VAT rate of 19% and 20% respectively (including Austria), a threshold to which Romania has been aligned since 2016 with a 20% share, which has fallen from 2017 to 19 percent. Of all five, Denmark

maintains "moms", at a high rate over the past 7 years, with a 25% VAT rate being applied, this being the highest in the EU, well above the average applied in the EU, as notes in Figure 2, and slightly below Hungary's highest rate.

Indirect tax rates for 2012-2018
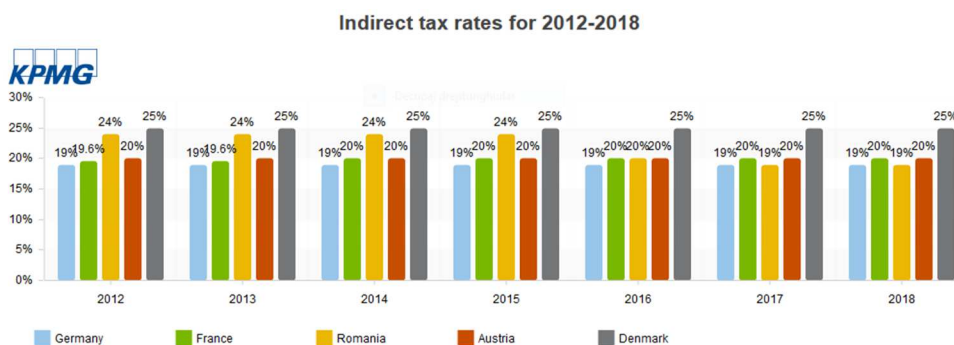
Figure 1: Indirect tax rates for 2012-2018 Germany, France, Romania, Austria, and Denmark
Source: own processing on the basis of the data provided by
 https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online.html

Indirect tax rates for 2012-2018
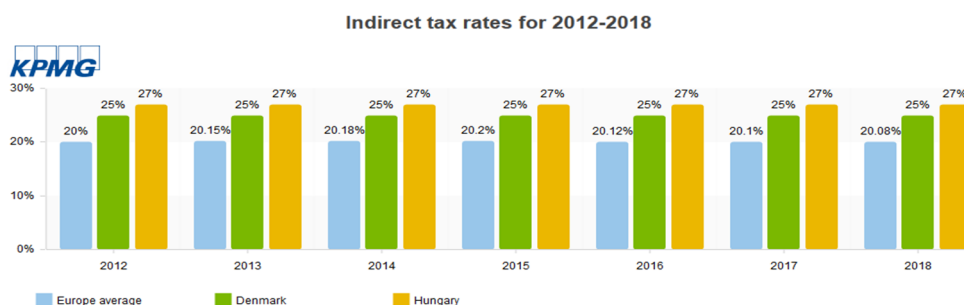
Figure 2: Indirect tax rates for 2012-2018 Europe average, Denmark and Hungary
Source: own processing on the basis of the data provided by
 https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online.html

A single-rate VAT system is more efficient and its administration costs are lower, a VAT system with several quotas, offers some protection to low-income consumers.
Efforts to harmonise the system consisting of the application of VAT by all Member States focused on two main aspects, namely the uniformity of tax base stemming from the obligation of all Member States to contribute to the Union budget and also the harmonization of tax rates in order to counteract the distortions that high rate differences can induce in the structure of intra-community trade.
Given the failure to harmonise the VAT rates applied in the EU Member States or to bring them between minimum and maximum thresholds without significant differences, fiscal competition is inevitable, its effects being negative and will result, for example, in deviation from the general rule that VAT due or paid to return to the Member State in which the final consumption of the asset takes place.

Thus, a taxpayer in a Member State with a significant tax will prefer to acquire goods from another Member State where the VAT rate is reduced compared to the base Member State. S/He will pay VAT in the Member State with a reduced VAT rate, increasing the tax base of that state, so that then the consumption of goods shall be produced in the Member State with the higher VAT rate. Paradoxically, a Member State that has a high tax rate through a high volume of sales comes to collect less.

In order to combat tax fraud and tax evasion and to reduce VAT collection distortions at Member State level in the action plan proposed by the European Commission (2016), the examination of the way in which intra-Community supplies of goods are dealt with in legislation, the definitive VAT system for intra-Community transactions of goods to taxable persons is an integral part.

Under the new system, cross-border commodity trade shall be treated as a "unique" taxable transaction, which will ensure the taxation of goods in the Member State of goods destination. Thus, the supplier shall levy VAT on the share in the Member State where the goods are delivered.

At the same time, the European Commission also proposes setting up an online portal ("One Stop Shop") where to have access to all intra-Community economic operators in order to avoid their registration in each Member State. This portal shall also be accessible to non-EU economic agents that want to sell to other entities within the EU and that would then be required to register for VAT purposes in each EU Member State. They will only have the obligation to appoint an intermediary in the EU that shall have the task to manage their VAT obligations for them.

In this context, the only exception is when VAT is payable by the taxable person to whom the goods are delivered, but this depends on the extent to which the company is a "certified taxable person" and the goods are supplied by a taxable person that is not established in the Member State where VAT is due. The initiative on this concept of "certified taxable person" was presented in the Commission's proposal of 4 October 2017.

These new rules will enter into force on 1 July, 2022, with Member States of the European Union being obliged to transpose the amendments to the VAT Directive into national law no later than 30 June 2022.
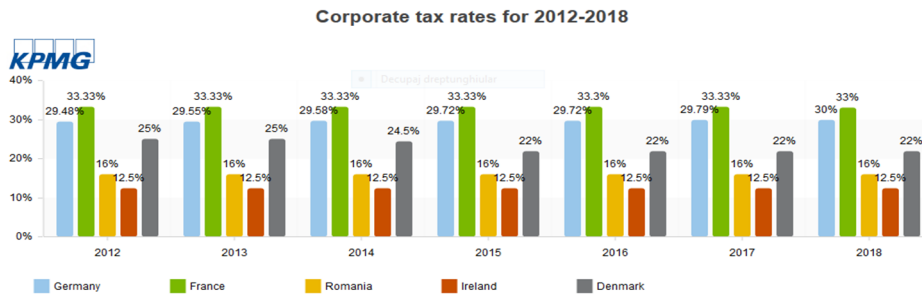
Figure 3: Corporate tax rates in Europe for 2012-2018
Source: own processing on the basis of the data provided by
 https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online.html

As far as direct taxes are concerned, they are currently set by each Member State. In countries considered the pillars of the EU construction, Germany and France,

"corporate" tax is maintained over the period 2012-2018 at 30% and 34%, respectively. These particularly high - and damaging to the economic growth process - are seriously threatened by relaxed tax arrangements such as Ireland whose direct tax rate does not exceed 12.5% over the past 7 years.

In Latvia and Lithuania corporate taxes are at 15%. Even Austria has reduced corporate tax rates from 34% to 25% in an attempt to make the internal economy favourable to business development but also in attempting to halt the exodus of multinationals and corporations to eastern states. Hungary also reduced the tax rate in a considerable percentage from 19% to 9%, as it can be seen in Figure 4, for the same reasons of fiscal policy.
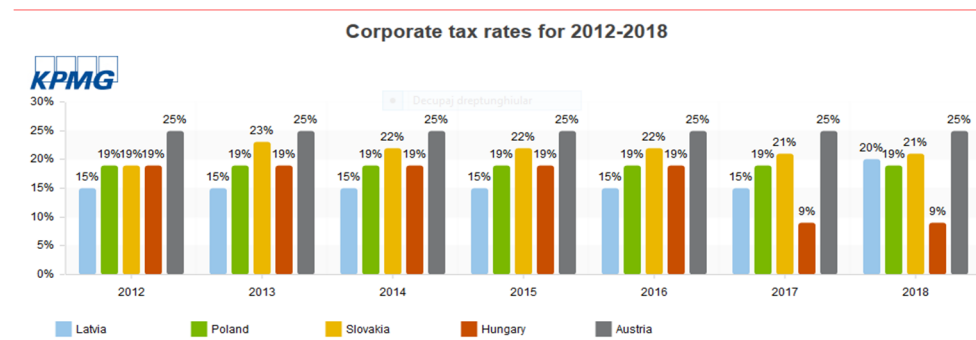
Figure 4: Corporate tax rates for 2012-2018 – different UE members
Source: own processing on the basis of the data provided by
 https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online.html

Transfer pricing is an economic and tax area under the consideration of control authorities around the world, interested in taxing profits in their jurisdictions. Tax adjustments generated by transfer pricing are among the most important values.

In order to justify the market value of transfer pricing in intra-group transactions, the companies need to prepare a specific documentation, namely the "transfer pricing file" as required by the Order of the President of A.N.A.F. no. 442/2016. Often, pricing between affiliated persons, both in domestic transactions and in cross-border transactions, deviates from the market value principle. Using such prices offers companies the ability to "reallocate their profits or losses in different jurisdictions according to the objectives pursued at central level, with a direct impact on each country's tax position" in which they operate. Tax authorities are interested in taxing real profits earned by companies in transactions with their affiliated persons; where intra-group transactions do not comply with the market value principle, they may make adjustments to revenue and expenditure, adjustments that may lead to double taxation, specific to transfer prices.

Romania follows the approach of the control authorities in the European states. The local transfer pricing legislation included in the Fiscal Code since 2004 contains rules and principles and is complemented by the OECD Transfer Pricing Guide published on 10 July 2017. In 2017 Romania joined as a partner at the BEPS Project Implementation Forum (Base Erosion and Profit Shifting). The new EU directives give the national authorities more freedom to track affiliate transactions and, implicitly, transfer prices, mainly through global information exchanges.

With the entry into force of GEO no. 42/2017 in Romania "automatic exchange of information" between tax authorities became operational. "Country reports" introduced through this order make possible for tax authorities to monitor multinational groups in each country where they operate. The information obtained from the reports will be used by the control authorities for analysing transfer pricing and tax verification of companies that are part of multinational groups.

Transfer pricing affects not only tax companies, but also key performance indicators, cash flow and business strategy. These are the reasons why group companies must argue (in the transfer pricing file) that intra-group transaction prices are in line with the market value principle in order to avoid adjustments proposed by control authorities.

Tax inspections in the field of transfer pricing are carried out for taxpayers for whom there is "a fiscal risk associated with transfer pricing". The selection of taxpayers subject to verifications of transfer pricing is made, as provided by ANAF in April 2018, taking into account certain criteria: identifying the existence of affiliated parties, the existence of significant transactions with affiliated parties, frequency of their performance, analyzing the taxpayer's profitability, especially if it records losses, taxpayer behaviour, analysis of the taxpayer's economic domain (based on its main CAEN code).

Taxpayers conducting transactions with affiliated persons, irrespective of the significance thresholds mentioned in the Order of the President of A.N.A.F. no. 442/2016, have the obligation, within a fiscal inspection, to prove the compliance with the market value principle, according to the general rules provided by the financial, accounting and fiscal regulations in force.

Romania has a relatively short experience of transfer pricing compared to other countries, being an area where both companies, control authorities and courts have much to refine.

3. Labour Factor between Competition and Tax Harmonisation in the EU

The main problem faced by European economies is labour. Protecting the right to engage in tax competition must be one of the objectives of policy makers, especially those interested in economic development in developing countries.

In the European Union, tax revenue obtained from labour taxation, often withheld at source, is the predominant source for the state budget in most member countries. Labour taxes contribute in proportion of 50% to the formation of tax revenues.

The migration of labor from Romania to other EU member states has created a major shortage of human resources, especially qualified, skilled labour force. This increasingly stronger phenomenon was in the first phase beneficial to the Romanian economy, both by diminishing the unemployment and the social constraints generated by it, and by infusing money into the Romanian market (money earned in the EU member states and consumed in country of origin for investment, maintenance, family.)

There came then the negative effect produced by labour migration from Romania when part of those who left, decided to definitively settle in the countries of adoption, their income not returning to the country of origin, hitting the country's economy already affected by the lack of workforce.

An example of tax competition with questions about legality and morality in the field is the cross-border posting/ delegation of labour force, a phenomenon identified in

Member States with low taxation on labour force or with a low minimum wage, to member countries with a high minimum income level.

This is the case with Germany, which adopted the well-known MiLoG law on 1 January 2015, so the German authorities implemented the legislation on the minimum wage in Germany. This transposes European directives into German law, of course, with the application of national interpretations. Simultaneously with the MiLoG Law (the Minimum Wage Law), the Law on the Posting of Employees (AentG) was adopted, the provisions of which refer to foreign employers who post workers in Germany. According to this law, the former must provide information on the date of commencement and termination of the secondment of each person, the empowered person and the address where the proof of payment of the minimum wage is kept. The provisions adopted by the German state in 2015 aim at removing as far as possible unfair practices of posting employees in Germany. The field where the German law on minimum wages is most applicable is perhaps transport, it having the particularity that the provisions are applicable to it even in situations where the transactions do not concern the German market, being only in transit. Thus, if a driver of a foreign firm enters Germany, he is entitled to receive the minimum wage of EUR 8.84 per hour (a value valid from 1 January 2017, previously being EUR 8.5 per hour) for the period worked in this country. The minimum wage is due for the period worked in Germany and this does not include legal breaks.

At the same time, starting 1 January 2017, employers based abroad should register online their posted employees in Germany using the minimum wage entry registration portal.

4. Conclusions

Establishing a clear and firm legal framework, bringing about a common denominator of regulations on indirect taxes and labor taxation, as well as stepping up the fight against taxing real profits made by companies in dealings with their affiliated persons are major points of interest for decision-makers of the European Union. The concern of international fora to harmonize Member States' tax systems was determined by the practice of tax competition. Applying fiscal solutions as evenly as possible aims to diminish the migration of taxable bases, although perfect and unadulterated uniformity of tax and tax rates is virtually impossible to achieve.

The major impact of successful tax harmonisation at the union level would diminish the tendency for taxpayers to apply tax strategies, not having the possibility to plan their activities by using all the acceptable alternatives within the law in order to reduce their tax costs.

Taxation is of great importance in the construction of the social model, since accepting the idea of needing redistribution in order to reduce inequality, requires that the tax model be approached in such a way as to ensure a maximum of budgetary revenues on one hand, and on the other hand to be equitable respectively not to introduce inequalities in the personal income of taxpayers.

The European Commission is determined to win its struggle to integrate Member States' economies into a single market mechanism.

According to Trovato (2007), the European Union should have the power to set and levy taxes and not just make recommendations to Member States on fiscal policy measures.

The European Union market will not be competitive if certain aspects of national fiscal policies are not harmonised (both by aligning the tax base and the tax rates), so new and new decisions need to be made in this direction; each country must have a functioning market economy and, on the other hand, must face the competitive pressures and market forces within the Union.

Acknowledgements

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SECTION: *INTERNATIONAL BUSINESS, EUROPEAN INTEGRATION, FOREIGN LANGUAGES AND BUSINESS ENVIRONMENT*

DAMS AND TECHNOPOLITICS

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Abstract: *The paper aims to help the reader to see in a different manner large infrastructure projects, and especially those which are aimed at controlling water. And dams are such a category of large projects which facilitate man's control over water. In most cases one's first visit to a large dam is only a touristic activity. And a lot of dams in the world are in fact touristic magnets; Hoover Dam alone, in US, brings yearly roughly one million tourists which are attracted and impressed by it. But as one is enmeshed in more and more studies connected to dams, and especially large dams, the touristic character of looking at dams' changes steady, and for good. In this moment one starts to see them as being living things, placed in the middle of a network which is influenced by them. It becomes an actor which assembles around it global politics, regional interactions, national desires, local communities, and all what is connected to that peculiar river basin in environmental area. As such, even large dams are about mathematic, numbers and calculations they are full of high politics influences, strong financial and technical interests and competing economic doctrines targeting economic development and social modernization. Both these processes are directly determined by electricity production, and the way it is produced. Dams work in this way globally, helping humankind to cover roughly 17% of its electricity needs. But dams connected to a newer concept – that of a whole river basin development – is more connected to modern vision of dams as means for controlling water and manipulating society. Big dams favour political centralization because of the special role electrical grids play in each state, while promoting in the same time modern farming methods using irrigation systems, stocking water for high demand periods which props up urbanization, and facilitating (in a lot of cases) modern transportation on dammed rivers. And they "travel" from different technological advanced centers towards less accomplished societies, with little care about environment, but with great care about political and financial interests. That it's better to see dams not only as touristic attractions, but as nodes in a very complex techno-political network.*

Keywords: *dams; development; technology; water.*

JEL Classification: *L94; O13; P18.*

The angle we are looking at the world and the way we see it are deeply influenced by our *ideas* and preconceptions; these could be in their turn culturally embedded and socially constructed. Anyway, technology influences the changing nature of seeing the world. Fears and desires both have their part in shaping these ideas.
In this context, *technology* could appear at first sight an easy mean for grabbing the resources and for environment's control (or manipulation), for perceived established ends. A short but significant example here could be given the way mankind had perceived time and space before industrial revolution, after that, and especially after information technology revolution.

While technology has had as well an important say in water affairs, could we envision the way one look at the most important resource – water – through technological lens; and how the way a society manipulates water influences the shape that society takes? There was a hydraulic civilization (Wittfogel, 1957) labeled as such because its proclivity to control all society through controlling water, triggering the manifestation of totalitarian/despotic regimes, and their perpetuation. The technology of canals used for irrigation in ancient Mesopotamia and their control by a very small group of privileged persons, propped up the maintenance of oriental despotism. Top-down control upon canals morphed into a total control upon subjects; in this way the *technology* aimed at water control brought a peculiar king of *social* organization. Furthermore, the dexterous manner mankind used water for transportation in a peculiar geographical area ushered the appearance of first centralized political state in history, the ancient Egypt (Toynbee, 1979).

As Industrial Revolution had gotten momentum, complex economic, social, cultural, and political shifts manifested; all were swirled together, claiming the industrial production's expansion, rising population and of urbanization degree, and as a direct consequence, demand for food and water have unflagging risen, fully manifesting themselves, especially after the WW2.

But there are no comparable technical constructs to impound and manipulate water which are more complex than dams. Even that such works were undertaken in history in different places in the form of dikes or weirs (as in India, Mesopotamia, or Egypt), the calling up of a new era in which new types of dams captured the imagination of commoners, engineers, and political leadership around the world started with the decision to build Hoover Dam (called before Boulder Dam). The decision to build it should be looked from multiple angles. From American technical prowess point of view, this concrete structure spoke to the world – albeit silently – about the stepping into a new technological era, having America as spearhead. In the same time, Hoover dam's construction must be regarded in the context of Great Depression which had brought great havoc upon American economy. *Massive* investments made with Americans and American companies on US soil, aiming the unemployment abatement, as well as the American economy's preparation for a new development stage with modernization supported by electricity production, doubled by water impoundment in a great reservoir in order to promote modern agriculture patterns in the Western of the US were the key-notes of this taken decision.

The dam was completed in 1936, after 5 years of steady work but the techno-political networks which prompted its completion, especially the Bureau of Reclamation (established in 1902, as a sub-division of the Department of Interior) and the Tennessee Valley Authority (established in 1933) are still living entities. The first one reunites under its umbrella technical experts with background related to water development schemes, while the second is more of an institutional structure aiming at controlling water with specific ends connected to modernization.

Even they are directly connected to technical matters the political component in their rear cannot be concealed. Both – but especially the Bureau of Reclamation – become means for promoting technological acumen in other countries, but especially in the Third World countries.

In this way *dams* become the equivalent of modernization, and as the clouds of the Cold War gathered they have steady come closer to geopolitical calculus, and they became inseparable. Here it is noteworthy to bring attention upon American culture: every society regard technological progress with care and it has been sought

assiduously by each state; probably more so than in other nation-state, a broad range of American society (political and economic elites, opinion leaders, and commoners) have perceived technological skilfulness as a cornerstone of national identity (Sneddon, 2015). The *idea* of technology aimed at water manipulation and water resource development – having as a focal point the *dam* – clotted in a unique way around American faith in technology's power to improve welfare (Adas, 2009).

What is important when speaking about dams and technopolitics is that during the period following the WW2's cessation, national culture and politics of the most powerful country overlapped in a unique manner over the international environment, characterized by a Cold War initiated between the center of liberty (Washington) and the center of justice (Moscow). American unwavering belief in technology as an essential mankind's mean for its life bettering made Washington to look at economic aid and especially at *technical assistance* in a special way, in order to contain communism's expansion towards Third World countries, as they were in disarray, underdeveloped, and as they struggled to shake their old dependency on their ex-parent states. These states scattered in Asia, Africa, and Latin America/Caribbean were in a delicate position, and the message of social justice could have charmed and orient their populace towards revolutions, helping Moscow in attaining its aim of global changing.

In this context Washington launched its Four Point Program in 1949 directed to developing countries as an instrument of technical assistance; in his inaugural speech, President Truman stated that "we must embark on a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas… The United States is pre-eminent among nations in the development of industrial and scientific techniques", while "our imponderable resources in technical knowledge are constantly growing and are inexhaustible" (Department of State Bulletin, 1949: 123).

This message is the synthesis for understanding that dams have been no more simple technical achievements; they have morphed in key-stones located in the center of the network connecting *world* politics, *state* politics because dams help in spreading their ideologies and attaining in this way foreign policies goals, *regional* politics, *companies* (especially in engineering, consultancy areas), financial institutions, constructor companies on the one hand. Efforts to support American hegemonic ambitions created an admixture involving the "frontier" character of American economy, promoting expanding markets in developing nations, its ideological/cultural expression (the ethos of consumer-citizen), and of course the "protective-paternalistic" dreams of modernizing the Third World under the column of development (Agnew, 2005). Western lifestyles induced by technological assistance would have followed to prop up global American influence; as dams play a crucial role in energy production and water storage for irrigating a modern agriculture and as development is directly linked to energy production, while development leads to democracy (Ingelhart and Welzel, 2009), it is easy to synthesize that dams have morphed in technopolitical instruments with a crucial modernizing role and a great geopolitical component.

On the other hand, in developing states, dams have been regarded as instruments to vindicate political leadership's legitimacy, and a proof of their enrolment towards development and modernization. Although numerous dams constructed in the African, Asian, and Latin American regions are not among the world's gigantic impoundments, in some countries, these constructions are the largest public works

in those nations' history, as are Kossou Dam in Ivory Coast, Peligre Dam in Haiti, and Mt. Coffee Dam in Liberia (Sneddon, 2015).

As Hecht (2011) put it, technopolitics – materialized in dams – played critical roles in mediating the political and economic relations between powerful and weaker states, inciting numerous social and ecological transformations.

In this context of global ideological, political, economic struggles, and pressures posed by capital one must never neglect that large dams worked sometimes in the opposite direction, bringing wreak huge social and ecological clutter on some rivers and riparian communities. Projects such as Cahora Bassa Dam (in Mozambique on Zambezi River) denotes the connections between the technopolitical calculations materialized in large dams and the networks of the emergent new colonialism, brutal labor exploitation, geopolitical intrigues, economic *non-performance*, and violence directed at disenfranchised peasants, and unique and peculiar ecosystems (Isaacman and Isaacman, 2013). It is an example of how technopolitics creates imagined geographies, which have nothing to do with development or modernization, but with narrow geo/political gains for a scanty number of privileged people.

Having this negative examples, and other which were brought to world public opinion attention through the World Commission on Dams' work (2000) does not mean that technopolitical network swirling around large dams (and large infrastructure projects, generally) is fading away; on the contrary, Mozambican government, ignoring and muting the legacies of Cahora Bassa is currently seeking financing for an even larger project on the same river, the Mphanda Nkuwa Dam project (Sneddon, 2015). It is the best proof of the lucrative business involved by large dams' construction (and sometimes of corruption connected to it) and how stout character has the network reuniting governments, corporations, international financial institutions – that are the most vocal proponents of large dams and hydropower. One can see that present day technopolitical conditions are as active as ever for an acceleration of dams' building, and transforming rivers. Ignoring these old and extensive networks and the power that large dams knock together put ecological movements only on forefront news, but their manoeuvrable capacity is quite limited. Furthermore, dams – because of energy networks and industrial food production they sustain – favour political centralization upon decentralization.

If we looked at the evolution of dams construction during the Cold War (especially until 1975), we could note the revolutionary character of this activity. As a consequence of technopolitical networks connected to dams' building assembled during the Cold War, there was a global revolution regarding river control, as there are already over 50000 large dams built in the world. World's rivers are not the same as they were a century before. What the world is now facing is the second dams' revolution. As these dams were technical instruments aimed at creating geopolitical influences during the Cold War (used both by Moscow and Washington in their geopolitical contention for global influence), the new dams serve geoeconomic ends more. As Beijing (and Chinese financial and engineering corporations) are in searching for access to raw materials in different underdeveloped countries, Chinese expertise searches for "exporting" dams in other countries. And China has a vast experience in water manipulation (since ancient times it struggled to control the Yellow River) and in dams' building (over half of the world largest dams are located in China).

As ecological claiming for a cheap and green energy which has as nodal point water and dams could provide gains in fighting climate changes, this new ideology could

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be attired by Chinese economic and political interests in Beijing's fight on geoeconomic arena.

As dams are about high technical skills, they belong to actions taken in humankind civilization field, but as they are promoted by peculiar ideologies and sustain peculiar ideas, they are connected to political decision, and this political rotted activity is connected to cultural field. At first sight, their technical component makes them ready for an easy global traveling and transposition, but the way this expansion takes places is influenced by international context, by political struggles and financial interests, by various models of economic development, by policies adopted (or imposed/suggested by outsiders) in countries which envisage schemes and programs of water development, and by the peculiarities of the river to be dammed and the geological, hydrological, social and environmental features of the chosen site for impounding the river.

Furthermore, as politics is the both the art and science of ruling men; and because *water* is involved directly or indirectly in all human activities, the way water is mastered has to do with high politics. This is much more important when a river crosses international borders, because any action taken by upper riparian state/states related to that river's impoundment would negatively influence the way other downstream co-riparian states could use that river's water for their present and especially future needs. In this case we face a very complex situation because technopolitics is linked to hydropolitics. Large dams become leaving things, being technological objects constituted through the amassment of knowledge, capital and power (Sneddon, 2015). They reside at the intersection of complex networks of changed hydrologies, technical prowess, financial circuits, political desires, displaced communities, and hegemonic ideologies; as Sneddon puts it (2015), perhaps "no other technological object has the ability to capture and enrol within its orbit as many biophysical, technological, political, economic, and ideological processes and things as large dams do".

As dams have specificities making them a central "actor" in the history of development practice during last roughly 8 decades, they could be regarded as living things, because, as specified by Latour (2005), they act in the sense of having effects on a myriad of both human and non-human processes that are independent of their creators/constructors' intentions and design.

Conclusion

Synthetically, dams are visible examples of how *civilization* and *culture* work in tandem; a dam is the result of both, *cool calculation and hot politics*. There are two inseparable elements: one of them is technology, the other one is politics. Hence this technopolitical angle of looking at dams.

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MOBILE PAYMENTS AND EMERGING TECHNOLOGIES

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Abstract: *Considering the fact that in China, in 2016 solely, the mobile payment volume was around $5 trillion – half of its gross domestic product, carried out through two main competitors – Alipay and Wechat Pay, it is becoming clearer that companies will invest piles of money in order to process the payments of the millions of potential users. With the banking industry shaken by the different modifications of rules and regulations and consumers addicted to the latest gadgets, the tech companies may have the pole position in this race. Apple is charging each Apple Pay user with 0.15% per transaction which may not seem a lot, but taking into account that in 2015 iPhone users traded over $10.9 billion we can see why tech companies are eager to develop payment applications. In this paper are presented briefly the newest means of payment and how are those influenced or not by the emerging technologies. The most important piece in the puzzle – end-user – has to keep up with all the novelties in this sector and, as consequence, some behavioural patterns occur. With the appearance in the landscape of emerging technologies like 5G, augmented reality, virtual reality, blockchain etc. new waves are expected to redefine mobile payments. Those are presented further in the text altogether with some trends in financial services that may influence the mobile payments market as we know it.*

Keywords: *payments; augmented reality; virtual reality; 5G.*

JEL Classification: *E42; M31; O33.*

1. Tech companies and their initial undertakings

Since 2007, Apple showed that it's a real trendsetter with respect to innovative solutions and that it has something to say when it comes to mobile devices. Taking into account job creation, research and development investment, product selling and last but not least the annual reports, the company proved to be a key player in the world's economic environment. Looking at the numbers, each and every year, when Q4 comes and the launching of a new iProduct is scheduled, the device's shipments are hiking. With every new product launch and new technology implementation, the company is driving the portables industry in new directions and dimensions.

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Starting with 2007, Apple Inc. led by its visionary Chief Executive Officer Steve Jobs, began to focus on developing portable devices. This was in his opinion an unexploited branch which he managed to improve it. Released in June, the original iPhone was 5 months away from the launching of one of the most coveted phone of that time – Nokia N95 8GB version. It had the specifications similar to Nokia N95 and with a $599 price, it was even cheaper than the $749 king of Symbian Operating System (Newsday Tribune, 2015). With thousands of mobile applications ready to be installed, Nokia had the first-mover advantage but it was misused. Having no data whatsoever about the users of their proprietary operating system and without any platform where the users could leave feedback (besides Nokia forum), Nokia developed applications just for the record and not for user's retention. Another downside is the inexistence of a centralized platform from where users could download verified and certified apps for their Symbian smartphones. One could download and install all kinds of apps that Nokia didn't know about, with the risk of installing malware. It was only at the beginning of 2009 when the Finnish manufacturer decided to operationalize its own store (Woyke, 2009). Launched in 2008, Apple's App Store was the first place where developers could promote and sell their applications to real users and those could install tailor-made apps. This was the first online store where users could download applications verified and curated by the manufacturer. It started with 500 apps but in May 2017 the total number of available apps reached 2.2 Bn. (The Daily Advertiser, 2013) (Costello, 2017). Eventually, this type of approach, with security in the first place, favoured today's in-app payment as we know it. With the launch of the iPhone 2G (first generation iPhone), Apple also introduced to the masses the capacitive touchscreen, a different shift from the existent one at that time – the resistive touchscreen. It was a major improvement because in order to operate the phone you were not required to use a stylus anymore. Another premiere was the use of the SIM card tray. Unlike the existing phones in order to insert the SIM card in the phone, you had to eject the SIM tray, put the SIM card on it and then insert it back. Both concepts are standard in the industry 10 years after the launch of the first iPhone. A trend-setting example worth mentioning is when Apple decided not to implement a fingerprint scanner under the display and ditched this technology in favour of facial recognition, introducing an infrared scanner in a notch at the top of the display. Right after this, the vast majority of manufacturers divided in those that aligned to this 'standard' and manufacturers who tried to get rid of the notch (e.g. Oppo).

Launched in 2010, with a mature technology onboard, the iPad followed a quite upward trend in sales and the company's cash growth increased from $11Bn to $39Bn (Bullish Cross, Philip Elmer-Dewitt). Innovative with some solutions, Apple is at the same time reserved when it comes to adopting hardware and software novelties. One example can be given by comparing the 2013 flagship phone of Samsung – Samsung S4 – released in April, with the 2017 flagship from Apple – iPhone X. It took 4 years and a half for Apple in order to implement wireless charging, compared to Samsung. It took also between 2 and 3 years compared to Google's Android Operating System to implement in their proprietary operating systems functions like notification center, personal hotspot etc.

2. Mobile payments – a short review

Phone manufacturers began to understand how important the payment system is for a mobile device and started to implement different types of sensors on different parts of the phone.

Some of them put a fingerprint reader just below the screen (Apple), other on the back of the phone (LG, Samsung, Huawei) or on the side (Sony) while newcomers like VIVO decided to implement it right under the display.

In 2013, with the launch of the iPhone 5S, Apple managed to shed the light first on mobile security and afterward on mobile payments. iPhone 5S was the first iPhone with an embedded fingerprint reader named Touch ID. Originally showcased as a method of stopping unauthorized use of the phone, this laid the foundation of the Apple Pay platform. In a manner that Alan Curtis Kay (1992) pointed out - 'People who are serious about software should make their own hardware', Apple started to develop a hardware solution. Launched in late 2014, iPhone 6 together with iPhone 6+ were the first mobile phones to embed both software and hardware solution for mobile payments. Both phones came with Apple Pay software preinstalled and had implemented the entire hardware set for a secure payment: NFC - Near Field Communication antenna, fingerprint sensor and a microprocessor that encrypts the transactions. NFC is a wireless technology requiring 4-10 cm to initialize a connection between two mobile devices; a standard that extends Radio Frequency Identification (RFID) by combining in one device the interface between a smart card and a reader (Dospinescu, 2012).

Referring to ecosystems it is worth mentioning that older devices like iPhone 5, iPhone 5S and even old generation iPod touch can also use Apple Pay to make payments but only with the NFC chip embedded in Apple Watch. Basically having an Apple Watch enables a non-NFC capable Apple device to make payments via Apple's dedicated platform. The sole requirement for Apple Pay is to have a device with minimum the 8th version of the Apple mobile operating system – iOS 8 – installed.

Unlike contactless cards, Apple Pay seals the payments covering a set of advantages. For example, when approving a payment, the software converts the card information into a hexadecimal code using the 'secure element' (Santus, 2014). This code can be read only by the point-of-sale. In case of a security breach, the card details are safe because hackers can see only a hexadecimal code and not the name and surname of the owner, card number, CVC code etc. The equivalent of this mechanism implemented in the physical cards is 3D Secure, considered to be a high standard of safety of transactions on the Internet (Dospinescu, 2012).

According to a study published by PYMNTS.com, conducted in collaboration with InfoScout – a consumer research company – when it comes to mobile wallet adoption, Apple Pay is by far the most used for payments. In 32 months since launch, the usage has risen threefold compared to 2014.

This is strongly related to the bank's adoption of mobile payment. If in the case of mobile adoption, the increase was almost linear, the number of participating banks expanded from 20 in 2014 to approximately 2500 in 2017 – 304 in Asia-Pacific, 112 in Europe and the Middle East and 2000 in the United States and Canada (Apple, 2017).

With the launch of anniversary iPhone, Apple introduced on their stage another biometric sensor – face recognition – alias Face ID. Facial recognition technology has sparked controversy since its launch when Craig Federighi's face was not recognized when he tried to unlock the iPhone (Richardson, 2017). The main declared purpose of this technology is to improve the unlocking time of the iPhone and to make mobile payments run faster. With the launch of the iPhone Xs, iPhone Xs Max and iPhone Xr in 2018, the Cupertino-based company showed that there won't be any comeback to Touch ID as we know it. There are some devices with Touch ID that are still selling in the Apple Store but starting with the 2017 flagship Face ID manages the default authentication on iPhones. There are although some voices that say that Apple actually skipped the embodiment of an ultrasonic fingerprint reader because it proved to be very expensive and time-consuming. However, it is well-known the fact that Apple tends to use in their products only mature technology so maybe this form of authentication will show up embedded in their screens with another name after it proves to be mature enough.

As we speak, both Touch ID and Face ID technologies are the pillars of Apple Pay Cash development. Implemented in the late version of iOS 11, Apple Pay Cash is a P2P – peer to peer service which enables users to wire money via iMessage – Apple's proprietary messaging application. All transactions will be authorized via Touch ID or Face ID.
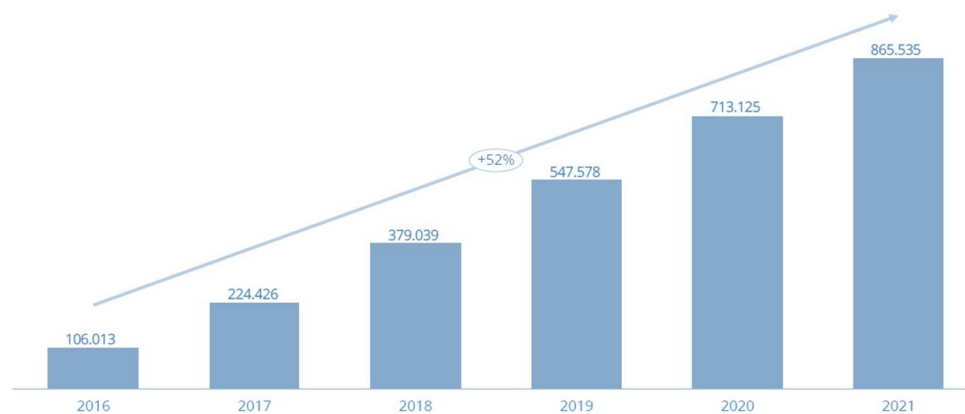
Figure 1: Global transaction value in the „Mobile Payment" segment in million US$
Source: Statista Digital Market Outlook, 2016, p. 4

One might think that the fingerprint recognition and face recognition are the latest trends in the field. Actually, they are not. The implementation of fingerprint technology dates back in 2004 (Germain, 2004) and the topics related to facial recognition were discussed since 1966 by Woody Bledsoe (1966).

Another possible fallacy is to assume that Apple was the first company that introduced NFC payments. When Apple Pay was launched Nokia had implemented NFC for 10 years but only for interoperability among different devices (Microsoft Devices Team, 2012).

The main merit of Apple is not the implementation of biometric sensors in their technologies, or the using an apparent obsolete NFC technology after 10 years of failure. The main merit is that they managed to raise, to mature the software and

then to integrate it with hardware, at the end developing a unique mobile payment ecosystem which inevitably induced competition among industry players (Zea et al., 2012). The main takeaway is that mobile phone manufacturers drive the growth of mobile payments at a rate constant rate of 52%, resulting a global transaction value of US$866 billion in 2021, as presented in Figure 1 (Statista, 2017).

3. Emerging technologies and consumer behavior

The evolution of technology is also influencing consumer behavior and attitudes. The increasing number of the digitalized consumers is due to the fall of the price for technology; from 1999 to 2003, the computer price index has declined by 20% each year (U.S. Department of Labor, 2015) and is steadily decreasing, allowing the entrance on the market of new consumers. Between 2016 and 2021, the number of internet users will increase with 4 billion, reaching a whopping 6.1 billion high-speed data connections (Cisco, 2017). Moreover, 75% percent of the 8.5 billion people - the population estimation by 2030 - will have smartphone and internet access (Benson-Armer, et al., 2015). In the same time, the consumer's sophistication is also growing, the technology is perceived by consumers as beneficial, hence computers, smartphones, digital cameras, and the internet being considered factors that improve the quality of life (Hoyer & MacInnis, 2008, p. 364). This phenomenon of technology adoption is even more accelerated among younger generations who are highly connected. About 56% of millennials use two or more electronic devices daily in the United States, such as cell phones and the Internet (Hawkins & Mothersbaugh, 2016, p. 61).

The penetration of high-speed internet has brought significant changes to the online consumers and also changed the marketing and the research methods of the consumer. When it comes about the shopping, the consumers have a large gamut of options, because they can shop in the store, on the phone or on the internet. A study conducted in 2016 by Price Waterhouse Coopers shows that more than half of the online buyers are weekly or monthly online shoppers (2016). Not only that online shopping has sky-rocketed, but the consumer is currently shopping and choosing from a larger variety of products compared to the beginnings of the Internet. However, there are products with a higher associated risk for shopping via the internet, such as furniture, building materials etc. For this niche of products, the consumer uses the internet solely for information, preferring to shop in the traditional brick and mortar shop (Hoyer & MacInnis, 2008, p. 208).

In this new digital environment, consumers constantly move from one channel to another, from online to offline and vice versa. In this context, two new purchase scenarios are common in the digital area: showrooming and webrooming. The first scenario refers to customer journey which starts with visits to the traditional stores, but the product is bought online for a better price. The second scenario starts with learning about a product from online ads or social media. After the consumer decided which products are suitable for him, the purchase will be made in store (Kotler & Keller, 2016).

Taking into account the integration of multiple channels, the payment is the last step in creating this seamless customer journey adapted to a nowadays digitalized consumer. Because the consumer has many options, the mobile payments should distinguish from the others, emphasizing the benefits they have like speed, ergonomics, convenience and mainly security - one of the most important criterion.

The incentives altogether with other additional services can help the adoption of a certain type of mobile payment. For example, the developers may include an integrated system with discounts and loyalty programs for certain stores (Beutin & Dagmar, 2017).

New payment methods are emerging, as seen in Figure 2, mainly because nowadays digital commerce is no longer limited to smartphones, computers, and tablets. All the devices incorporated with sensors like home appliances, smart homes, smart locks, wearables and so on so forth have a great potential to bring changes in the current commerce but also in the payment system. Consumers are also switching from texting to voice commands, personal virtual assistants like Amazon's Alexa, Siri, Google Now and Cortana being more and more common when it comes to online shopping (Evans, 2017). It was even a mainstream joke when Jeff Bezos – the CEO of Amazon - bought the Whole Foods Market saying that he has bought it by mistake; he just wanted something from Whole Foods and ordered through his personal virtual assistant. Alexa misunderstood the command and has bought the entire company.
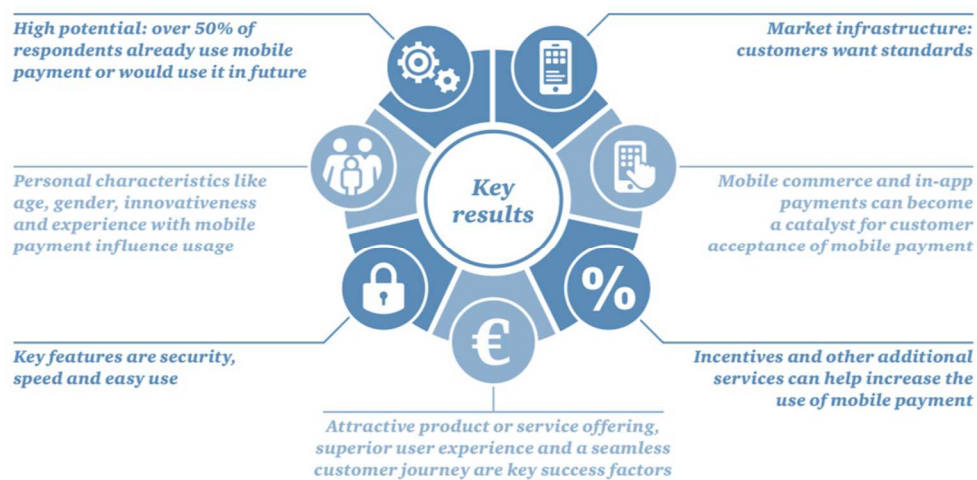
Figure 2: Mobile payment trends
Source: Nicolas & Dagmar, 2017, p.7

A recent study of Barclaycard Research shows that UK retailers lose approximately £18 bn./year just because their online shoppers add products to online baskets and then discard those items later (Barclaycard, 2018). A faster technology like 5G would reduce the loss as the increased connectivity speed will encourage the use of the emerging technologies like Augmented Reality (AR) and Virtual Reality (VR) by the retailers in better describing the products.

Even the traditional way of shopping will have some benefits from the implementation of the future 5G cellular connection speed. Now, when we go shopping there are only two ways of payment: cash or by debit/credit card, using a point-of-sale device. Imagine if you could scan the product and pay with your phone without having to stand in line. Such a technology like 5G has the potential to make store queues disappear. Shopping in a clothes store will reduce the waiting time because you enter the store, scan the products as you put them in the bag, and at the end, you pay

from your phone directly to retailer. The shop knows your location live, via the embedded position system. Practically the user's phone will be the next generation point-of-sale, which will replace 2G speed with 5G technology.

According to a PYMNTS.com study, 69% of respondents mentioned ease-of-use as the reason they were satisfied with how they authenticated an eCommerce transaction and 37% cited data security as the reason they were satisfied with how they authenticated (PYMNTS, 2018). This basically means that merchants must have in mind security and ergonomics when they design a payment platform. A multi-layered authentication could be a solution for online shopping. It is vastly known that if you are not that careful with your credit/debit card you could end up with your plastic piece being cloned or photographed and then posted on Darknet marketplace. From that moment there is only a fraction of time until you're left without money. A multi-layered authentication with the help of 5G technology could be the answer to this type of robbery (Carter, 2018). If all the ATMs would have a facial recognition system implemented on the site, complemented by a fingerprint scanner, it would be very hard to bypass it. Currently, what makes difficult the implementation of this technology is the low connectivity speed of the ATMs. With current cellular connection speed is impossible for an ATM to instantly capture and transmit to a predefined database the face of the user and to validate in the same time.

With 100 Gigabytes per second download speed, 5G network will be at least 100 times faster than 4G network (Kavanagh, 2018). This will offload in device data and will make physical space redundant as it sheds the light to cloud storage options. On the other hand, the cloud storage is sensitive and the security is weak, major file hosting service operators offering the possibility to log in only with a password. However, this stunning internet speed will definitely have a major impact on online shopping. If until now retailers struggled to upload on their marketplaces shy 360-degree photos of their products, once with 5G launching the AR and VR will enter in place. AR already started to gain audience when it comes to furniture stores. Ikea was among the first that released an AR app that helps users to virtually put products in their own nests. Basically, you can redesign your house from scratch. VR apps are still not that popular because in order to run they need expensive and powerful smartphones. However, the potential of this technology is huge as it can enable for example testing of certain products right from the bedroom at relieves users of unnecessary visits to stores, the test driving of a car

Micropayments could be a notion that will also rise from this emerging technologies. 5G could facilitate the payment for the exact amount of parking time and by connecting. The evidence could easily be done by electronic payment systems that will be implemented in smart vehicles. Also, in the transportation industry maybe will be implemented a system that will calculate the price ticket for a bus trip according to how many stations do you travel. There are a lot of potential uses for this emerging technologies but in the end, it depends on how much do we want to evolve on one hand and how much do we want to become vulnerable on the other hand.

4. Other trends in financial services

Technology influences the disruption on the financial services market. In this regard, there are some trends that will influence this industry, including mobile payments market, as it follows:

a. Generally speaking, fintech companies and mostly start-up companies within this sector are innovating in a disruptive way by introducing new elements in the financial services chain.
b. The sharing trends revealed in other industries, as automotive and accommodation may also be assimilated in this industry. The sharing economy will be enabled by information technology and will connect the capital providers with the capital users.
c. Blockchain and technology embedded in cryptocurrency could be the future of mobile payments by delivering the security and ergonomics.
d. Digital is no longer a novelty in the market, it becomes mainstream. The focus now is on big data analysis.
e. The data about consumers' needs and wishes are no longer just based on what consumers declare, now the technology gives access to more in-depth information about what consumers want (e.g. analyzing the consumer's online conversations).
f. The advances in technology and artificial intelligence will replace the interaction with a bank consultant with highly-skilled robots with the ability to learn and share information with other robots.
g. The main infrastructure will be the public cloud as many financial companies use cloud-based software-as-a-service applications for business processes.
h. The cyber-security is one of the main risks for financial companies.
i. Asia will be the key center of technology-driven innovation.
j. The regulators will use technology to better monitor and predict potential problems for creating adapted regulations (PWC, 2017).

5. Conclusions

If in the first part it was presented the manner in which the giant players from high-tech industry influenced and continues to influence mobile payments industry, in the second part the focus was on the consumer because it is a reciprocal bond. Not only the end-user has to keep up with technology but also the technology providers should be aware of the users' needs. In order to have implemented a successful mobile payment platform, high-tech companies and banks must work together in order to provide secure and ergonomic platforms. It is not enough to bring something new in the market taking into account that users tend to migrate to platforms that are simplifying processes. For this Apple is being highly criticized for the implementation of the controversial Face ID and dropping of the Touch ID payment method in the newest iPhones.

The main takeaway of this paper is that although the mobile payments industry is exponentially growing, is also very volatile, and it is directly influenced by the big tech companies and emerging technologies.

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Bio-note
Chiriac Claudiu is a Ph.D. student in the Bucharest University of Economic Studies – Economics and International Affairs Program. As Ph.D. student, Claudiu is focused on studying the mobile payment industry and what are the implications of this industry in the global financial environment.

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CONSTRUCTION INDUSTRY AND ECONOMIC GROWTH IN THE REPUBLIC OF TURKEY

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Abstract: *This article consist construction industry in Turkish Republic in various perspectives. First of all we will indicate about the history of the construction industry in Turkey and how an infant industry became World's second largest construction sector. We will mention their footsteps, obstacles, government supports and government relationships between the construction companies. We will also examine the business model agreement used by Turkish Government at inland constructions we will discuss positive and negative outcomes of this model. We will also comment the consequences of the strategic decision done by Turkish Government by choosing construction industry as a locomotive industry for economic and industrial growth. Finally we will argue efficiently of construction industry for sustainable economic growth and sustainable economic development.*

1. Introduction of Construction industry in Turkey

In this research first of all we will define how construction industry started evolve in the Republic of Turkey and the history of the construction industry in the country. We will investigate the economic indicators and define how an infant industry became the main tool for the countries growth and development. We will also demonstrate the impact of the construction industry in the GDP and employment and we will demonstrate the evaluation of the Turkish construction companies in global scene and briefly mention about the internal and external projects built in Turkish Republic or built by Turkish construction company. Furtherly we will describe relationship between economic growth and construction industry within examples from Turkish Republic and further international examples. We will seek for a possible correlation between economic growth (GDP Growth) and the construction industry. We will investigate the fluctuation of trends of economic growth and its possible relationship between construction sector and try to describe cause and effect relationship between them. Finally we will also define built operate transfer (BOT) model briefly mention about BOT model history and investigate why did nations drop off using this model after 18th century and started to re consider it after 1970's.At the very end we will also demonstrate the benefits and risks of the BOT model and compare the successful BOT model application all around the world and Republic of Turkey.
At the very first Turkish economy rapidly became a consumption based retail services economy without having any experience of industrialization as a result of neoliberal economic policies followed by the governments since the middle of the 1980s with the support of U.S and NATO membership and the rapid global financialization started up. Current government and previous conservative democrat liberal governments strived for creating an urban rich class which who are willing to

take risk, demands and consumes much than usual patterns. They carried this population through the villages from rural areas with the way of internal immigration. In order to implement this policy they created several obstacles for agriculture industry especially on the production phase and compensated the farmers with the money came from financial aid. With that financial aid many of the farmers decided to sell their lands and move to the urban areas. Although Turkey ironically was not an industrialized country yet therefore economy became a service economy normally.

There are several discussions about construction industry influences the economic growth due to its strong linkages with other sectors of the economy.

During the 1999-2001 Turkey experienced a massive economic crisis. The government at that period was running enormous budget deficits and selling huge quantities of high interest bonds to Turkish banks. Inflation continued to increase, government could avoid defaulting on the bonds in the short term. As a result of this pattern Turkish Banks had to rely on these high yield bonds as a primary investment and additionally government was suffering due to IMF debts which as a normal consequence of all above Turkish Republic experienced this massive economic crisis.

At the year of 2002 new conservative democrat party elected and the rise of construction industry started after this period. We can clearly declare that the new president and government determined construction industry as a locomotive of the economic growth and Turkey's construction industry has been at the pioneer of the Turkish economic development.

Over the last decade industry has renewed the İstanbul and other cities. Public construction was even more widespread than private ones. They renewed and extended Turkey's transport infrastructure and build new facilities especially at Aegean and Caucasus. It is a well-known fact that construction employs thousands directly and also causes growth in related industries. Today we will investigate construction industry as a major tool of economic growth. Despite the economic slowdown in the last 5 years it was a successful tool for more than a decade.

According the TurkStat data at the end of 2014 the construction industry worthed approximately at the that dates exchange value 30-31 billion $ and this means %4.6 of the GDP. However according to European International Contractors (EIC) claims that if we consider broadly the impact of the industry %30 of GDP attribute and %10 of the working population are employed around the construction industry.

Industry effected from the Global economic crisis by shrinking %18.1 at year 2009 it gave a quick reaction by growing %24.9 at 2010 %26.5 in 2011 in the next 3 years growth of construction industry was %7.6 %11.9 and %14.6 according to TurkStat. However as we will investigate furtherly it will drop massively starting from 2014.

Those numbers obviously indicates us construction industry was the main tool of economic development at Turkish Republic.

Another supportive indicator which proves us the size of the industry is rankings of Engineering News Record (ENR). Out of the 250 top construction companies in the world-wide 42 were Turkish companies; which this number is the largest number at this ranking right after China. Couple of examples of those industries giants are ENKA (52th place / 2.4 $ billion revenue) Rönesans Construction (53 th / 2.39 $ billion revenue) the third largest was TAV construction (83rd place globally with. 127 $ billion overseas revenue) In 2013 ENR gave TAV tittle of second largest airport construction company (based on project it undertook 2012) after U. S based Bechtel.

Those companies carried out 7735 projects in 104 countries between the years 1972-2015. All of above companies are also operating domestically some of key companies are "Çalık Holding " (Current Turkish Minister Of Energy and Natural Resources was former CEO in Çalık Holding company and son in law of the current president Recep Tayyip Erdoğan.) "Cengiz İnşaat A. Ş" and TOKİ (Turkish Housing Development Authority)

Turkey's GDP increased continuously after 2001-2002 period despite the slowdown during 2008-2009 crisis GDP increased yearly %5 according to TurkStat taxes. At the same time foreign direct investment (FDI) in Turkey was grown also as a consequence of this demand for new factories and facilities occurred at that time. In addition population growth also rode an extra demand for construction and all of these elements contributed construction industry to grow up rapidly.

Working overseas experiences for Turkish Companies started in the 1980's Libya, Saudi Arabia and Iraq. Middle East area was vital for the Turkish Construction companies. Middle East territory is constantly experiencing conflicts and wars in every decade for a while. Whenever the conflict ends Turkish Construction Companies will likely be one of the first helping for reconstruction. There are significant opportunities for Turkish Construction companies especially in Middle East, North America and Sub Saharan Africa countries like Iraq, Jordan, Algeria, Libya and Ghana as considerable potential. On the other hand as it is known after 2000's with the rise of gas and oil prices UAE, Saudi Arabia, Qatar developed a lot especially they created new cities and living areas and Turkish Companies also benefited from this and in example Doha Metro in Qatar built by Turkish Contractors Yapı Merkezi and STFA Company. Another example Rönesans Holding largest foreign contractor in Russia generates approximately 2$billion of their revenue from there. On another level government began a huge urban renewal programme after 1999 earthquake. TOKİ (Mass Housing Adminstration) renews or strengthen buildings in addition Turkey accomplished to built 2200 km of motorways and the goal is expanding this 9680 km in 2035 according to General Directorate of Highways.

Despite all these projects Turkey has one more advantage at construction industry. Iron and Steel have long been manufactured in the country. According to a Ministery of Economy (MoE) report from 2014 Turkey has 67 cement plants and total prodcution in 2014 was 71.2m tonnes and 63.2 m tonnes used inside of the country and 7.7 m tonnes exported.

2. Construction Industry GDP growth in Emerging Countries

The statistical relationship between construction activity and economic growth was shown to be positive some 1.5 years ago, by the late Professor Duccio Turin and the University College Environmental Research Group (UCERG), as well as by Strassmann in the USA.

As a natural consequence it is considered that the construction industry has a positive impact on national economies by stimulating economic growth. Considering its connection with other sectors and its contribution to employment, economic growth is accepted as a driving force. Therefore governments usually transfuse it is funds to construction industry. In addition to engineering industry, machinery and real estate industry large number of unskilled labor force also gets involve to this activities especially at the spring and summer seasons. Furthermore it is also easy

to enhance employment rates with construction industry. Turkish construction industry has a constantly growing dynamics for decades. Although there are period of year both construction industry and completely Turkish economy depreciated all together.

We could observe the depression from the the main indicators of the Turkish economy such as rapid depreciation in TL, high unemployment, rising inflation, real decline in export figures, the emergence of high debt problems in dwellings, and the reflection of geopolitical developments, the Turkish economic figures depreciated rapidly therefore this also effected the construction industry.

The main factors affecting the growth of the construction sector in Turkey in recent years can be listed as:

1. The planned visa, citizenship, and residence permit facilities for sale of real estate to foreign investors.

2. The safe harbor position of Turkey, as a result of geopolitical development in the region.

3. The mortgage financing system that increases real estate sales.

4. New infrastructure projects that create new interest (Tube passage projects in Istanbul Bosphorus, Third Airport in Istanbul, Osmangazi Bridge, Dardanelles Bridge, and high-speed train projects between Ankara and Istanbul)

5. The fact that Istanbul is a commercial or geographical distribution center (Hub) and the construction of Istanbul's financial center.

6. Urban transformation. (The damaged buildings have the opportunity to be transformed into new and modern constructions.)

7. Urban migration and refugee migration to the metropolis cities.

Western European countries has a direct effect on other investments; however, their effects on the economic growth may be indirect (Turin 1973). In Western Europe, the volume of construction in the GDP in 1980 was 10%, compared to 7% in 2004 (Wigren and Wilhelmsson 2007). This research indicated that the economic impact of the construction sector in industrialized Western countries has declined. They preferred to focus on more technology and related industries.

Mallick and Mahalik (2008) investigated the role of the construction industry in the Indian economy and it's impact on economic growth. They emphasize that the construction industry has increased its economic growth strongly when the capital stock does not add up, this contributing to the employment of the construction industry. As employment in the construction industry enhances, output also increases, which in turn increases the economic growth. Although, they emphasize that these effects do not continue in the long-run. Also Tiwari (2011) investigated the relationship between construction investment and economic growth for the Indian economy using the data of 1950-1951 and 2008-2009 periods, for a short and long-term, and found that there is a mutual reason result relationship between construction investment and economic growth. Thus, this suggests that political decision-makers should encourage investments in the construction sector in the short run, but support should be reduced in the long-term. Chang and Nieh (2004) investigated the natural relationship between the construction sector and economic growth in Taiwan. They found that there was co-integration between the construction sector and economic growth. Real estate investments in Turkey are considered safe investment tools in order to keep under control the inflation. Most studies indicate that real estate investment is a protective asset against inflation in the long run. That

is the also main reason why Turkish government resists to increase interest rates even though high pressure they are facing with at currency exchange market in the year of 2018. Therefore you will need to offer low interest rates in order to sell long term housing contracts.

Finally, there is a positive relationship between per capita national income. Infrastructure investments in the construction industry, job creation, and economic development in the short run in the developing countries. Therefore political decision makers supports construction industry as an important tool.

Also according to Keynesian theory, investment – at least building investments – plays important role in the total demand and economic growth in the short run. Due to it's relationship with other industries, it is expected to growth in the construction industry will also trigger the growth in the other industries therefore it will contribute to the total economic growth.
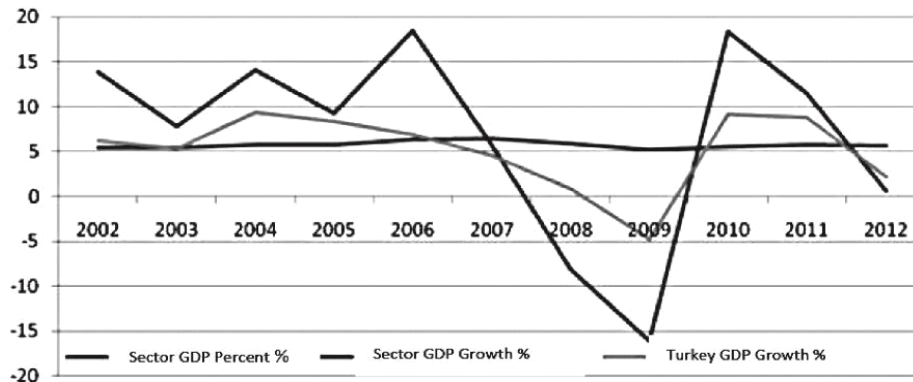
Source: TSI 2013; TSI 2014; TSI 2015.

Figure 1: 10 year general view of the Turkish construction industry:

According to Figure 1, there is a similar tendency between economic growth and construction sector. Between growth rate of construction sector and growth rate of GDP, there is a high correlation like 0.93. This confirms that the movements of both indicators in the same direction. STO (State Planning Organization 2010)

3. Contribution of Construction Industry to Economic Growth. Evidences from Turkey.

Studies usually refers construction industry is a vital contributor for Turkey's economic growth.

If you just generally analyze the 2000-2010 period we can see the picture like this although if we investigate slow downs and reasons behind them it will enlight us to understand the whole process. The low interest rate economy (imposed by government) with the help of radical changes in urban legislation and city building boosted up the construction industry at this period at Turkish Republic which created economic growth to Turkish economy. Which goverment bodies still at 2018 strives to hold interest rates low despite of exchange rate pressure just in order to keep growth of construction industry permanent. But this does not changes the

construction industry have short-term effects on the economic growth all over the world and this could not offer permanent solutions for the economic troubles in Turkey. An increase in residential construction is often linked with enhance employment and income for labour in the real estate industry and also in related sectors that provide goods and services associated with housing (see, for example, Anaman and Osei-Amponsah, 2007; Lean, 2002; Khan, 2008 among others for a detailed discussion). For instance, Anaman and Osei-Amponsah (2007) analyze the causality links between the growth in the construction industry and the macroeconomic growth in Ghana using data from 1968 to 2004. The authors conclude that although the government aimed to use the agricultural industry as the major tool for achieving high growth rates in the agricultural economy although the construction industry needs to be considered as one of the major drivers of economic growth in Ghana. Similarly, Lean (2002) concludes that construction sector leads other sectors' output as well as GDP in Singapore. On the other hand according to Wang et al. (2000) we should consider every countries construction industry and their contribution to general economic growth differently due to their country specific conditions. Bolkol (2015) investigated the causal relationship between construction production (not expenditure) and GDP growth between the first quarter of 2005 and the fourth quarter of 2013 and concludes that there is no long run relationship between construction production and GDP. According to Bolkol choosing construction industry as an engine to economic growth was is not the best alternative for Turkey.
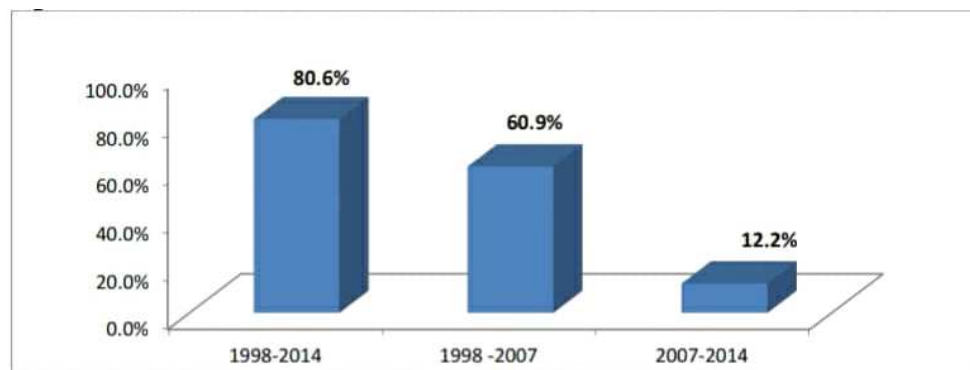
* GDP in Constant Prices by Kind of Economic Activity - at 1998 Basic Prices
Value of construction industry, GDP by Production approach

Figure 2: Cumulative Growth Rate in Construction Activities between 1998 and 2014

The Land Registry Law, the Housing Finance Law and the redrafting of Tax Laws are designed to improve the competitiveness and desirability of the Turkish real estate in the global market in order to enhance the sales. Also several campaigns like providing resident permit and citizenship over a determined amount of real estate investment made countries real estate market even more valuable for Gulf Arabic citizens and many of the real estates also nearly half of the touristic investments purchased by especially wealthy gulf Arabic nations. The pioneer country at this field was Qatar.
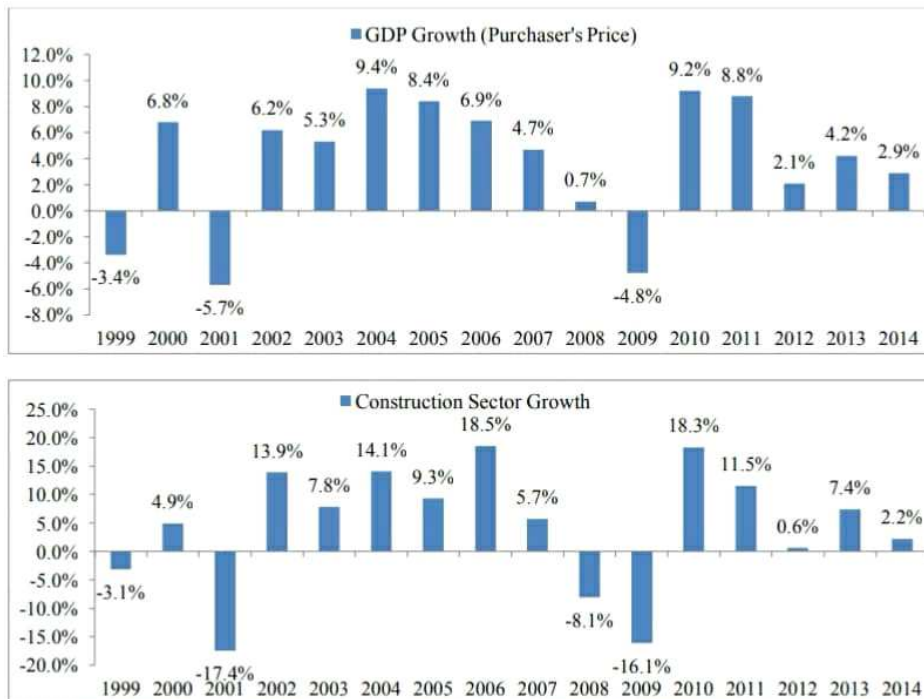
Figure 3: GDP growth; Construction industry growth

Figure 3 related GDP growth and construction industry growth indicates us also construction industry follows the trends and fluctuation in the general economy. It is not changing the trend or shifting economies way during the crisis. So we can not precisely describe construction industry as a game changer for the countries general economic growth. We can observe it seems like it is the follower of the trends more likely.
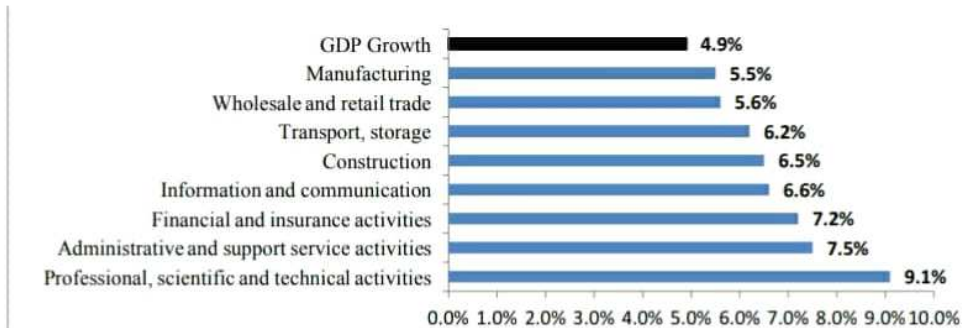
Figure 4: Average Sectoral Growth Rates between 2002 and 2014

In Figure 4 we can observe the sectoral growth rates between 2002-2014 at Turkey. We can define the highest growth we can observe in scientific and technical activities, support activities, financial and insurance activities, ICT and construction.

The one spectacular thing is lowest growth rate we can observe at manufacturing which is not so usual for countries like Turkey who carries affordable labour force.
We define 2002-2007 as the catching-up period of the Turkish economy.
After 2001 crisis as a result of medium-term economic goals, strong external relationships with the foreign world implementing IMF programs and the prospect of EU admission and accession, and domestic structural reforms. Macroeconomic stability ensured with strict fiscal and monetary policies designed by former IMF coordinator Kemal Derviş. It complemented by structural reforms in the area of enterprise restructuring and privatization, creating international business environment, liberalize the trade, labor market and in particular by a thorough reform of the banking sector. As a consequence of all those events foreign and domestic investments enchanced rapidly with the international ones and labour productivity also increased with transformation of the economy and real integration process with the EU.
In terms of construction industry, the cumulative growth rate in construction activities reached up to 68.4% during the period of 2002-2007. Sector growth rates of 14.1 percent and 18.5 percent in 2004 and 2006, respectively. This huge growth in construction sector was emphasizing us the demand for real estate developments because of the high-inflation environment throughout the late 1980s and 1990s. 1999-and also earthquake of Marmara region and it's destruction which caused nearly collapse of 133.000 buildings caused an emerge demand for real estate market naturally.
2010-2014 could be defined as another surviving and growing period in the Turkish economy. Therefore economy has recovered very quickly from the global financial crisis of 2008-2009 and reached high economic growth return in 2010. This was a result of strict monetary and fiscal policies and international economic program. In 2010-2011, Turkey had remarkable GDP growth, which reached an annual 9 percent, and it was largely driven by foreign investment, debt-based private consumption (personal debt increased with incentives given to all citizens on using credit cards and personal micro loans. Banking regulation legislated according to enhance spendings) and property investments of both domestic and international construction companies. In addition, the real interest rates experienced the lowest levels of -1.75 % which is very important because in the back of 90's it was on double digit numbers. Real interest rates are vital for the construction industry due to the availability of housing loans (mortgages) which triggers the real estate demands and sales. Therefor the growth rates was 18.3 percent in 2010 and 11.5 percent in 2011. This several researches are both so accurate if we consider the Republic of Turkey and economic depreciation at the last five years. If we investigate the developed countries and their sustainable economic growth we can reach the conclusion that they all supported construction industry in the short term although at the long run they slowly remove their support and gave investors to invest on different and more sustainable working areas which are more innovative like technology related industries.
We can describe construction industry as a train which countries should take for take-off speed for their initial development in order to improve and complete their infrastructure needs and increase their employment rates enhance their GDP and for boosting their economic growth.

Although they should also be aware that they should get off from the train when they achieve their short-term development goals and they should invest their surplus funds to more renewable innovative industries.

4. Major Construction Projects Built in Republic of Turkey

4.1. Osmangazi Brıdge:
2682M lenght 4th biggest bridge in the world.
Contractors: Nurol Construction and Japon IHI
Bridge rented to the conntractor companies for all operations for 15 years the total cost of the bridge was 10.3 $ billion. It started to operation at 30 June 2016.

4.2. Yavuz Sultan Selim Bridge:
This is the third bridge built to the bosphorus which connects Asia and Europe.
Contractors were IC ICTS (Turkish) and Astaldi JV (Italian)
Total lenght of the bridge is 2164 M.
Total cost of the project was 3.5 $ billion.
Contractor companies has all income and operating rights and liabilities of the bridge for 7 years and 9 months period.
Yavuz Sultan Selim Bridge started it's operations at 26/08/2016

4.3. Eurasian tunnel:

Worlds first double decked highway tunnel.

Contractors ATAŞ ve Yapı Centre (Turkish) and SKE&C (South Korea)

Contractor companies has all income and operating rights and liabilities of the tunnel for 24.5 years.

Total cost of the tunnel was 1.245 $ billion.

According to contractors and Turkish Republic authorities tunnel has resistance for 9.0 magnitude earthquakes.

Eurosian Tunnel started the operations 20 /12/2016 and even now it started to make profit. Current number of Daily pass is around 65.000 cars.

Total cost of the tunnel 300$million.

Those are the completed projects done in last decade and they are all in operation currently Turkish Republic Minister of Transportation and Communication declared also in his interview that "All other countries and governments around the World envy our business model for those constructions which is private and government supported semi private companies cooperated project practice. This is important because Turkish government did not spend any tax payers money for those projects so none of them constructed by governments budget. "

According to the Minister of Republic of Turkey if they have strived to do this constructions from the goverments budget it is nearly impossible to finish them all in the 2 year period.

Personally I agree and appreciate the liberal mindset of government and making those infrastructure without spending tax payers money without borrowing a debt from international institutions.

Liberal mind set and private contractors and businesses should be supported more on government projects in order to make them cost less for the tax payers.

As Mr. Minister also added afterwards after the rental agreement in example 10-25 or 50 year period those projects will still belong to that particular company.

4.4. Continuing construction projects of Turkish Republic:

4.4.1. New Airport of İstanbul:
Contractors are Limak-Cengiz-Mapa-Kolin-Kalyon companies. They will have all income and operation generated by the airport for 25 years time period. This airport expected to ease the air traffic of the İstanbul especially for the transfer flights. Started the construction on 20.05.2013 estimated cost of the project will be 22.152. 000.000 EURO.

4.4.2. Channel Istanbul Project:
Project building an artificial channel by dividing the lands of Istanbul peninsula. Estimated total cost is approximately fifteen (15) billion $.

The main purpose of building another channel despite of the Bosporus is enhancing the tax income from international trade by imposing tariffs to the vessels the ones which are willing to use this channel.

Turkish government claims that Bosporus is too slow for international trade size of Turkey and the Bosporus region. Also Turkish government is not eligible to earn any revenue from Bosporus due to Montreux Convention of Straits (1936). After this channel constructed Turkish government will have the right for imposing tariffs from the vessels by this way the main purpose is generating some more income.

Debates mostly based on the ecological and environmental effects of this channel construction project. Dividing a peninsula will surely damage the ecological diversity of the region and damage the environment. The other concern is about geological situation of İstanbul and North Marmara fault. It is a well known truth that North Marmara region and İstanbul particularly has an active fault under the land. Therefore before starting the project it is vital to make objective researches about this issue and evaluate the construction according to that the decision should be given. Although all of concerns above according to Prof. Dr. Naci GÖRÜR which he is an expert on sedimentology study field and also dived under 1240m in order to investigate the İstanbul's and North Marmara Regions faults claims that risk of this project is massive. He is claiming that first of all under the water is already polluted enough and there is a massive oceanographic risks of making this project which is related to ecological balance of the sea and the peninsula. He is claiming natural stream of the water will be highly effected due to this project and this may cause more polluted water. (http://www. milliyet. com. tr/yazarlar/dusunenlerin-dusuncesi/-kanal-istanbul-da-cevresel-risk-var--1712652/)

Despite all of those concerns goverment officials decided to start the construction at the year of 2019.

On the other hand former Turkish Admiral and former dean of the Turkish Military College Türker Ertürk claims that channel İstanbul project consists high risk due to Montreux Convention of Straits (1936) in aspect of international political relations. He also claims that channel İstanbul project is not really useful project in terms of civil marine trade or international trade. Estimated width will tighter according to bosporus and channel will also have less depth according to Bosporus in the planning project. He is concern is about how Turkish government will convince the vessels to use this channel and pay for it. This question is still on the table. According to former Turkish Admiral Türker Ertürk if Turkish government somehow artificially slows down the bosporus traffic or somehow attempts to force the vessels for

passing the channel and charge it will violate the Montreux Convention of Straits and this violation could cause massive political problems for both Turkey and also for other neighbour states. In terms of violation of the Montreux Convention of Straits it's validity will be debatable and it could even voided in the worst future scenario. This issue has a massive importance because this convention ensures that only the countries which has the shoreline to the Black Sea could have an military force in the Black Sea. In example in the past couple of years ago between Georgia and Russia conflict U. S could not send a military force even a hospital ship due to Montreux Convention of Straits. Therefore former admiral emphasises that dominating the oceans and seas are always long-term goals of U. S and according to that reminds and asks us about "which country will benefit from channel İstanbul more Turkey or some other foreign countries?"As a result of those different perspectives channel İstanbul should and surely will be discussed more if Republic of Turkey starts the construction in the year of 2019. (Türker Ertürk / https://odatv. com/kanal-istanbulun-altindan-ne-cikti-0702161200. html)

4.4.3. Akkuyu Nuclear Power Plant:
The projects construction officially started by Turkish President Recep Tayyip Erdoğan and Russian President Vladimir Putin at the day of 03.04.2018.
Contractor company is Russian State Nuclear Energy Institution.
Estimated cost is 20 billion $ currently. Radiologic wastes will be under Russian Federation's responsibility. The estimated time of opening is 2023.
The history of the construction began at the year of 2011 with the first topographic ground surveys. All other joint local contractors of the project were chosen by Russian State Nuclear Energy Institution.
Stakeholders of the projects are and their equities:

      a. JSC Atomstroyexport - 2,267%
      b. JSC Inter RAO - 0,820%
      c. OJSC Concern Rosenergoatom - 21,948%
      d. JSC Atomtechenergo - 0,025%
      e. JSC Atomenergoremont - 0,025
      f. CJSC Rusatom Overseas - 74,915%.

50 Turkish students selected for taking their education and training at National Research Nuclear University MEPhI at Russian Federation. The purpose of this education programme is training capable engineers for running nuclear power plant smoothly. After the graduation those students will do their internship at the ROSATOM Science Tech Centres. (http://www. akkunpp. com)
As we can observe that roots of the project has been started at the year of 2011. It is undeniable that Turkish Republic needs additional sources in order to provide cheaper and cleaner energy in order to achieve this goal opening a nuclear power plant is a normal consequence. On the other hand this is also a strategic alliance of two countries. Even though the conflicts Turkish Republic had with the European Union and NATO Turkish Republic chose to sign the agreement. It is also noticeable that nuclear power plant project process accelerated after the unsuccessful coup attempt to the president Recep Tayyip Erdoğan.
Turkish Constrution companies expanded overseas:
Construction industry generates %5.9 of the total GDP and employs approximately 2million of the population directly with the complementary sectors the number is 4 million the impact of the of the Turkish economy %30.

The very first expanding overseas of Turkish construction companies started with the Libya port project at the year of 1972.

Currently according to Engineering News Record (ENR) out of 250 top construction companies 42 were Turkish companies as a natural consequence of this Turkish construction companies are one of the important exporter of this industry.

Between the years of 1972-2017 Turkish construction companies operated and completed approximately 9000 projects at 114 countries all around the world.

Let's check some significant examples done by Turkish construction companies made in overseas.

Some major examples of those projects are:

1. *Doha Metro Project (Qatar)*

2. *Awash-Weldia Railway Project:* Awash Weldia railway project will connect 389km area in Ethiopia. Location: Awash, Woldia / Ethiopia

3. *Congress Palace of Equatorial Guinea:* Turkish construction company Tabanlioglu Architecture company is liable for the construction of congress palace of Equatorial Guinea at the city of Malabo.

This project completed at the year of 2011. This project also won the best global cultural architectural design award ENR at the year of 2013.

4. *St Petersburg - Moskow M11 Highway, tunnel and bridge projects:* Client is Two Capitals Highway LLC and the contractor ICTAS construction company and contract has been signed at the year of June 2015. Location of the project is St Petersburg / Russian Federation and project is still continuing. Project consists 140km 2x3 and 2x4 laned highway 18 bridges and 46 viaduct and 1 tunnel will be constructed. Estimated cost of this project is currently 3 billion Euro. (http://www. icholding. com. tr/TR/Insaat/ProjeDetay/53).

5. Russian Federation Yayva City (Perm) Iraq Electric power plants:

6. Azerbeijan - Baku Olympic Stadium: Client of the project was SOCAR (State Oil Company of the Azerbeijan Republic) and the contractor was Tekfen Construction and Installation Co. Inc.

7. Pristina International Adem Jashari Airport constructed by LİMAK construction at the year of 2013 it completed. The LİMAK company is also currently managing and operating the airport after the construction. The cost of the project was 140 million Euro. (http://www. limak. com. tr/basin/basinda-limak/2013/kosovayi-dunyaya-limak-terminali-acacak)

8. Banja dam and hydroelectric power plant / Albania: Contractor company is LİMAK construction company. Project strted at June 2013 and it completed at the year of 2016 and currently producing electricity for Albania. (http://www. limak. com. tr/sektorler/insaat/projeler/tamamlanan-tum-projeler/barajlar/banja-baraji-ve-hes-devoll-hidroelektrik-santralleri-arnavutluk)

9. Kigali Convention Centre (Rwanda): The construction project started with Chinese company but construction could not completed for 4 years and eventually Rwanda Goverment decided to resign with Chinese construction. On 16 April 2015 Rwandan Government took a very radical decision by signing the contract with SUMMA and replacing previous contractor with Summa.

At 25th of May, 2016 and the project is completed before even the date promised to the goverment. (http://www. summa. com. tr/en/projects/kigali-convention-center-and-hotel. htm)

5. Buılt - Operate - Transfer (BOT) Model

Population is increasing day by day and with the new technological improvements vast majority of the population at the developing and developed countries are living at the urban areas and cities. This makes necessity to make new investments to those cities. However financing the investments in infrastructural projects and inadequate financial resources led countries to find new financial models. Built-

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Operate-Transfer model allows infrastructure investments and services that countries can no realize with limited budgets to be realized faster and more efficiently with the contribution of the private sector. These projects are naturally high risk investments which requires large amounts of monetary sources. Built-Operate-Transfer method makes these investments available without lending money from foreign resources. Particularly in Turkey this investment tool started to spread up after 1980. There are several kinds of this model:
1. Build-Own-Operate
2. Design-Build-Operare-Transfer
3. Build-Own-Operate-Sell
4. Build-Own -Operate- Transfer
5. Build - Operate - Train - Transfer
6. Design - Build - Finance - Operate
7. Design - Construct - Manage - Finance
8. Lease-Refurbish-Operate-Transfer
9. Rehabilitate-Lease-Transfer

5.1. History of the Built Operate Transfer system:

History of the BOT model goes to 17. century. At the time of British Queen Victoria period BOT method used for electric and water distribution facilities. Governments used the tax payers money for military and government services and use BOT model for infrastructure investments. BOT model started to use at the world after 1800's. The very first record about the BOT model is at the year of 1782 at Paris about water distribution. Water distribution of the city was given to the Perier Brothers Company. After this implementation Italy, Germany, Belgium, Spain implemented this model also.

Afterwards BOT model implemented to the Suez canal at Egypt. Suez canal opened at 1879 and all operations rented to constructor company for 100 years. Also Trans-Siberian railways constructed with same methodology. But suddenly after 1800's till 1970 BOT model did not use for several reasons. The main reason BOT did not used was the World Wars and demolition caused by the wars. Demolition was huge after World Wars therefore the costs of construction were high and political environment was unstable in order to those reasons private sector participation was not feasible at this time period. Also as we remember well after 1929 economic crisis countries were more interested to control the economy therefore private sector investments could not find place for theirselves at this time period.

Even though after 1970's after the rise of liberalism and globalism also with fast urban development and rapid increase at the urban population BOT model spread up again.

After 1970's former Yugoslavia state also benefited from BOT model and permitted private companies to produce and sell energy at the Bosnia and Herzegovina area therefore private companies took credit loans and built hydroelectric power plants to this area.

At the similar time period also USA legislated the law which gave permission to private sector to produce and sell the energy.

The main reasons why Built-Operate-Transfer model became popular again:
1. Rapid growth and rapid increase at the population and rapid and unexpected urban development. This also created need for infrastructure investments at the countries.

2. Countries do not have sufficient resources for those infrastructure investments.

3. Countries were willing to make infrastructure investments with political concerns.

4. International monetary credit funds advised to countries to support private sectors after 1980's.

If we return the Turkish history first BOT model announced at the year of 1910 at the Ottoman Empire legislated the law allows BOT model. At 20. and 21. century Ottoman Empire allowed French, German and British companies makes infrastructure investments all around the country. This was expected natural consequence for Ottoman Empire because they were losing wars and they had to accept those capitulations for those states. With those caputilations given to those states and their companies Ottoman Empire was be able to built İstanbul red tram line, tunnel for subways, Haydarpaşa Railway Station and Port, İzmir Port was made by foreign companies with the model of BOT (which is still actively under usage of the society). The very first BOT model at Ottoman Empire was the tunnel at Taksim square for the Pera subway at the year of 1870. It was given to French investor Gavand by Sultan Abdulazeez. Company operated the tunnel for 42 years after the construction.

If we check the Turkish Republic and BOT history first president who mentioned about Built-Operate-Transfer (BOT) and implemented this model was Turgut ÖZAL. He legislated BOT model and during his presidency period Republic Of Turkey benefited from BOT very much. He supported liberalization and globalization sincerly. According to legislation he made "Private sector can build infrastructure and could be able to have right to operate it maximum for 99 years".

The first BOT implementation agreement signed at shopping mall project not in energy field suprisingly. The first BOT agreement of Turkish Republic signed at the year of 1985 for Atakule Tower (Ankara) shopping mall and restaurant (02.08.1985). After this incident private sector intended to built electric power plant and BOT agreement signed for 11 electric power plants with the guarantee of Turkish Treasure guarantee for completion at the year of 1988. Afterwards 21 highway road projects also given to private sector without government treasure guarantee at the same year.

Sides of Built-Operate-Transfer Model:

- The host government and it's legal bodies.
- The local or foreign private investor company or consortium of these construction companies.
- Creditor banks which lends monetary sources for these companies. (If it is necessary).
- International lawyers and legal advisors.
- Insurance companies which investigate those construction companies status and making insurance for host government for these projects.
- With the current law of Turkish Republic a local or foreign company could built and maximum will be able to operate the infrastructure for 49 years time period.

There are several risks when you operate under the BOT model for operating companies:

1. Risks about operation.

2. Market and Income risks.

3. Political risks.

4. Financial risks.

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5. Legal risks.
6. Project itself could be risky such as like nuclear power plant.
7. Foreign currency risks.
8. Pricing the services for the infrastructure is also consists risks.
9. Profitability risks.
10. The countries economic and political situation which will receive the investment.
11. Inflation risk.
12. Interest rate risk.
13. Currency exchange risk.

5.2. Possible Advantages and Disadvantages of Built-Operate-Transfer (BOT) Model:

Advantages:

1. If the investor companies are foreign companies that means this investment will bring host country foreign investment and foreign currency.
2. Advanced technology transfer and know - how situation.
3. Decreasing public share in the host economy.
4. Governments are not spending money and not entering under burden of huge international debts.
5. Employment and tax income eventually increases.
6. More quality infrastructure facilities are availabe for the developing and less developed countries.

Disadvantages:

1. The preparation of the process might be long and complicated.
2. Possible long term threats about countries self protection due to renting infrastructures to foreign countries companies.
3. Possible odd of bankruptcy of the contractor and not completed construction. (Which will cost more to complete it afterwards)
4. After the built and transfer part of the operation it will be transferred to public sector and this may cause enhancing public sector percentage on the economics datas.
5. At the stage of transferring the infrastructure the facility might be battered due to long rent periods.

There are several countries also benefits from BOT model quite much for their infrastructure investments. One of them is Egypt. Egypt built and renewed whole countries airports by using BOT model.

Here are some examples:
1. Marsa Alam Airport (Egypt)
2. Al Alamin Airport (Egypt)
3. Cairo Airport (Egypt)
4. RasSedr Airport (Egypt)
Elshamy A. W (2011) Evaluation of airport projects (BOT) in Egypt (Master thesis) Ain Shams University
Now we will demonstrate some construction projects completed at Republic Of Turkey with BOT model:

1. Yuvacik Barrage
2. Sabiha Gökçen Airport
3. Antalya Airport
4. İzmir Adnan Menderes Airport (International extension)

5. Dalaman Airport (https://www. icisleri. gov. tr/inceleme-arastirma-raporlari) Mınıstry of Interıor

If we investigate about the electricity power plants BOT models consist %11.26, percentage of the power plants already transferred to the public is %1.71 completely private energy companies in electric power production industry is %60. 31 so the public electric power plants percentage in the industry is just %26.71.
 (Electricity Industry Sectoral Report 2016) https://www. epdk. org. tr
Some massive construction projects Turkish Republic preferred to complete with the BOT model: Eurasia Tunnel, 3. Airport of the İstanbul and Marmara-Aegean highway road infrastructure.
Comparing ATAU (Kazakhstan) and Dalaman (Turkey)airports both constructed under the BOT model:
ATAU (Kazakhstan):
Costs: 31.000.000 $
Tender year: 2007
Construction Started: 11/9/2009
Rented for: 30 years
Past BOT Experience: No experience
Passenger Type: Industrial passenger
Dalaman (Turkey):
Costs: 134.000.000$
Tender Year: 2004
Construction Started: 1/7/2006
Rented for: 9 years
Past BOT Experience: Experienced for more than 2 decades
Passenger Type: Touristic passenger

At Dalaman airport Turkish Government gave the constructor company eligibility to operate the airport for 30 years and government guaranteed annually 1. 000. 000 passengers on the other hand Kazakh government gave the constructor company eligibility to operate for just 9 years and did not gave passenger guarantee. Although they guaranteed Kazakhstan government will not give permission to build a competitive airport in the next 30 years after project has been completed.
Furthermore Turkey has more democratic and liberal roots than Kazakhstan. One related incident happened while those projects were on construction process. Turkey provided the freedom the constructor company requested and needed on the other hand Kazakhstan government did not permit for setting up an asphalt plant during the construction also refused the exterior material. That examples define us Dalaman airport was more successful BOT model project with all technical feasibility but Kazakhstan had experienced deficiency at feasibility and some difficulties due to lack of BOT model experience.
As a natural consequence of all above Dalaman airport completed 8 months earlier than expected.
In the Dalaman airport construction companies used credit from 2 German and 1 Turkish bank on the other hand at the Aktua project only consortium used credit. Dalaman airport needed less relationship with the goverment it was more private sector based Aktau airport project process was much more closely linked to Kazakhstan government. Comparative advantage of Turkish Republic according to

Kazakhstan is Turkey had established legal system about BOT model and has more experience.

Kashef, M. (2011). "Critical Success Factors for Build Operate Transfer (BOT) Projects: Lesson Learned From Airport Projects", Master Degree Thesis, Middle East Technical University

Private Sector Advantages at airport construction (BOT model) and airport operations:

+Easy project finance.
+Making profit objective.
+Airport industry stability.
+Multipurpose project.
+Diversity of investment.
+Diversity risk distribution.

(Elshamy A. W. 2011. Evaluation of airport projects /BOT in Egypt. Master thesis Ain Shams University)

If we summarize about the BOT model it is necessity to use BOT model especially for developing countries due to rapid increase of the population, enhancing technology, governments strive for increasing the wealth created the need of constructing more infrastructure at urban areas. BOT model is much more efficient way for handling long-term massive constructions especially for developing countries with limited budgets.

6. Conclusion

First of all we can refer that Republic of Turkey used construction sector as an engine for economic growth and industrialization. Since before 2000 and even nowadays we can not refer that Turkey has been completed it's industrialization process. There were also many obstacles for implementing global economic policies and lack of legislation for accurate globalisation and EU integration process before 2000. After the conservative party elected at the year of 2002 they have accelerated the globalisation of finance and stock market in order to cope and survive from the economic crisis they have implemented strict monetary policies also restructured the law system in all fields coordinated with the EU law. Furthermore they have also made legislations about privatization process of public administrations in order to make them more efficient and reduce budgetary expenses of government. Within the lights of these information the new conservative democrat government chose construction industry as an engine for the economic growth. We should also consider the effect of the unfortunate Marmara earthquake which caused mass demolition and it was a necessity to reconstruct several cities which were effected from the earthquake massively. We also referred with the lights of these researches Turkish economy became highly relied on construction sector and rapidly became retailed service economy.

We investigated the massive construction projects built in the Turkish Republic within the BOT model and how efficient they are running this model of constructions in all over the country for nearly four decades we also referred the giant construction companies of Turkish republic and their internal and external operations and their economic growth in last decade. We also briefly demonstrated political support in Turkish republic through construction sector and construction operations.

We can describe construction industry as a train which countries should take for take-off speed for their initial development in order to improve and complete their infrastructure needs and increase their employment rates enhance their GDP and useful tool for boosting their economic growth.

Althought they should also be aware that they should get off from the train when they achieve their short-term development goals and they should invest their surplus funds to more renewable innovative industries. All developed countries experienced through the same process as we can see at the researches above and they chose to invest more innovative industries mostly on high technology industries. We can give the example of those countries as Germany, Italy, South Korea in the first glance. On the other hand Republic of Turkey decided to persist to keep their prior economic attention on construction industry and even increased the investments at the construction sector. Although as we previously referred construction sector as itself does not have a boosting effect on general economic growth or on the GDP. It does not lift the economic growth at the slow downs. In many cases we have been investigated also in the related graph we referred about Turkish economic growth and construction sectors growth it is clear that we can define construction industry just follows the general trend at the economy. Therefore Republic of Turkey also having economically rough times since 2016 and clearly incapable to keep and control the foreign investment flow and exchange rate parity. Although with the direct impact and order of the current president Recep Tayyip Erdoğan central bank of the Republic of Turkey still persists to hold real interest rate levels relatively low despite of high exchange rate pressure. One of the major reason for all of these efforts above is attracting foreign investor in Turkish market again and particularly for construction industry and real estate market. Although after the coup attempt, enchanced political tensions, sequential elections and the unfortunate terrorist incidents happened in 2016-2017 foreign investors still does not consider Turkey as a safe port except a couple of politically allied Gulf Arabic nations.

In order to escape from this misleading poverty trap continue on the path of economic development all developing countries and their politicians should be vigilant if they also chose or have chosen construction industry as an engine for economic growth. They should be aware that after the remarkable peak point they should re allocate their financial sources to another industry which preferably to more innovative and futuristic industries like bio-technology, ICT or even low skill required textile industry (If countries substructure is inadequate).

Governments should also support those industries with subsidies and incentives in order to keep their economic development sustainable.

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MAGISTRATURAL STRATEGIES OF THE URBAN PUBLIC ADMINISTRATION OF IMPERIAL TIMIȘOARA. THE ADMINISTRATIVE TRANSITION PROCESS

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Abstract: *The article highlights the existence of a non-deliberate strategic approach in the process of urban transformation and development of Timisoara city, in its imperial period, strategic approach practiced by the city magistracy. As a way of treating the subject, we used multidisciplinary analysis of the historical contexts in holistic optics (urban analysis, community analysis, territorial organization analysis, etc.). Deconstructing the historical language (Derrida, 2009, 29-70) and the related concepts, in order to theorize, from a strategic point of view, the reality unexplored so far, namely the strategic valences (Koselleck, 2009, p 42) of magistrate activity of Timisoara during 1716-1776. The practice of this research methodology helps us confirm the strategic character of urban transformation development and to make intelligible the evolution of europeanness of the city in the period mentioned.*

Keywords: *Urban Strategies; Urban Planning; Urban Planning; Imperial Timișoara; Regional Development.*

JEL Classification: *N93; R58; O43.*

1. General introduction

The administrative transition from the Ottoman administration, which was present in Timisoara until 1716, to the Austrian Imperial administration, underwent urban transformations of European inspiration through the European character of the Austrian administration.
These changes have occurred mainly in the field of public administration, introducing, adapting and regulating various aspects regarding the performance of public institutions, as well as interventions in socio-cultural aspects. Due to the regional and local self-government capacity, earned from the decision to not including the region to the Empire (Feneşan, 1997, pp 16-18) and by regional and local imperial much more flattened hierarchical structures (CDNAT, 1/1718, CDNAT, 5/1773) than the Ottoman were (Vicze, 2006, p. 98-99), the Magistracy of Timişoara city, became the first imperial local administrative institution (CDNAT, 1/1718, Vicze, 2006, p 202-203).
Subordinated at regional level to the Command General or, in some cases, directly to the Vienna Court through the Imperial Administration of Banat (Landes Administration - CDNAT, 3/1718), the activity of this local public administrative institution proved to be innovative, having the ability to aligned the region and implicitly the city of Timisoara to the level of development and the European spirit of the developed cities of the Empire.
The analysis of the work of this institution during the administrative transition, and the organization of Banat and the city of Timisoara as part of the region, has

attracted curiosity in terms of strategic planning and parallel development of multiple urban aspects and elements.

2. Research methodology

This research aims at creating a record of the main categories of magistratural strategies implemented in Timisoara during the transition and administrative organization of the region.

Identifying these strategies was possible due to the research methodology used. This methodology proposes creating a melange between research methods in two distinct scientific fields and represents a pioneering attempt in contemporary managerial research.

The two areas are history and management, and the combination of historical research methods (Koselleck, 2007, p. 7) and research methods in strategic management (strategic diagnosis) we believe has the ability to highlight, nuance and substantiate untested issues so far regarding the potential of knowing the interference area of the two domains.

From the historical research methods we have chosen to use the deconstruction and reconstruction of the historical language (Derrida, 2009, p. 29-70, Cuţitaru, 1997, p. 10-11) and the related concepts drawn from the historical documents contained in the County Directorate of National Archives form Timisoara, Fund No. 2 regarding the activity of the Magistracy and City Hall. From the point of view of interference with managerial research methods, common areas have been outlined by the interpretation of activities, facts, historical events, applying the logic of strategic management.

Thus, it was possible to identify the similarities or even the correlations between the description in the historical documents, using the historical language, the behavior and activity of the Magistracy of Timisoara and the contemporary concepts used in the strategic management to describe those behaviors and activities.

This mix of research methods made possible the identification, knowledge and translation in contemporary terms of the strategic valences of the Imperial Magistracy's activity in Timisoara during the transition and organization period, 1716-1776, respectively the identification of the manner in which we witnessed the alignment of the region and the city to the spirit of Europeanity through Imperial integration (Dinand, 2006, p. 12). The difficulties of the research were due to the large amount of existing data in the County Directorate of National Archives.

3. Results and discussions

The applied methodology, analysis of the documents and the rebuilding of the contexts of those public administrative activities that carry strategic valences allowed the categorization of the reformulated strategies in contemporary terms.

3.1. Signs of the first attempts to secure the city of Timisoara
Since the beginning of the administrative transition process, the first main concerns of the administration that were newly installed in Timisoara in 1716, had non-deliberate strategic valances. The attention was spread over many public urban aspects and can be conceptually assimilated to what we call today urban security strategies.

As an example, we can highlight the first works of fortification of the walls of the fortress, carried out only a few days after the installation of the new administration and the construction of a new massive fortress that will later become of great importance in the Empire. By rethinking and reforming in contemporary terms, we can say that the new administration has developed and implemented non-deliberately strengthening fortification strategies or fortress management strategies. Another strategic concern has emerged around the activities of institutionalizing military security in the form of urban public administrative structures. The facilitation of institutionalization through the construction of the Transylvanian Warehouse, which was destined for the garrison, was also the longest in Europe. These activities can be assimilated to urban military security strategies. The construction processes of buildings that would function as public administrative institutions can be assimilated with administrative infrastructure development strategies.

Another dimension of urban securitization can be assimilated to demic control strategies (CDNAT, 3/1728), exclusion and urban penitentiary strategies. These strategies were earned through the reconstruction of the language and concepts, assimilating the administrative function of controlling the ethnic structures and the number of inhabitants accepted in the city.

Besides strategies, the contextual factors of urban securitization play an important role. Derived from the formal organization of security structures with emphasis on prevention against natural disasters (CDNAT, 1/1731).

All these activities and concerns of the city's administration are strategic in ensuring the conditions of institutional security and stability necessary for long-term city development and alignment at other Imperial cities.

3.2. Introducing community spiritualization processes

Another direction of assurance or security that the public administration has developed was the spiritual securing or uniformity of spiritual and civic values.

Due to the administrative change, there were also extensive confessional changes. In order to ensure a common set of confessional values, the administration wanted to develop and maintain spiritual connections (networks), desirably assimilated to regional spiritualization strategies. Parishes and bishops had the role of developing the spiritual network by installing the priests and building in the Romanian and Serbian villages' churches of their rites (Grisselini, 1984, p. 126).

Although Roman Catholic religion was not among the only religions allowed and practiced, there was a need of conformation of other religions to Roman Catholic one (CDNAT, 3/1752). These strategies can be assimilated with what we can now call strategies of community spiritual compliance and food-spiritual compliance, regarding post days. Some historical documents contain information on positive stimulation (CDNAT, 4/1764) or what we could call today, in terms of human resource management, empowerment or positive spiritual motivation through the development and implementation of community spiritual education strategies. Spiritualization strategies are not deliberate, but have strategic valences because they shape or remodel civic, spiritual and public value set, civic and administrative model of thought, and common regional culture.

3.3. Initiating regional and urban territorial organization

The importance of territorial organization is important at the time of an administrative transition, as it was in the case of Banat region and implicitly the city of Timişoara.

This regional administrative process has strategic valences and can be assimilated with what we call today territorial strategies.

The first organizational direction, which gave the region administrative distinctiveness, (CDNAT, 1/1718) can be assimilated to non-deliberate self-management strategies, deducted from the region status of not included or annexed to the Empire. The region was administered directly through the court in Vienna through the Imperial Commission specially created for Banat in 1716, and later by the Provincial Administration of Banat. At the level of local organization, resulting in local public administrative structures, we can identify the innovation strategies of some hierarchical structures that have been taken from the empire and adapted locally, others already developed by the German and Serbian Magistracy (CDNAT, 6/1772).

Other effects of the territorial organization are caused by the setting of the first major development directions of the city (CDNAT, 1/1718) by what we call today urban public organization strategies. These strategies had interventions in regulating urban commerce (CDNAT, 2/1756) and can be assimilated to fiscal and commercial organization strategies and also had impact on the regulation of judicial issues (CDNAT, 11/1718) and to judicial subordination assimilated to local judicial innovation strategies. According to a historical document (CDNAT, 1/1762), which includes the determination of the spheres of jurisdiction of the civil and military authorities of the German hereditary provinces, the standardization of judicial competence throughout the Empire was carried out, including the Banat region and the city of Timişoara. Thus we can talk about the integration of the judicial competence of the civil and military authorities in the city of Timisoara.

3.4. Urban and interurban logistics development
During the period of the region organization and implicitly of the city of Timişoara, the main urban and interurban logistics projects (CDNAT, 2/1756) focused on two development directions: land and river transport, and could be assimilated to innovation of goods and passenger transport diversification strategies.

The public channelling works of the Bega river have benefited from increased attention due to both the low transport costs and the capacity to connect Timisoara to the central European river system. Low costs have played an important role both in developing the commercial network, rigorously regulated by the local administration (CDNAT, 2/1756, CDNAT, 13/1768). Importance was also identified in creating and maintaining inter-human and interinstitutional relations with European people and institutions.

The importance of developing transport innovation strategies in the first phase of the river has strategic valences due to the ability to connect Timisoara to other European cities, to the European spirit and value system and to facilitate the perceptual opening and travelling possibilities to passengers from and in the city of Timisoara.

3.5. The onset of agricultural development
Among the administrations objectives of regional organization we also find agricultural development, expanding the practice of agriculture through what we could call today diversification strategies of the source of income in the region.

The first agricultural extension strategies were supported by geological and logistics projects that were necessary for their implementation: mowing, dumping, sewerage,

locking, harvesting available agricultural areas, increasing agricultural productivity, new methods of soil fertilization (Stelu, 2010, p. 137-153).

In addition, there were also emphasis on strategic landmarks of cadastral redesign (CDNAT, 5/1776), reorganization of land, reallocation of agricultural parcels, street fronts, development of agricultural road networks assimilated to the urban and rural cadastral organization strategies.

4. Conclusions

Due to the multidisciplinary treatment and the design of a holistic vision on the subject, the objective of identifying knowledge of the strategic valences of the Imperial Timisoara magistrate was achieved.

One can identify among the strategies identified in the article a logical order in their development and implementation, based on the systematic and substantiated development of the various urban planning elements.

At the same time, through the implementation of the strategies, the local public administration intervened on the status of Timisoara as a European city, not only in terms of political-territorial affiliation but also of the civic spirit.

By deconstructing language we can rebuild concepts (Koselleck, 2009, p. 41) to understand in the everyday language the strategic approach of the work of Magistracy of Timişoara between 1716-1776, the period of its organization. Reconstruction and categorization of the concepts presented in the resulting chapter highlight the multitude of possibilities to enhance the proactive conceptual theoretical basis (Koselleck, 2009, p. 43) and the importance and potential of innovation of the applied research methodology.

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2. The concept of history has to be categorized, it is not enough to talk about history (Koselleck, 2009, p. 7). There are at least two major categories: social history or conceptual history. Conceptual and social history have a universal character, being the application of other subcategories of specialized history.
3. Dinan (2006, p. 12) presents previous forms of the existence of an economic and political union before 1945, long before the First World War. He names it Imperial Integration. As an example, it also offers the Habsburg Empire.
4. The problem of conceptualization is actually the link between language and history. The facts of the language, the concepts around which the political debate focuses, relate to the historical experiences that have generated them sometime. In other words, concepts exist due to past events. (Koselleck, 2009, p 41)
5. Language (represent the concepts) develop more slowly than events, they need time and multiple events of influence to change semantics. Concepts are reactive to events. Proactive concepts (Koselleck, 2009, p. 43) are linguistic or conceptual innovations.

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8. 3/1718, file 1-2: Report of the Timisoara City Magistrate to the Imperial Administration (Landes Administration) regarding the use of mistakes and false measures by Serbian merchants and the need to unify weights and measurements. Possible negative effect on local business relations and implicitly on local development which was based on commercial activities.
9. 11/1718, file 1-2: The request of the German magistracy that the tolerated Serbs within the city should be brought under his jurisdiction.
10. 3/1728, file 1-2: Nominal specification of the German Jews in the Timișoara fortress, on the reverse the resolution of the provincial administration regarding the arrest of people who are not tolerated.
11. 1/1731, file 1-20: Firefighting regulation made up of 21 sub-points briefly developed.
12. 3/1752, file 1-15: File with the provisions of the Administration regarding the observance of the Roman Catholic holidays needed to be celebrated by the population of all rites.
13. 2/1756, file 1-8: Provisions of the Administration to the magistracy on the regulation of food trade made by foreigners from foreign commercial vessels that stop in the so-called "Navigable Mercy Channel".
14. 4/1764, whole document: Meetings record of the German Magistracy of the city of Timișoara on gifts for pupils in order to stimulate the learning of Roman Catholic religion.
15. 13/1768, file 1-40: Registry of the sessions of the German Magistracy of Timisoara (*Sessio in publicis et oeconomicis*), comprising the following:: acquisition and export of gold and silver, import of coffee and sugar surrogates, etc..
16. 6/1772, file 1: The President of the Administration, Count Brigodo, tells the Serbian magistracy that the Mehala suburb is removed from his administration and moves to one of the newly created perceptions (Rentämter).
17. 5/1773, file 1-2: The administration communicates to the Serbian Magistracy that on the occasion of the Emperor's arrival anyone (personally) can file complaints or requests to him. Direct transmission, direct communication, the possibility of approaching the emperor can be assimilated to a flattened hierarchical structure.
18. 5/1776, file 1-6: Observer order controlling land partitioning, improving agricultural labor organization, etc. in the Mehala suburb.
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AN OVERVIEW OF THE EUROPEAN UNION RESILIENCE CAPACITY: SCIENTIFIC LIMITS AND METHODOLOGICAL ASPECTS RELATED TO ITS MEASUREMENT

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Abstract: *Over the last decade, the measures implemented to ensure development at European Union (EU) level were taken from the need to provide a stronger resilience capacity in order to respond adequately to various internal or external shocks that may occur and affect the economies. In the current globalised era, a shock is created, for example, on labour markets, which are facing new vulnerabilities like the volatility generated by the 'instant changes'. A disparate policy or a sectorial crisis could induce major consequences like migration waves or unemployment, simultaneously influencing more countries and regions at the same time. Considering these aspects, the purpose of this paper is to outline both the main scientific limits related to resilience concept and the methodological approach of measuring the resilience capacity of EU countries from a multi-dimensional perspective. Studying the assessment of resilience involves answers to questions such as: The EU as a whole experienced a progress in terms of resilience (the capacity to absorb shocks, to resist, to adapt and to transform), especially after the onset of the financial crisis from 2007-2009? What countries of the EU have the capacity to resist better to shocks or mitigate some turbulences? The crisis represented for some countries a new start for macroeconomic recovery? The eastern countries may recover the development gaps faster than the western ones? To what extent these states have the ability to integrate into their development models elements of adaptability/reaction? To what directions they should orient the resources? The countries may respond differently to these challenges, depending on their resistance status? An analysis based on resilience capacity from a multi-disciplinary perspective should provide a system-wide evaluation of the current situation in the EU, defined by political and economic crises, the globalisation effects, and the structural changes in the society. Importantly, the need for studying the resilience capacity also stems from the on-going search for reliable adaptability to a changing geopolitical environment. In addition, it can help identifying vulnerabilities in relation to various types of shocks and to propose appropriate measures to increase resilience capacity and speed up eastern economies' convergence process to EU standards. Particularly, the resilience approach can capture the weaknesses of the systems characterised by instability, insecurity, institutional weaknesses and structural fragilities, as well as inefficient governance. It can, thus, offer a scientific basis for the design of public policies.*

Keywords: *EU's resilience capacity; scientific limits; methodological aspects; integrative approach.*

JEL Classification: *C18; O10; R10.*

1. Introduction

One of the defining features of the economic dynamics at world level over the past decades has been the acceleration of the pace of change, which has generated asymmetric shocks at international, national, regional and local level. In its attempt to understand how economies can react more efficiently to impulses introduced in the system by the external environment, as well as to identify solutions for the more efficient valorisation of opportunities generated by changes, the specialised literature has gradually led to a new approach, crystallised around the concept of "resilience". The global crisis of 2007-2009 has strengthened the academic interest in examining resilience and its interdependency with economic development. This focus is further underscores by the protracted economic slowdown in Europe and increasing regional and global geopolitical instability. International organizations pay also a central attention to resilience in their visions of development (OECD, 2014; World Bank, 2014; UNDP, 2014), suggesting that resilience gradually tends to replace sustainability as the ultimate goal of development, in this way confirming the fact that resilience is a priority in international research (Folke, 2006). For the European economies, the study of resilience gains further importance, given by the dynamics of changes induced by positive and negative integration processes. This is especially valid for central and eastern European economies that have been "forced" into a fast process of adjustment to a new economic, legislative and government system and they are still undergoing a difficult itinerary of restructuring and integration. Within these countries, the context of transformations induced by the international environment has consequently been associated to those generated by the integration process, thus rendering research on their resilience capacity even more necessary (Bristow and Healy, 2014).

Academic literature proposes two approaches to resilience and its relation to the long-term development (regional, local, urban). The first approach (used in environmental and engineering sciences) offers a static vision of resilience: it refers to an economy's capacity to resist to shocks, thus integrating the changes implied by these shocks within its system and consequently returning to equilibrium. The equilibrium in turn, can either be the initial one or a new one with maintaining functions, structures and growth model (adaptability and recoverability). According to this approach, the system may resist, adapt, and return to functional balance while keeping the pre-shock development model (Davoudi et al., 2012). The second approach, developed by social sciences over the last years, suggests a dynamic vision of resilience: the economies affected by the shock do not just return to the initial balance or move to a new equilibrium but also transform themselves (in terms of structure and functions) affecting the operation of a new growth and development model (Haukkala, 2011; Bene et al., 2014; Martin and Sunley, 2014).

Interest in the study of resilience became manifest as early as the 1960s, but it has reached a critical mass in academic research relatively recently (Duval and Vogel, 2008; Martin, 2012; Modica and Reggiani, 2015), the concept being neither clarified nor integrated in growth and development models. Beyond the diversity of approaches, resilience is considered "a system's ability to resist, to recover or to adjust to the effects of shock or of change" (Mitchell and Harris, 2012: 2). Therefore, states (systems, in general) differ in their degree of adjusting to disturbances from the external (economic, politic, cultural) context, depending on their resilience

capacity. Thus, could be understood why the current global crisis has a growing interest, at international level, in the study of resilience and of its interdependences with economic growth. This interest is all the more justified if it is considered that the economic crisis persists and that the global and regional challenges are increasing. For instance, as a result of some natural disasters (earthquakes, floods, tsunami, explosions etc.), the academic world has taken a special concern in the study of a country's resilience capacity, after being affected by such a danger (Cutter et al., 2008; Manyena et al., 2011). Thus, resilience has become a vocal word in a wide range of disciplines, of which each has introduced its own working definition of the term. The basic concept was developed in ecological sciences but it has also been adopted by economics, social sciences, organisation, administration and management sciences, engineering, and medicine. In the sphere of economics strictly, a country's resilience means its capacity to adjust to change in macroeconomic contexts, to withstand sudden shocks and disturbance and to return to the desired equilibrium, be it the previous one or a new one. Considering that the conceptual framework of resilience integrates a variety of components from different domains it can be stated that, in time, it was created a new transdisciplinary discipline.

2. Theoretical and empirical limits on resilience capacity analysis

The resilience has recently become a key concept in designing the development policies at European level (cohesion policy, regional policy, environmental policy, etc.), some experts (Law et al., 2013; Boschma, 2014; Sensier et al., 2016) arguing that states should constantly seek to find tools to generate a stronger resilience capacity. Nevertheless, there are a number of limits regarding the resilience capacity analysis, which entail different risks (Bene et al., 2014: 615): first, it cannot always appreciate the extent to which resilience involves beneficial effects (the effect can be patchy, positive, with some countries/regions/cities, but negative for others); secondly, positivist vision could divert attention from the risks or negative effects that resilience can induce; thirdly, there is the risk of manipulation by abusive use of the term or by its improper use/misuse. Therefore, before setting resilience as the ultimate goal for development, one should distinguish between components of resilience that converge with development and components that undermine development. For instance, a system with reduced growth and with modest results may be very resilient at the same time (constrained by the need to survive). Therefore, these systems require providing opportunities that allow them to escape from poverty or avoid marginalization, in addition to strengthening resilience.

Referring to the main theoretical and empirical limits on resilience capacity analysis, these are given bellow:

a). The existing studies highlight analyses at the individual or household levels (Kurtz and Langworthy, 2013), or at the community level (Cutter et al., 2008); others focus on regions in Europe (NUTS2 level, according to the Nomenclature of Territorial Units for Statistics) or some states (Boorman et al., 2013). Based on a single level analysis, the determinants of the resilience process cannot be accurately reflected, and therefore, no appropriate policies can be drawn so that regional action can absorb shocks. Starting from this limitation in the literature, it is necessary to develop a comprehensive and multidisciplinary approach, which to combine several levels of analysis (multi-scale analysis): NUTS2 (regions), NUTS3 (counties), and LAU2

(Local Administrative Units: municipalities/cities). For example, at European level, there are no papers that address, in an integrated manner, LAU2 level. Placing the analysis at these levels may more precisely reflect the diversity of situations faced by territorial units in adapting to change.

b). One of the most essential limit of the existing empirical analyses which assess resilience in relation to long-term development refers to the fact that the current models do not reflect social dynamics, the role of the individual and of social organization in determining the systems' capacity to adapt and transform. The latest trends in literature have established that the major determining factors in the high-resilience regions are social capital and, implicitly, the strong relations/networks at the civil society level (Baliamoune-Lutz, 2011; Boyd and Folke, 2012; Putterman, 2013; Huggins and Thompson, 2015; Brooks et al., 2016; Östh et al., 2018). Many regional communities have shown flexibility, inventiveness and innovation in confronting, adapting and preventing the impact of the problems they were facing by developing their own institutional solutions, even in the absence of governmental support or of a functional social policy. Resilience must capture both individual behaviour and interaction with the other actors of the system (at micro level) as well as the impact they generate at the level of the whole system (the macro level).

c). Strongly related to the social capital, another fundamental role in development is played by institutions, which define the general framework, shape behaviours and business environments, the governance system, as well as government effectiveness. Formal and informal institutions define a system and determine the way it efficiently manages the processes within the economy, the way it is able to expand the sources of innovation and development on the long-term, to absorb shocks, fill gaps and overcome path dependence. So far, studies related to resilience have paid little attention to the role of institutions and of the governance system, thus significantly diminishing the explanatory power of resilience theory (Kramer, 2010; Efendic et al., 2011; Beyer and Fening, 2012; Neyapti, 2013; Siddiqui and Ahmed, 2013).

d). In the existing patterns of resilience, geopolitical determinants are generally left out. In this context, it is required to have included in the econometric models a specific element referring to the security component, especially on the background of an unstable geopolitical environment.

e). Current models of analysis do not provide a perspective that integrates the development and resilience issues into a core-periphery approach. One of the major problems faced by the EU and which directly targets Romania is that of intra-EU gaps. The peripheral nature of the eastern economies associates, in fact, the economic and spatial peripherally, inducing a series of specific aspects of the resilience capacity of these states. Therefore, it is necessary to identify those economic, social, institutional and spatial components that differentiate the resilience capacity of the emerging peripheral economies from the developed central ones. The inclusion of some measures able to determine a reduction of their peripheral character can essentially contribute to improved governance, economic and social resilience (stimulating their economic integration and convergence), as well as to a reconsideration of the core-periphery relations in the pan-European area (for instance, by reducing the marginality of EU's eastern members and reinforcing cross-border cooperation, a new "centre" for the eastern part of the EU could emerge), consequently strengthening the stability and security at EU's borders. However, the current resilience studies do not include aspects related to a territory's

connectivity and accessibility, which could otherwise be extremely relevant for the region (an analysis from the New Economic Geography perspective).

f). The concept itself entails a series of clarifications, particularly regarding the calculation methodology (its components and their integration, measurement, levels of analysis), and the incorporation of resilience capacity within the regional development and growth models. The main inconsistency in literature resides in the fact that the existent research in resilience theories is limited to one field (economic, social or ecological) (Bene, 2013).

g). Although composite indexes, integrating various components, are used, they fail to address the crucial aspects in the countries' analysis. For example, The Centennial Resilience Index (one of the most complex methodology adapted to emergent and developing economies) includes fifty-two variables grouped into ten sub-indexes (Boorman et al., 2013), but does not include variables with high relevance for the eastern European countries challenges, such as: liberty index, democracy index, macroeconomic stability index, human security index, energetic security index, and others.

h). In Romania, the resilience concept is far from being used to multi-dimensional and multi-scale levels, existing some references, with other semantic value, only in certain sciences (medicine and physics) and in socio-human disciplines such as psychology or sociology. As a result, researches in this direction would fill the theoretical and empirical gaps in our country and would contribute to the adoption of opportune and focused public policy measures (in the field of regional development, education, research, transport, etc.).

3. Methodological approach on measuring the resilience capacity of the EU countries

Starting from the limits mentioned above with reference to the resilience capacity analysis, there is a need that studies to integrate, into a comprehensive model, the most relevant economic, social, institutional, geopolitical and spatial/territorial determinants of resilience, at various levels (bottom-up analysis of the concept), in order to capture the reality more precisely and to act properly as a result of the intervention of an internal or external shock. Even if resilience has an exhaustive capacity to explain the dynamics of the economies, some determinants can have different effects in different places and/or for different actors.

In selecting the indicators that should be included in the resilience analysis, it would be advisable to take into account the so-called "methodology for determining resilience cost", one of the most complex aspects of resilience analyses (Bene, 2013). In this regard, it appears the use of the "non-resilience" opportunity cost, which, practically, entails that the costs should comprise the potential losses that may occur, at all levels, if the countries fail to generate the transformative processes necessary to reinforce long-term resilience capacity in order to converge towards the European development model (i.e., it will comprise deviations from European standards/increases of disparities/deviation from target and the necessary time to recover, all being generated by a shock).

Methodological developments on the resilience capacity analysis from a multidisciplinary perspective are difficult to put into practice, but they can reflect a trend that should be considered in the decision-making process and in outlining the medium and long-term development scenarios. A first difficulty in measuring

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resilience is given by the multiplicity and diversity of meanings which tend to define the concept. Resilience has become "a moving target that is constantly redefined" (Bene et al., 2014: 600), going from small, static forms, derived from the theory of systems, to dynamic forms with a high degree of complexity. Another difficulty stems from inductive, bottom-up analysis of the concept, based on certain features such as education level, economic status, quality of governance, infrastructure, etc.), regarded as pillars of resilience capacity. This approach, which uses a particular combination of elements identified a priori and used as a proxy for measuring resilience, gives the analysis a circular, recursive character, manifesting the risk of generating a too narrow view on the issue of resilience. To meet this problem, should be offered an integrated approach in terms of the determinants of growth and development, reported at the strategic vision of the EU and at the conditionalities generated by the core-periphery pattern in the European space. Another element of difficulty in measuring resilience is selecting the most appropriate indicators to capture resilience at NUTS2, NUTS3, LAU levels, taking into account the availability of data. Measuring the resilience capacity of a country at the moment T1 is made by reference to a T0 moment, preceding the occurrence of a shock (such as economic crisis). According to an ESPON study (2014), the recovery starts from the C_1 point, and through the transformation capacity of the state (generated by proper responses to crisis situations), the point C_2 is reached, which corresponds to a maximum level of the recovery (P_2). The time for the downturn/recovery is given by D = D1 + D2 (Figure 1a).
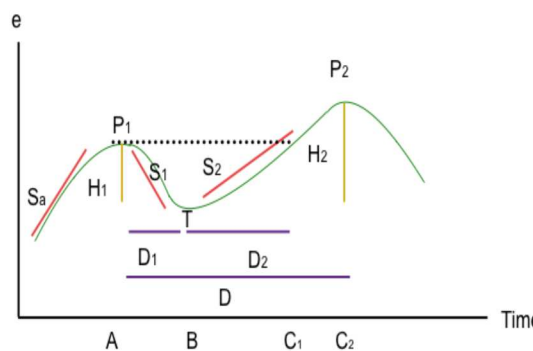
Figure 1 a: Resilience capacity of a country
Source: ESPON, 2014: 5
S=slope of growth path (decline/recovery); P=peak; T=trough; H=heigh of economic peak/trough;   D=duration   of downturn/recovery
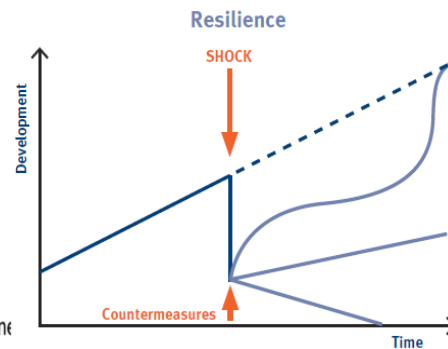
Figure 1 b: The influence of a shock on economic development
Source: Mitchell and Harris, 2012: 1

Therefore, some states may achieve higher levels of growth after the emergence of a shock, through coherent development strategies/appropriate countermeasures tailored to country's specificities: Figure 1b.
As it was already stated, the current indexes reflect partly aspects related to the assessment of resilience capacity due to a small number of dimensions that are combined in the analysis and, consequently, there is a need for an integrated methodological approach to evaluate simultaneously several components, which to

have a greater relevance in designing the development policies. Key issues/indicators that could be included into various econometric models, on various dimensions, could be:

- *Economic and social dimensions:* GDP per capita, trade flows, FDI, inflation, fiscal pressure, income level, government tax debt, innovative capacity, creativity, human capital indicators, migration flows, material deprivation, productivity, access to finance, open markets, private-public partnership, economic structure, urban development, specialization patterns, informal economy, labour market stability, etc.;

- *Institutional (formal and informal) dimension:* governance indicators, European Quality of Government Index (EQI), Economic Freedom Index, Europeanisation Index, management crises structures, limited government, values and social norms (morality, trust, responsibility, tolerance, saving, diligence, perseverance, desire for self-realization), social capital, discrimination and cultural stereotypes, religion, traditions, customs, entrepreneurial activity, contract / law compliance, etc.;

- *Spatial dimension:* accessibility indicators, specific to the New Economic Geography (distance, time, transport network density, transport costs, transaction costs, etc.);

- *Geopolitical dimension:* human security, food security, health security, energy security, organized crime, military capacity, information security, international and regional agreements, resources availability.

From a methodological perspective, the elaboration of an index is not just about measuring the historical information, but also to be used in forecasting resilience fluctuations. To ensure scientific rigour of its composition, in a first stage, it should be realized the selection of data and imputation of missing data. The risk of missing certain data can be removed by estimating their average value between periods or by adding data from other sources. Secondly, the normalization of data is required. Data normalization is accomplished by providing a maximum value (could be considered 1) in the area recorded as having the best performance in the corresponding indicator. This can be done starting from the calculation formula:

$$RI_{ij} = X_{ij} - minX_i \ / \ maxX_i - minX_i; \ RI_{ij} = maxX_i - X_{ij} \ / \ maxX_i - minX_i$$

where *RI$_{ij}$* represents the resilience index, *X$_{ij}$* the value of the variable i in country j (j=1,2,…N), *maxX$_i$* and *minX$_i$* the maximum and minimum values of the variables considered. RI will be a weighted average of the indicators that form each dimension of resilience, the results being measured on a scale from 0 to 1, where 0 denotes the inability of a country to resist to shocks and the closer the values to 1, the resilience is higher. Subsequently, by calculating the standard deviation (z score), they can be transformed into a more attractive form, higher than average values being translated into positive values and the ones below average into negative values.

Regarding the weight given to the index sub-components, there are several methodological approaches to the construction of the index. If some studies use analysis of main components to allocate specific components weight (Bănică and Muntele, 2015), others have decided to give equal weight (Briguglio et al., 2008; Boorman et al., 2013). To get aggregated indicators that characterize the level of resilience in the EU countries it might resort to the factor analysis. Within the

empirical approach, the resilience is a latent variable and it should be find the proper proxies for its assessment.

In order to estimate the contribution of the index to the variation of variables that are specific to resilience capacity, such as GDP per capita or unemployment, and given the need for time series to measure resilience, panel analysis can be used. As the EU member states know differences in the development level, some econometric models can be estimated using the DOLS (Dynamic Ordinary Least Squares) method for heterogeneous entities. Additionally, to determine the stationary character of some time series, the ADF (Augmented Dickey-Fuller)/unit root tests can be applied. The equations of the model may have the following forms:

a). $GDP_{i,t}/UNE_{i,t} = \alpha_0 + \alpha_1 GDP_{i,t-1}/UNE_{i,t-1} + \alpha_2 RI_{i,t} + \alpha_3 CV_{i,t} + + \alpha_4 TE_{i,t} + \alpha_5 SC_{i,t} + \varepsilon_{i,t}$

where *i* represents the country, *t* time, *GDP* real gross domestic product per capita, *UNE* unemployment level, *RI* resilience index, *CV* other control variables influencing the dependent variable, *TE* a series of specific effects over time, *SC* specificity of countries, and ε represents stochastic error.

b). $lnRC_{i,t} = \beta_0 + \beta_1 lnGDP_{i,t} + \beta_2 lnECO_{i,t} + \beta_3 lnSOC_{i,t} + \beta_4 lnINS_{i,t} + + \beta_5 lnGEO_{i,t} + \mu_{i,t}$

where *RC* is the resilience capacity, *GDP* is the real gross domestic product per capita, *ECO* is the economic dimension, *SOC* is the social dimension, *INS* is the institutional dimension, *GEO* is the geopolitical dimension, *t* time period, *i* is the country, μ_{it} is the residual term. All variables are expressed in natural logarithm.

In order to analyze the relevance of certain determinants of resilience, it may be used the logit/probit methods, which may confirm the correctness of the choice of dimensions included in the index.

c). $logit\ [p(x)] = log\left[\frac{p(x)}{1-p(x)}\right] = \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \cdots \beta nXn + \varepsilon$

where p (x) = probability of shock; β = regression coefficient; x = independent (exogenous, explanatory) variables.

Checking robustness and sensitivity is another stage in elaborating an index, which is mainly designed for eliminating the risk of distortion of results and the risk of the index to hold little relevance in explaining the recovery after certain shocks. To eliminate these risks, the econometric analysis could be based on multiple regressions or on the analysis of SEM (Structural Equations Model). After the assessment of resilience capacity, its mapping using GIS- Geographical Information Systems could be realized. The ranking and categorization of analyzed units according to the results achieved will be performed by ranking them as predefined units: e.g. according to ESPON (2014), the country division is: resistant, recovered, not recovered but in upturn, not recovered and no upturn.

Table 1: EU's countries resilience after the occurrence of 2007-2009 crisis

Country division	GDP resilience	Employment resilience
Resistant	Poland	Luxembourg, Germany, Poland
Recovered	Germany, Sweden, Austria, France, Malta, Slovakia	Sweden, Malta, Austria, Belgium
Not recovered but in upturn	Finland, Luxembourg, UK*, Ireland, Netherlands, Portugal, Spain, Italy, Denmark, Estonia, Latvia, Lithuania, Czech Republic, Slovenia, Hungary, Romania, Bulgaria, Cyprus	UK*, France, Netherlands, Italy, Finland, Lithuania, Estonia, Cyprus, Czech Republic, Slovakia, Hungary
Not recovered and no upturn	Croatia, Greece	Ireland, Portugal, Spain, Denmark, Latvia, Slovenia, Croatia, Romania, Bulgaria, Greece

Source: after ESPON, 2014: 22. * When the ESPON study was conducted, UK was an EU member

The application of an index at different administrative levels and studying resilience in relation to various types of shocks will generate the possibility of extrapolating the analysis, increasing the comparability of measurements carried out in order to develop appropriate development policies.

4. Conclusions

The current context of the economic crisis, the multitude of structural changes, accompanied by the on-going need for adaptability to market dynamics, determine the paramount importance of strengthening the resilience capacity of EU countries to support the long-term development.

The methodological approach based on which the resilience capacity can be measured at EU level must involve a combination of qualitative and quantitative analysis, taking into account a complex of research methods. To highlight the adaptive versus non-adaptive character of countries as a result of the emergence of a shock, either internally or externally, several analysis tools can be used to allow: temporal and spatial comparison of data, construction of econometric models, multi-stage measurement/simulations, elimination of errors and inaccuracies methods, interpretation of research results.

Empirical studies in the field can have a normative value by elaborating policy recommendations to enhance the resilience capacity among EU countries. For this, to overcome the scientific limits in the field, an integrative approach is needed that should include the specific internal and external determinants which reflect the ability of a country to resist, to adapt, to recover and to transform from shocks. By assessing resilience capacity from a transdisciplinary perspective (e.g., macroeconomic stability, human security, social capital, business environment, quality of governance, other), combined with multi-level analysis (NUTS0, NUTS1, NUTS2, NUTS 3, LAU1, LAU2), could provide deep knowledge of specific weaknesses and risks in EU countries regarding their transformative power and the creation

of a stable and prosperous economy, in order to adopt the most suitable policies and actions necessary at the structural level of the economy and society and to adapt to global challenges. Policy-makers must take into account the specificity of their country and the existing realities. In the long run, only those countries that have made the transformation at the economic, social, institutional, political, levels will be able to achieve the well-being of the developed countries. Contrary, those that have abandoned reforms or opted for partial reform will be doomed to stagnation.

The research results related to the application of some methods by which resilience can be measured form the basis for the development of analytical and predictive simulations regarding the capacity of a country to recover from shocks by using different scenarios. Based on these simulations, three scenarios can be highlighted: optimist scenario (within the system there will not intervene major internal nor external shocks); realistic scenario (internal and external shocks will occur but countries will develop their resilience capacity through appropriate policies at European, national, regional and local levels) and pessimist scenario (there will intervene shocks and the countries will not develop their resilience capacity, with a risk for accelerated instability and pronounced gaps).

The researches in the field should aims precisely at highlighting the subtle mechanisms by which resilience and development can be correlated.

In the last decade, the crisis showed that there are huge differences between countries in their vulnerability to shocks and their ability to adapt and recover from the economic disruptions. Although the most recent economic crises have been widespread, proving a strong contagious effect, the geographical display of the effects was highly uneven. Concerning the resilience of the EU's eastern states, these have much to recover in terms of development, due to their different institutional environments, with various types of governance, which led to have different capacities to resist to shocks. Structural adjustments produced over time in Eastern Europe were conducted essentially on the background of an unstable institutional framework, the change being usually associated with a high level of uncertainty resulting from the disappearance of a certain order and the creation of an institutional vacuum. The perspective of development in the EU's eastern countries is directly dependent on their capacity to assume and implement reforms according to their own specificities.

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