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ENTREPRENEURSHIP PREDICRERS. THE ACTIVITY IN THE EXERCISE FIRMS.

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Abstract: *Many work in the field of entrepreneurship inventories more or less significant predictions of entrepreneurship: Age, gender, education, family history, skills, risk acceptance. In this work, we aim to make one of these preachers, namely entrepreneurship education in the practicing companies, based on the assumption that successful simulation/practice of entrepreneurship from an early age coupled with the acquisition of specific knowledge and skills, it can lead to an incentive to do business on its own. We focused on high school students who are attending the training companies to see if they are interested in entrepreneurship in their colleagues. I used the group as a research tool, having an analysis group and a control group. The study's conclusions converge toward the idea that pupils in the firms of practice are first and foremost excited about becoming entrepreneurs, but not as realistic about the results of entrepreneurial activity, seeing the positive aspects (high income, flexible program, decision-makers) in the main less of the negative ones of this activity (risks, workload).*

Keywords: *antreprenorship; students; exercise firms.*

JEL Classification: *A21; I25; L26.*

1. Introduction

The entrepreneur is responsible for "the doing of new things or the doing of things that are already being done in a new way" spunea Schumpeter (1947, p.151)
Entrepreneurship is a source of innovation and change so that it stimulates productivity and economic competitiveness. In terms of economic, pshihological and sociological research, entrepreneurship is a process and not a static phenomenon. The entrepreneur is the person able to overcome the obstacles to the implementation of the innovative idea in the new products and services sector. And the entrepreneur is the person who starts a new business, either as part of an ongoing business or starts a process of radical change.
Richard Cantilillon (1680-1743) was the first economist to identify the entrepreneur as an important economic factor in his work "Essai sur la nature du Commerce en General" (1775).Entrepreneurs appeared as intermediaries between land owners and land-owners. Richard Cantilillon also identified a role of entrepreneurs, that of traders, who transfer products from an area where they have low value to a high

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value area.

In turn, in the work of the "Treaty of political economy" (1803) Jean Baptiste Say positioning the entrepreneur at the heart of all economic activities, both in the production and distribution of consumer goods and services, overlapping the functions of the entrepreneur and manager.

2. Entrepreneurs' dictors

Starting from the role of entrepreneurship in supporting economic development, increasing employment and the satisfaction generated by self-employment, it is necessary to study the preeregs of entrepreneurship. Studies in this field analyze a multitude of objective and subjective factors that facilitate and support entrepreneurship. Thus, Georgellis and Wall, 2005; Walker and Webster, 2007 demonstrate the role of gender as a factor in initiating self-employment, being privileged "hard sex" because of the perpetuation of cultural models that disadvantage women. Similarly, age is considered an important entrepreneur predictor (Walker and Webster, 2007). Other authors conclude that entrepreneurship is due to the lack of other income opportunities (Amit and Eitan, 1995). At Rullana Berglann et all (2011) she appreciates that: "Key determinants of the decision to be a year entertain are occulational qualifications, family resources, gender, and work environments. Individual employment trends, while aggregate employment discourages, entrepreneurship. They also analyze the movements between the main economic activities (in percentage) from one year to the next in Norway:

Table 1: The distribution of main economic activities in 2000-2005 and the transitions between activities from year to year (percent). Age 20-65.

Economic activities	State in year t	State in year t+1					
		Employment	Entrepreneur	Education	Unemployment	Pension/ disability	Other
Employment	60,3	89,3	1,0	3,2	2,8	2,2	1,5
Entrepreneur	6,5	8,7	81,2	0,7	1,0	1,4	7,0
Education	8,7	30,7	0,7	60,5	3,7	1,0	3,5
Unemployment	4,5	39,4	2,1	5,5	41,7	3,8	7,5
Pension/ disability	12,9	3,0	0,2	0,3	1,3	93,2	2,0
Other	7,1	13,6	4,9	3,3	4,3	5,5	68,5

Source: Berglann,H., Moen, E., R., Roed, K., Skogstrom, J., F. (2011), p. 185
http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.467.9286&rep=rep1&type=pdf

It can be seen that employees remain mostly (89,3%) employed each year, and 81,2% remain entrepreneurs. However, education professionals remain only slightly more than half (60,5%) in the same field, with the rest moving mainly toward entrepreneurship. Hatos, Ștefănescu and Hatos (2012) It analyzes the 2008 European Social Survey data and captures a number of differences between the countries surveyed," a part of this variability is explained by the different composition of countries in characteristics that predict entrepreneurship: age com position,

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father's selfemployed status at the age of 14, rural population, education structure"
(p.560).

They also state that "communist countries provide their inhabitants with lower odds
of being entrepreneurs even when controlling for social composition effects. The
causal mechanism of this correlation is not clear, though a combination of cultural
and institutional deficits can be presumed to be at work" precum și că " businesses
are started and run as a solution to adverse situation at the labor market rather than
as outcomes of positive opportu nities of other markets" așadar "aggregated
satisfaction with life is actually correlated positively with indi vidual business
ownership. Thus, there is little evidence that dissatisfaction with work or life would
explain entering entrepreneurship" (p.560)

While objective factors such as: The economic environment (stage of the economic
cycle, the labor market situation, unemployment, profit rates, credit interest rates),
economic policies (stimulating entrepreneurship, supporting start-ups, fiscal policies,
etc. are important preachers of entrepreneurship, subjective factors can often
outperform them. Looking at the impact of formal schooling on entrepreneurial
selection and performance in industrial countries, Van der Sluis (2008) draws some
conclusions: The impact of education on entrepreneurship selection is insignificant,
but the effect of education on performance is positive and significant; The effect of
education on income is less for entrepreneurs than for employees in Europe, but
higher in the US and the return on entrepreneurship education is higher in the US
than in Europe, higher for women than for men and lower for non-white or
immigrants.

We propose, let us complete these studies by analyzing the impact of student
participation in the exercise companies on their entrepreneurial intentions, starting
with the norwegian authorities' observation Berglann et all (2011): "while the length
of education turns out to be a poor predictor for entrepreneurship decisions, the type
of education is among its key determinants" (p.4).

3.The role of the exercise firms in the choice of young people for entrepreneurship

We follow this in a qualitative research using as a research tool the semi-structured
interview applied to two categories of subjects: A category of pupils participating in
practice firms and a control group (with the same number of subjects) who did not
participate in the activities of the practice firms, More specifically, students of the XI
and XII classes, from two different pre-university institutions (economic high school
and a theoretical high school), 36. „Practice firm", is a teaching concept based on
learning by doing, a model to stimulate the internal processes carried out in a real
firm and its relations with other firms and institutions. The implementation of the
concept of "practice firm" aims to create the type of dynamic entrepreneur, able to
develop a new production process to bring a new product or service to the market or
discover a new distribution path. It is an interactive learning method for the
development of entrepreneurship, a modern concept of integration and
interdisciplinary application of knowledge, a teaching approach – learning that

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provides conditions for the practical test and deepening of the skills acquired by students in their professional training. The practice firm determines the acquisition of entrepreneurial skills, the improvement of personal behavior and helps to identify its own potential, being a practical method of integrating knowledge from various disciplines: economics, accounting, commercial correspondence, computer, foreign languages, law and legislation.

The training in the practice firm provides skills in terms of professional behavior, resulting in a practical check and a deepening of the knowledge acquired during the high school years. The training firm has basic skills needed to integrate graduates into production: Working ability and team cooperation, interdisciplinary thinking, accurate communication using domain-appropriate terminology, ability to make decisions in a given time that ensures the flexibility required on the labor market.

The interview was built on three dimensions: entrepreneurial intentions, perceived conditions for entrepreneurship and expectations of entrepreneurial activity.

Assumptions:

H1 entrepreneurial intentions are influenced by perceived conditions for an entrepreneurial activity (knowledge / skills, entrepreneurial models, willingness to succeed, acceptance of risk).

H2 entrepreneurial intentions are influenced by expectations of entrepreneurial activity (income, risks).

4. Results and discussions

With regard to the first dimension investigated, i.e. the entrepreneurial intentions, we note that both those who participate and those who do not participate in the exercise firm are available to carry out a self-employment in the future, Although it has nothing to do with the profile and specialization in which it is prepared, but rather with their life experiences: Medical services, it, crafts, for most pupils in the economic specializations participating in the firms of practice, namely agriculture, food, automotive, the students at the school who do not attend the training companies are not in the same situation.

The subjects in both groups claim to be motivated, mainly by passion and/or profit, to build their own business, this is not in accordance with their business option not related to the specialization in which they are preparing.

Students identify among themselves the conditions for doing their own work, overwhelmingly, financial resources, knowledge and skills, as well as family support, skills and experience, with most respondents having in the family someone who has his own business. Moreover, from Miller's and Swanson's studies (1958) it appears that in some countries, young generations inherit not only their material resources from their parents but also their connections and habits that are so important in running a business, And Hatos and all 2012 notes that "one of the strongest individual preachers of entrepreneurship is the father's previous status to work on his own" (p.560).

Expectations of entrepreneurial activity are clotted around positive ideas of decision making, the flexible program of the entrepreneur, high and negative incomes of

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family neglect and high workload. In the experimental group, most students chose to focus on: The possibility to make decisions followed by high income and flexible program.

The other students opted for a different order of importance of benefits: Decision making, flexible time and revenue. As regards the control group, the subjects also chose the order of importance of the advantages in being an entrepreneur: The possibility of making decisions, the entrepreneur's flexible program, high income or flexible program of the entrepreneur, high income, decision-making. According to the study carried out by me, most subjects in the experimental group decided that the main disadvantages should be in the following order: Neglect of the family, risks, workload. The results of the pupils interviewed within the control group on the order of importance of disavanders in being a entrepreneur were equally: Family neglect, workload, risks or workload, risks, family neglect.

5. Conclusions

Our study shows that students in the practice firms are first and foremost excited about becoming entrepreneurs, but not as realistic about the results of entrepreneurial activity, seeing the positive aspects (high income, flexible time, decision-makers) as a priority. less of the negative ones of this activity (risks, workload). Students' entrepreneurial intentions are influenced by the knowledge/skills they acquire in school, by entrepreneurial models, especially among the family, by the desire for success and by the acceptance of risk. The potential income from entrepreneurial activity influences, also, students' entrepreneurial intentions. The first hypothesis is only partially checked, in the sense that entrepreneurial intentions are influenced, first, by financial resources and only second, by other conditions perceived for an entrepreneurial activity (knowledge/skills, entrepreneurial models, desire for success, risk acceptance). The second hypothesis is fully verified, with entrepreneurial intentions being influenced by expectations of entrepreneurial activity, primarily by income and, only in the subsidiary way, by risks. The most striking conclusion is that there are no significant differences in entrepreneurial intentions, perceived conditions for entrepreneurship and expectations of entrepreneurial activity between subjects who participated and those who did not participate in the exercise firms. This can be attributed to the fact that the work carried out in the exercise firms is not effective and does not achieve the aim of developing students' entrepreneurship and raising awareness of the specific nature of entrepreneurial activity. Another explanation could be that the family has a greater influence over pupils in their entrepreneurial intentions than the school.

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KNOWLEDGE COMPLEXITY REACTION-DIFFUSION EQUATIONS WITH APPLICATION TO EASTERN EUROPE

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Abstract: *Nowadays, there is an increasing focus on knowledge input and output measurement rather than assessing the characteristics of the knowledge itself. This phenomenon happens since knowledge becomes central into capitalistic production processes: the competitive advantage of countries is the principal engine for the production of high-value, non-ubiquitous and complex knowledge (see Dicken, 2007). In this paper, we present the reaction-diffusion equations and their application to a particular economic phenomenon: in which way knowledge complexity diffusion might affect or not affect the labour productivity across the Eastern European countries. More profoundly, the aim followed by the present research work is to provide Eastern European countries with a substitute approach: a strategy. This strategy has the objective of enabling these countries to avoid acting as knowledge predators towards other countries (i.e. those such as Sweden, Finland and Denmark, referred to as prey countries, which invest their resources in knowledge and therefore in technology). We simulate the knowledge competition and the spill-over productivity effects across the Eastern and some European countries using specific reaction-diffusion equations types: the Lotka-Volterra equations which are able to describe a complex dynamic system of the prey-predator phenomenon. Our approach is based on the two steps of analysis. In essence, the first step, we compute the Knowledge Complexity Index of patents, for quantifying the European knowledge complexity; describing the possible spatial patterns and transformation of the European knowledge. Furthermore, we use the canonical Lotka-Volterra models of patents from the European Patent Office and the labour productivity data from the Eurostat database from 2000 and 2017 for Eastern European countries and some European countries, such as Finland, Sweden, Austria and Germany. More specifically, we have identified the presence of lagged knowledge between the Eastern European countries and some Northern European, such as Finland, Sweden and Denmark. In conclusion, the implementation of specific knowledge diffusion policy strategies could be helpful for future applications. It may avoid intra-guild cannibalism phenomenon from being engaged in some Eastern European countries.*

Keywords: *Knowledge diffusion; complexity nonlinear systems; Eastern Europe; reaction-diffusion equations; Knowledge Complexity Index.*

JEL Classification: *A12; B41; C02; C60.*

1. Introduction

Nowadays, complexity economists analysis emergent phenomena affirming that non-equilibrium is the natural state of the economy since the economy is in a permanent fluid state caused by fundamental uncertainty and technological innovation. In this theoretical framework, knowledge and, consequently, its creation and diffusion can be considered one of the essential productivity factors that have become the pivot into the capitalist production (see Asheim, 2005): the competitive advantage of countries derives from the production of high-value, non-ambiguous and complex knowledge. This characteristic set up knowledge as spatially closed, difficult to create or to move outside its production space. More specifically, according to Goldwasser (1985), knowledge complexity can be defined as follows: "[..] *An amount of knowledge that can be gained from communication by a participant with a polynomially bounded resource and investigate how much knowledge must be communicated for providing a theorem [...]"* (Goldwasser, 1985: 294-295). In other words, according to Goldreich, knowledge complexity "[...] measure the computational advantage gained by interaction [...]" (Goldreich, 1999: p.1). Within this theoretical framework, which type of countries hold the most valuable knowledge? This is not an easy question to answer because, according to Pavitt (1982), one of the principal reasons why researchers are generally unfamiliar with knowledge composition derives from the inaccurate measurement of knowledge and technology: to study the differences in the nature of knowledge over space, only few research have encouraged the assessment of the technological coherence (see Jaffe,1982) and the measurement of the technological distance between firms (i.e. Teece,1994). The understanding of the rise of this type of interactions is one of the traditional and principal goals of *Econophysics*. This is because these types of interactions become notable in economics at the macro-level. In essence, the attitude of these types of systems suggests the existence of symmetric feedback between their micro-structural and macro-structural elements: the macroeconomic time-series tend to be characterised by a lag-lead structure. Consequently, there is a shift towards investigating the assessment of how these complex network interactions occur between heterogeneous economic entities (here, Eastern European countries) related to the technological flow. The principal purpose of the present paper is to analyse how knowledge complexity might affect labour productivity across Eastern European countries. In order to achieve this goal, we apply the reaction-diffusion equations, specifically the *Lotka-Volterra equations* (hereafter LV), to shape the complex interdependence exhibited by the microeconomic variables used in terms of the inter-temporal technological diffusions.

Based on these premises, the present work is structured as follows. Section 2 attempts to understand the mathematical properties of the reaction-diffusion systems representing the foundation of the linkage description. A particular subtype, the Lotka-Volterra interaction-type system, is then discussed. Next, in Section 3, we present an empirical application of the LV model to study the spill-over effects on

the Eastern European country entities using patents, and consequently the Knowledge Complexity Index, and data on labour productivity per hour worked from 2000 to 2017. Finally, Section 4 supplies final remarks and discusses the remaining open questions and future challenges presented by this avenue of economic research.

2. From the reaction-diffusion equations to the Lotka-Volterra model: knowledge predator-prey interactions

As stated in the Introduction, the reaction-diffusion equations are mathematical models applied in a wide range of subjects: a common principal characteristic of these systems is the possibility of their being expressed by partial differential equations that are semi-linear and parabolic in nature. Mathematically, the standard form of a reaction-diffusion equation is given by

$$\frac{\partial u}{\partial t} = D\nabla^2 u + R(u)$$

(1)

where $u(x,t)$ represents the vector function to be calculated, D is the diagonal matrix of the diffusion coefficient, and R is assimilated to the local reaction function. In particular, in the reaction-diffusion *two-component (or two-dimensional) equation systems*, $u(x,t)$ and $v(x,t)$ are assumed to be the density functions of the two populations, and can be written as follows:

$$\frac{\partial u}{\partial t} = Du\frac{\partial^2 u}{\partial^2 t} + F(u,v)$$
$$\frac{\partial v}{\partial t} = Dv\frac{\partial^2 v}{\partial^2 t} + G(v,v)$$

(2)

where the coefficients (Du, Dv) are the diffusion constants and the additive terms ($F(u,v),G(v,v)$) are the reaction functions. Furthermore, in Sirohi (2015) work, the non-linear coupled partial equations that identify the predator-prey interaction, are the following:

$$\frac{\partial u}{\partial t} = \nu(1-u) - \frac{\alpha uv}{u+v} + \nabla^2 u \equiv f(u,v) + \nabla^2 u$$
$$\frac{\partial v}{\partial t} = \frac{\beta uv}{u+v} + \gamma v - \delta v^2 + d\nabla^2 v \equiv g(u,v) + \nabla^2 v$$

(3)

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where $u=U(x,y,t)$ and $v=V(x,y,t)$ are the population densities of prey and predator, respectively, at the generic point in time (t). What is important to stress from this model are, at least, the following three features:

- The non-linear dependence might lead to endogenous dynamics in the form of perpetual oscillation, which are useful for describing microeconomic variable fluctuations;
- The dynamic system might not reach a constant equilibrium;
- The existence and uniqueness of the Cauchy problems. According to Mamontov (2013), it is possible to determine the precise analytical solution of the Cauchy problem for this type of equation. The author has confirmed that the problem mentioned above is equal to the following problem

$$\frac{\partial u}{\partial t} = \nabla_X^T (dt)\nabla_X u + a(t)u + b(t, X)$$

(4)

under the following constraints:

$$\lim_{t\downarrow t_0} \overline{u}_0$$

then, following the author's assumptions, the fundamental solution is as follows:

$$\varphi(t, y, s, z) = \rho(\sigma(t, S); y, z)\exp\left[\int_S^t a(w)dw\right]$$

(5)

where $a(w)$ represents a real scalar function, and w is the correspondent real scalar variable. To conclude, this analytical description is possible to solve the Cauchy problem efficiently and demonstrate how the different terms of the model participate in it.

Furthermore, Ganguly et al. (2017) applied the Sirohi (2015) mathematical formulation in order to model the inter-dependency of the complex microeconomic variables between countries in terms of inter-temporal knowledge diffusion. In their work, they assumed as background the existence of the international technological frontier in which some countries emerge as predators and while others emerge as prey: prey countries invest their resources to develop newer knowledge, and consequently, technology, while the predator countries imitate this knowledge without engaging in original or newer innovation. Regarding this aspect, and in line with the authors, we have adopted this model because it has at least two principal advantages: first, it postulates an endogenous source of external non-linearity requirements; secondly, the model sets a time-lag between the predator and prey populations.

Subsequently, it is necessary to set out the following model hypotheses:

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- *N* distinct economies are taken into consideration, where the leaders and the followers are referred to as *L* and *F* respectively, and economies are endowed with an equal potential to innovate;
- Within the *N* economies, there is a presence of households, and the output is produced using a combination of labour and capital;

- These countries' economies are *single-good* economies, and the fundamental scope of each entity in the system is to maximise his/her/their objective (profit/utility) function.

For the purpose of the present work, the LV equation for an *N-country scenario* is as follows:

$$\frac{\partial z^i}{\partial t} = \mu_{ij} z^i + \sum_{i \neq j} \mu_{ij} z^i z^j$$

(6)

where z^i is the *knowledge evolution term* that introduces the linkage across economies. In more depth, it represents the *knowledge shock process*, which is orthogonal to the microeconomic variables of each economy. Moreover, the evolution of knowledge is given by

$$Z(t+1) = T(z(t))$$

(7)

where *T(z(t))* describes the interconnection terms. In more depth, to apply the model in the present empirical work, we use the *transformative function*. This function can be described as follows:

$$z^i = \frac{1}{1 + e^{-kS^j(t)}}$$

(8)

where *k* is the constant that controls the spread of the technology variables. The usage of this transformation reduces the volatility of the process (for a full description of the model see Chakraborti (2016)).

3. The knowledge complexity diffusion in the Eastern countries

The practical purpose of the research work is to determine whether if and in which ways the knowledge complexity diffusion might affect or not affect the labour productivity across Eastern European countries according to the mathematical

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elaboration of Ganguly et al. (2017). As stated in the Introduction, one of the principal challenges for knowledge complexity measurement is the identification of technological opportunities. To achieve this goal, we have used patent data to evaluate the distances between classes of technologies. This usage provides at least two advantages: (i) it provides a visualisation of a local knowledge space; and (ii) it can examine how the space structure may lead the development of local knowledge trajectories across possible technological diversification structures.

Specifically, we used the European Patent Office database to identify the technological range of interest necessary to estimate the Knowledge Complexity Index (hereafter KCI) based on the *methods of reflection* developed by Hidalgo et al. (2009). Moreover, we also used the labour productivity per hour worked, as according to the Eurostat database description, this metric a better explanation of the productivity development in an economy, as it eliminates differences in the full time/part-time workforce composition across countries and years. In order to study this phenomenon, we have divided the analysis into two steps. In the first step, we have computed the KCI using *EconGeo*; an R statistical software package developed Balland (2016). According to him, this package proposes user-friendly functions able of computing a series of commonly used indices in Economic Geography and Economic Complexity. In the second step, we have computed the Lotka-Volterra equations for both the KCI and labour productivity variables using *prime*r, an R statistical software package.

Regarding the first step, as can be seen from Table 1, the KCI of the whole European countries is quite homogeneous over the considered period. Knowledge complexity is relatively high (KCI$>$\$70) (for example) Belgium, the Netherlands and Austria; these countries tend to develop several technologies that can only be replicated in a small number of other European countries. Knowledge production is also moderately high (60$<$\$KCI$<$\$80) in Greece, Hungary and Sweden. Knowledge production is considerable low (KCI<50) in Romania, Bulgaria, Czechia, Latvia, Lithuania and Slovakia.

Table 1: The Knowledge Complexity Index (years: 2000 and 2017)

	2000	2017		2000	2017		2000	2017
BEL	100.00	100.00	HRV	00.00	18.34	POL	3.49	22.80
BGR	100.00	4.14	ITA	96.39	0.00	PRT	34.66	53.64
CZE	00.00	00.00	CYP	62.62	100.00	ROU	00.00	00.00
DNK	86.14	00.00	LVA	21.97	45.10	SVN	32.89	100.00
DEU	100.00	100.00	LTU	0.00	00.00	SVK	24.50	39.38
EST	0.00	93.01	LUX	100.00	93.30	FIN	47.36	2.32
IRL	83.40	31.68	HUN	67.67	57.33	SWE	68.91	00.00
GRC	31.44	60.52	MLT	92.25	80.80	GBR	53.92	3.00
ESP	37.21	100.00	NDL	100.00	93.30			
FRA	100.00	89.02	AUT	78.43	81.92			

Source: Authors' computation

Focusing on the second step, we compute the LV equations in order to study the different micro-variables entailed within the system description, the former soviet group of countries. According to Chewing (2002), they have manifested a reasonable number of interactions and/or spill-over effects in a time-honoured fashion over the past years. Fig.1 presents the transformative function of KCI and the analogue of labour productivity per hour worked variables used during the period of analysis under consideration. In these graphs, the x-axis represents the time-point at which integration is achieved, while the y-axis symbolises the populations' vector at each time t; the lines of different colours represent different European countries. It is possible to stress out that in the interests of achieving the highest possible graphical clarity, we have opted to represent only those countries most significant to the scope of this paper's conclusions: Romania, Slovakia, Bulgaria, Hungary, Czechia, Latvia, the United Kingdom and Finland.
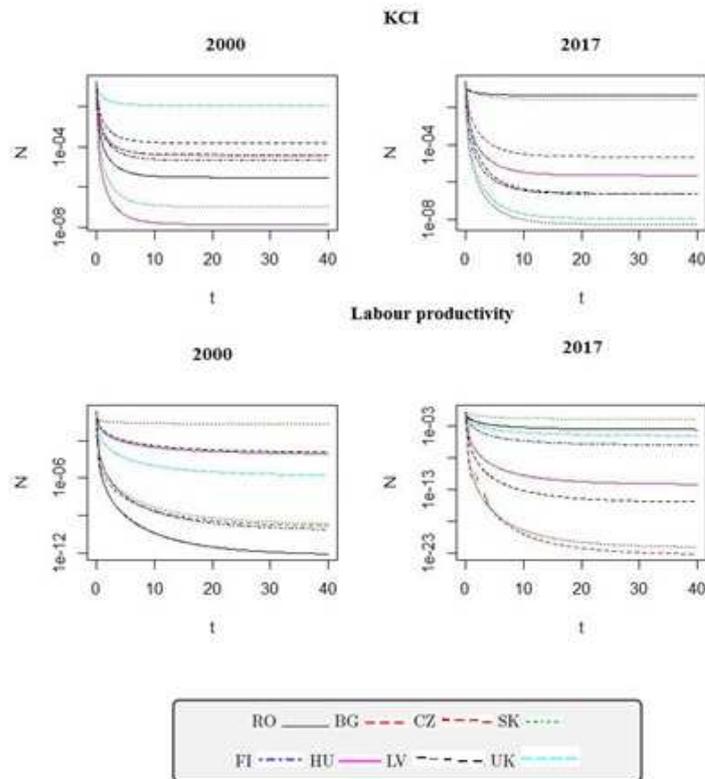
Figure 1: Evolution of the canonical LV model. The panel shows the KCI and labour productivity evolution under a functional transformation following Eq.8 with the turning parameter k=0.50

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As can be seen from the graphs (Fig.1) above, during the period, the prey-predator interaction in terms of knowledge complexity which is characterised by a catching-up process undergone by the Eastern European low-income countries, such as Romania and Slovakia have not affected the labour-productivity prey-predator interaction process. In more depth, the KCI prey-predator interaction in 2017 exhibited some similarity with the labour productivity prey-predator interaction in 2000. Furthermore, some low-income European countries (i.e. Bulgaria) demonstrated *predator-like* conduct without notable enhancement behaviour throughout the considered period of analysis.

4. Conclusion

In the present research work, we presented a knowledge diffusion evolution paradigm using the Lotka-Volterra type of non-linear equations. The application of these equations establishes an alternative means of obtaining a cross-correlation analysis among the Eastern European countries in terms of knowledge complexity diffusion: lagged correlation structure between the leaders (such as The United Kingdom and Finland) and the followers (such as Romania and Bulgaria. In more depth, this has created a different shifting of the knowledge complexity into a more visible macro-variable: the labour productivity across Eastern Europe. If, on the one hand, this model can be handy for shedding light on the possible presence of lagged correlation structures, then, on the other hand, it is also possible to identify at least two significant problems with this simple model. Firstly, the present generalized framework may not guarantee convergence to a steady-state equilibrium. Secondly, the model is not possible to adequately describe the spill-over effects. This last aspect could well require more and future research development, particularly concerning its application to all European countries. One possible direction for this research might concern with uncovering the precise mechanisms through which the knowledge spill-over effects affect firm labour productivity. As firms can gather all necessary technology capabilities in a very successful way, it may be useful to involve more information exchange through the implementation of specific Eastern European projects, to avoid predatory and intra-guild cannibalism phenomena from being engaged in by some low-income countries.

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THEORETICAL FRAMEWORK ABOUT TOURISM DESTINATION COMPETITIVENESS

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Abstract: *Identifying the factors that determine the degree of competitiveness of a tourist destination implies a sustained effort on the part of the researchers considering the complexity of tourist phenomenon. The competitiveness of a tourist destination is given by the following features: natural and anthropic resources, specific and general infrastructure, the offer of tourist services, tourist destination management, adopted marketing policies, care towards the environment, the cooperation between authorities and private sector, marketing conditions. The main purpose of this paper is to provide a theoretical perspective regarding tourist competitiveness in the sense of presenting the different approaches of the concept in the last three decades as well as illustrating patterns of tourist competitiveness.*

1.Introduction

Tourist destination competitiveness represents a thoroughly examined area among the interested parties (national and international public institutions as well as offerers of tourist services. Establishing and harnessing the competitive benefits of each tourist destination represents the main factor which ensures the development of the tourist sector in a certain region, area.
The interest for identifying the competitive benefits in all fields of activity is pointed out in the current conditions of the market economy, and within the tourism industry this aspect is due mainly to the change of tourist purchase behaviour (access to information, introducing in the international tourist circuit tourist destinations not easily accessible in the past, the fragmentation of annual leave, the desire to live new and unique experiences, the high level of population mobility in the area). Competitiveness represents the ability of an entity to cope with competition; therefore analyzing the competitiveness of a tourist destination can be done only by comparing it to one or more tourist destinations which aim at the same segment of tourists.

Porter (1990) states that **"**A nation's competitiveness depends on the capacity of its industry to innovate and upgrade". and "Differences in national values, culture, economic structure, institutions and histories all contribute to competitive success" (Porter, 1990, p.73). The statements formulated previously help outlining the major factors of economic competitiveness. It is obvious that a competitive tourist destination sums up a series of elements that lead to the success of tourist activities as follows: the existence of natural and anthropic resources, general and specific infrastructure, the level of accessibility of the tourist area/region, the skilled workforce, the price-quality ratio, the safety level, the care for the environment, tourist destination management, marketing policies, the marketing of tourist services that meet the needs of the tourists, the attitude of the locals, national government policies, sustainable partnerships between the state institutions and not least the orientation towards the needs of the tourist.

2. Methodology of the research

This paper has the following objectives: offering a theoretical perspective regarding the concept of tourist competitiveness, presenting frequently used patterns of tourist competitiveness in expert studies in the last three decades, identifying new areas of research in the field of tourist competitiveness.
The time frame of the research March – April 2020.
The stages covered by this research are the following: studying published literature selecting the relevant works to the examined topic, centralizing the most important approaches regarding the possible areas of research in the field of tourist competitiveness, issuing of conclusions.

3. Tourism destination competitiveness

In the attempt to define the concept of tourist competitiveness, the authors of specialized literature works have formulated over the years a series of approaches to the concept which shows the heterogeneous nature of this determinant of tourist demand. Goffi (2013) formulates that "Competitiveness has been associated in the tourism literature as a critical factor for the success of tourist destinations". (Goffi, 2013,p.122) This point of view indicates the growing interest of researchers in associating competitiveness with the success of tourist activities in a certain region, area.
Buhalis (2000) defines competitiveness as "Destination's ability to create and integrate value-added products that sustain its resources while maintaining market position relative to competitors". (Buhalis, 2000, p. 240). According to the definition given previously tourist destination competitiveness represents its ability to face competition by means of reasonable use of the resources. This point of view reinforces the idea formulated by Ritchie and Crouch (2003) according to which "Competitiveness without sustainability is illusory" (Ritchie and Crouch, 2003, p. 9). The sustainability of tourist destination has been stated as an essential condition for the performance of a tourist destination since the 1970s. This is due to the fact that

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once the tourist circulation has intensified it is quite obvious the need to preserve the environment and use natural resources rationally.

Dwyer & Kim (2003) define the concept of competitiveness as being "The ability of a destination to deliver goods and services that perform better than other destinations on those aspects of the tourism experience considered to be important by tourists" (Dwyer & Kim, 2003, p. 375). Unlike the definitions mentioned before here the tourist experience is formulated as a determinant of the tourist competitiveness.

Poon (1993) puts forward four directions of ensuring the competitiveness of a tourist destination "put the environment first"; "make tourism a lead sector"; "strengthen the distribution channels in the marketplace"; "build a dynamic private sector" (Poon, 1993, p. 24).

Another definition given by Enright & Newton (2004) points out the necessity of an accumulation of factors (tourist services, support services) which influences the competitiveness of a tourist destination.

Cvelbar & al. (2015) offers a different approach to tourist competitiveness "we define destination competitiveness as the total tourism contribution to GDP per tourism employee" (Cvelbar & al., 2015, p. 2). The emphasis is laid on the economic side of the tourist activity which leads to population prosperity and welfare. Similarly, Cvelbar & al. (2015) highlights the fact that "In developing countries, the most important driver of destination competitiveness, alongside destination management, is tourism infrastructure" (Cvelbar & al., 2015, p. 7).

Cracolici & al. (2008) states that "In the light of the competitive behaviour in the tourism market, regions have to maximize their market share given the resources available".(Cracolici & al., 2008, p.327).

This point of view resumes the approach formulated by Buhalis (2008) stressing the efficient harnessing of resources. Mihalicˇ (2013) considers that "Tourism destination supply encompasses a multidimensional concept that includes not only tourism economic goods, such as overnight stays and entertainment, but also environmental attractors that serve as a resource base for tourism development and, in many cases, are a primary attraction for potential tourism demand" (Mihalicˇ, 2013, p. 615). This approach points out the importance of tourist resources either natural or anthropic as an essential condition for practicing tourist activities.

The different approaches presented above draw attention to some relevant aspects for the

success of tourist activities: the capacity/ability to manage a tourist destination by means of the efficient use of its resources thus leading to the economic prosperity of an area, of a region or even of a country. The definitions taken from the literature point the need of asking the following questions: What are the main factors of tourist competitiveness? Are there any unanimous accepted indicators in measuring tourist competitiveness? Does the sustainability of a tourist destination ensure its competitiveness as well? In order for a tourist destination to be competitive is there also the need for it to be attractive for the tourists? Does the ability of a tourist destination to attract more tourists ensures competitiveness in a medium term or in a long term?

4.Competitiveness models

Scientific works referring to the study of a tourist destination's competitiveness operate with a series of patterns that indicate a vast list of features/elements regarding the estimation of the competitive degree.

Porter (1990) formulates a set of four competitiveness features: "factor conditions", "demand condition", "related and supporting industries", "firm strategy, structure and rivalry"(Porter, 1990, p. 78). Likewise, Crouch & Ritchie (1990) elaborate another pattern of tourist competitiveness which includes four determinants respectively nineteen features: "qualifying determinants": "location", "dependencies", "safety", "cost"; "destination management": "resource stewardship", "marketing", "organization", "information", "service"; "core resources & attractors": "physiography", "culture & history", "market ties", "mix of activities", "special events", "superstructure"; "supporting factors": "infrastructure", "accessibility", "facilitating resources", "enterprise" (Crouch & Ritchie, 1990, p. 147).

Dwyer & Kim (2003) have developed the following indicators of tourist competitiveness: "endowed resources" ("natural", "culture"/"heritage"), "created resources" ("tourism infrastructure", "range of activities", "shopping", "entertainment", "special events"/"festivals"), "supporting factors" ("general infrastructure", "quality of service", "accessibility of destination", "hospitality", "market ties"), "destination management" ("destination management organization", "destination marketing management", "destination policy" and "planning development", "human resource development", "environmental management"), "situational conditions" ("competitive (micro) environment", "destination location", "global (macro) environment", "price competitiveness", "safety/security"), "demand factors", "market performance indicators" ("visitor statistics (numbers)", "visitor statistics" (expenditure)", "contribution of tourism to economy", "indicators of economic prosperity", "tourism investment", "price competitiveness indices" and "government support for tourism") (Dwyer & Kim, 2003, pp. 400 – 405).

Hassan (2000) formulates four determinants of tourist competitiveness ai competitiveness: "comparative advantage", "demand orientation", "industry structure", "environmental commitment" (Hassan, 2000, p. 242).

The variables/ features stated by the authors of the various scientific works in order to estimate the competitiveness of a tourist destination have been exploited by means of some questionnaires /surveys (Loureiro & Ferreira, 2014; Mihalicˇ, 2013; Goffi, 2013; Zehrer & al., 2016; Chen & al., 2011; Goffi & Cucculelli, 2012; Kozak & Rimmington, 1999; Cracolici & Nijkamp, 2008; Chen & all., 2014).

The study of these papers shows that there are not any unanimously accepted and applied indicators in estimating the degree of competitiveness of a tourist destination, hence the residing the necessity of a thorough study of this matter. This would imply formulating, selecting and validating the same performance indicators for all analyzed tourist destinations.

The difficulty of establishing such indicators is also given by the fact that the appreciation of some qualities /features stick to the tourist's choice. Thus a series of

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errors can emerge caused by: the previous experiences of the tourist, the tourist's current mood, the opinion of the close ones, the involvement/ superficiality of the tourist in appreciating some attributes, allotted time, assumptions.

Figure 1: Tourism destination competitiveness models

Autor	Determinants of destination competitiveness
Crouch & Ritchie, 1990	"qualifying determinants" "destination management" "core resources & attractors" "supporting factors"
Porter, 1993	"factor conditions" "demand condition" "related and supporting industries" "firm strategy, structure and rivalry"
Hassan, 2000	"comparative advantage" "demand orientation" "industry structure" "environmental commitment"
Dwyer & Kim, 2003	"endowed resources" "created resources" "supporting factors" "destination management" "situational conditions" "demand factors" "market performance indicators"

Source: Porter, 1990, p. 78; Crouch & Ritchie, 1990, p. 147; Hassan, 2000, p. 242; Dwyer & Kim, 2003, pp. 400 – 405;

Figure 2: Travel & Tourism Competitiveness Index
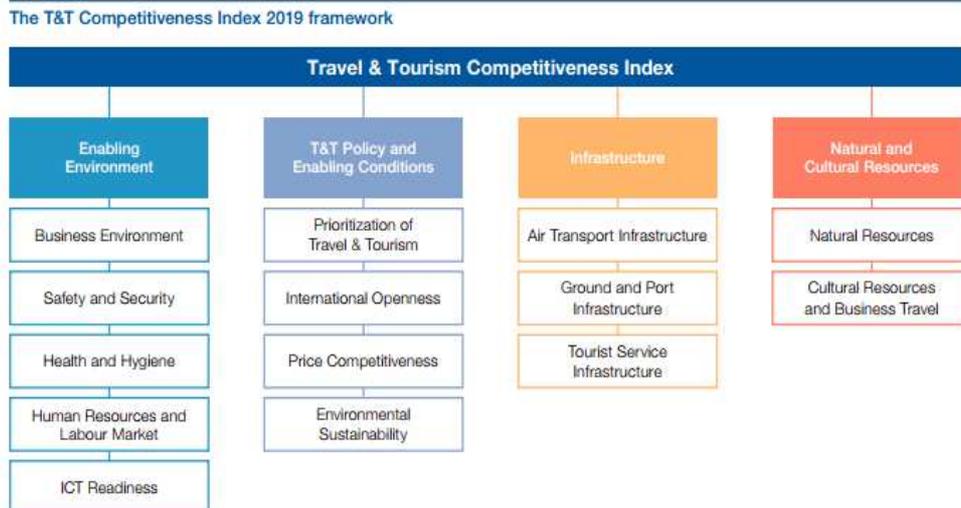
Source: World Economic Forum, The Travel & Tourism Competitiveness Report 2019 Travel and Tourism at a Tipping Point, 2019. http://www3.weforum.org/docs/WEF_TTCR_2019.pdf, [11 Apr 2020].

By examining the indicators of tourist competitiveness presented above, one can notice that there are not any significant differences in assessing the attributes of a tourist destination within three decades. Starting with the 1990s to the present day certain elements prevail: natural and cultural resources, infrastructure, and destination management. From here we can deduce that it is quite difficult to establish other indicators in order to quantify the attractiveness degree of a tourist destination on one hand, and on the other hand the essential needs of tourists have remained the same. However, a more detailed analysis of tourist purchase behavior would help to elaborate some indicators regarding tourist expectations and experiences related to spare time spending in a certain tourist destination.

5. Limitations and Further Research

The limits of this research derive from the fact that the review of the specialized literature is not an exhaustive one, the current paper displaying only a part of the approaches formulated in the last three decades and represents only an attempt to illustrate the possible differences, changes in approaching the concept of tourist competitiveness. In the future the conducting of some studies regarding the importance of the performance attributes in choosing a tourist destination on categories of tourists (for instance age, status, profession, income) would be appropriate.

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FACTORS AFFECTING FOOD SECURITY

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Abstract: *Consumption patterns are constantly shifting towards higher value- added products. There have been positive changes in the fight against global hunger, but despite progress, the world is still a long way from a sustainable food security system. The extreme climate is increasing production risk and placing a growing burden on farmers. Climate change poses a threat to the food supply of both rural and urban populations. Extreme climate events also have a negative impact on agricultural production in the long run, as exposure to risk and increasing uncertainty affect the introduction of effective economic innovations. Sustainable agriculture is essential to safeguard the future. At the same time, the growing population must continue to be provided with the proper quantity and quality of food without further destroying the environment and biodiversity. This endeavour is a huge challenge for scientists, producers, policy makers and consumers. There is no simple or easy solution to feeding the expected 9 billion people sustainably, especially if consumption patterns follow the current unsustainable trend. Sustainable food production can only be achieved by reducing greenhouse gas emissions and water consumption. We must avoid further loss of biodiversity, not only because biodiversity provides many of the public goods on which humanity relies, but also because we have no right to deprive future generations of the goods provided by nature. Together, these challenges raise a critical issue that needs to be addressed. The solution of this issue requires a social revolution that breaks down barriers to the flow of information between the science of food production and agriculture. The goal is not only to maximise productivity, but also to optimise the results of production, environmental protection and social justice (the equality of food distribution) in a much more complex way.*

Keywords: *food security; climate change, population; food prices; sustainable agriculture.*

JEL Classification: *Q11; Q15; Q18; Q25; Q53; Q54.*

1. Introduction

Currently, one of the key challenges is to increase global food production to achieve food security across all regions. Most agricultural surveys and research efforts focus on crop production, however, these analyses do not take into account the temporal instability of yields or the variability of grain production over the years (Gilbert, 2010). As the population continues to show a strong upward trend, agricultural production must also keep pace with it. Over the next 40 years, agricultural output will increase by approx. 60% in order to provide humanity with

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adequate quantity and quality of food (Fróna, 2018). The challenge for professionals and scientists is to achieve these emissions in a sustainable way without further destroying current biodiversity. Weather is also a significant risk factor, especially due to increasingly extreme weather anomalies. According to various relevant studies, strong population growth is expected within 30 years, after which the rate of population growth will significantly slow down (Hofstra and Vermeulen, 2016). According to Röös et. al. 2017 the world population will be approximately 9-11 billion by 2050 (Röös et al., 2017), but this total population will be disproportionately distributed among each geographical region, as a significant part of the population will be concentrated in urbanised regions. Thanks to scientific and technological innovations, Malthus 'prediction of 1798 has not yet come true, as increasing food production is still able to meet the food needs of a growing population In order to prove Malthus' even more distant findings for the future false, we need to make a very serious effort, especially in the field of crop and livestock production (Smith, 2015). Increasing production must be achieved without further environmental damage. Enhancing sustainable agriculture can be a way to ensure the required level of production while mitigating environmental impacts. Increasing sustainable agricultural intensity goes beyond the cumulated production and environmental performance (Hunter et al., 2017).

2. Literature

75% of the world's poorest people live in rural areas, where agriculture is still the most important source of livelihood (Fróna et al., 2019). Nevertheless, on average, more than 20% of the population in rural areas suffer from food security problems. Demand for high-fiber foods, feeds and crops is constantly increasing, putting increasing pressure on already exploited arable land and freshwater supplies. The size and proportion of land used to produce food and feed is highly dependent on the evolution of global food consumption habits and the average yields to be obtained. The production of raw materials for the increasingly widespread western diet in the world (with high consumption of meat, milk, and eggs) poses serious environmental challenges (Fróna et al., 2019). Continuous technical and technological development will continue to contribute to the improvement of the conditions mentioned above, to the mitigation and elimination of difficulties. At the same time, it is important to emphasise that the lack of a suitably qualified and knowledgeable workforce in many parts of the world is a serious obstacle to the introduction of technological innovations and increasing the efficiency of productive activities (Dajnoki and Kun, 2016, Herman et al., 2018, Fróna and Kőmíves, 2019). The growing population must strive for sustainable food consumption, as social, environmental and health impacts are also very important in this regard. Current global trends in food consumption cannot be analysed sustainably in terms of public health, environmental impacts, or socioeconomic costs (Blanchard et al., 2017). The change in consumption structure is caused by the increase in the number of workers earning higher and higher incomes in low- and middle-income countries (Popp et al., 2017). Changes in consumption habits have

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primarily led to increasing consumption of meat, dairy products, and fruit and vegetables. It is particularly interesting that the seasonal consumption of fruits and vegetables has completely disappeared. Currently, one person eats an average of 42 kilograms of meat per year, which is expected to rise to 52 kilograms by 2050, and an additional 1.5 billion new consumers are expected to enter the market. The growing share of poultry meat among other types of meat should be mentioned here (Gergely et al., 2019). Due to changing eating habits, an increasing number of people are consuming chicken because it can be produced relatively quickly and relatively cheaply, and is not banned by any religion.

There is a uniform view in research that population growth is a major driver of global challenges. Food crop, fodder crop and energy crop production compete for land use. Furthermore, urbanisation is taking an increasing amount of agricultural land and putting pressure on current land use and biodiversity. It is estimated that growing food demand will require an additional 320-850 million hectares of agricultural land by 2050 (Oliver and Gregory, 2015). Demand for agricultural land is influenced by future food consumption habits, which is mainly influenced by socio-economic aspects of development. Depending on these changes, due to improving welfare, consumption will shift to animal-based food sources by 2050, which is not an appropriate trend (Blum, 2005). So the strong population growth is one of the key driver forces of global problems.

3. Results and discussion

3.1. Reasons behind changes in eating habits
Consumption patterns are constantly shifting towards higher value-added products, i.e. are animal products and dairy products, the production of which will increase the demand for fodder plants. The process is well illustrated by the fact that, between 1960 and 2010, the global per capita index of arable land fell from 0.45 hectares to 0.25 hectares and is expected to decline further by 2050 to a level of 0.2 ha (FAO, 2018). 66% of agricultural land is currently used by livestock in the European Union. This rate is 40% globally and is expected to increase further by 2050 (FAO, 2018). According to this data, dietary change will have a more significant impact on land use than population growth itself. Recognising the social needs and attitudes of consumer behaviour, a number of research studies analysing changes in food consumption habits have emerged that focus on exploring the routine nature of consumer habits and the profile of the institutions and infrastructure surrounding them(Jackson et al., 2009, Warde, 2005, Delormier et al., 2009).

3.2. The relationship between nutrients and hidden hunger
There have been positive changes in the process of fighting global hunger, but despite progress, the world is still a long way from a sustainable food security system. Obesity is a phenomenon that coexists with famine and malnutrition. Nearly 800 million people are chronically malnourished in terms of energy intake, while 2 billion people suffer from micronutrient deficiencies and 1.9 billion people

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are overweight or obese(McGuire, 2015). People with hidden hunger usually consume high-calorie but low-nutrient foods. Consumption of these inadequately nutritious foods often leads to obesity. This fact also demonstrates that hunger and obesity coexist globally. Therefore, it is interesting to note that a person may be malnourished (in terms of micronutrients) even with excessive calorie intake. People suffering from this form of malnourishment do not consume enough vitamins, minerals and trace elements. It is a great challenge for the future to produce not only the right quantity, but also the right quality food. To summarise the above written facts, three phenomena appear as contradictions but in parallel with each other: malnutrition, overnutrition, and hidden hunger. These three forms of nutritional problems are also referred to as the "triple burden" of malnutrition (Hengeveld et al., 2018). This triple effect contributes to decreased physical and cognitive human development, decreased fertility, susceptibility to infectious and chronic diseases, as well as aging (Fróna and Harangi-Rákos, 2019). Micronutrient deficiency is a global phenomenon that may affect certain social groups the most. Reducing various forms of malnutrition requires better food policies and targeted nutrition interventions. In Africa and Asia, the urban population is growing at a rapid rate, which may lead to a further decline in per capita nutrients (Trimmer and Guest, 2018).

3.3. Climate change and water resources

Currently, 97.5% of the Earth's water supply is salt water and only 2.5% is fresh water. 69% of freshwater is found in the form of glaciers and permanent snow, 30.7% in the form of groundwater, and only 0.3% in the form of lakes and rivers (Popp et al., 2014). In terms of availability, there are some similarities between freshwater resources and cultivable soil. If both factors are considered globally, they are available in sufficient quantities, but their distribution is very uneven. This is also illustrated by the fact that there are huge differences between countries in the same regions, but even within the same countries. Water demand is expected to increase by 100% by 2050, due to population growth, urbanisation and the consequences of climate change. As the urban population grows, household and industrial water consumption is expected to double (EASAC, 2017). Due to increasing food production, water resources in rivers and groundwater are used primarily to irrigate agricultural crops. Most irrigation systems tend to provide more water to plants than they actually need (Lane et al., 2017). Improving living standards, changing food consumption preferences and increasing demand for goods are generating higher water consumption. However, more than 650 million people, especially in sub-Saharan Africa, do not have access to good quality drinking water. The current situation is further exacerbated by the fact that 2.4 billion people live without modern wastewater treatment (WHO, 2015). The United Nations places special emphasis on the issue of wastewater treatment, which is properly illustrated by the fact that Element 6 of the Sustainable Development Goals (SDGs) is the availability of clean and healthy water. Ensuring the proper management and sustainable management of water resources is essential for present and future generations.

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Climate change is a global phenomenon, but developing countries are at greater risk. The problems caused by urbanisation, increasing water scarcity and technological backwardness are the main challenges that need to be addressed. Rural areas must have access to basic services of the 21st century, such as utilities, health care, electricity, education, and so on. This is important for improving the living conditions of the population (Diaz and Moore, 2017). It is estimated that climate change has already reduced global yields of maize by 3.8% and that of wheat by 5.5%. Predictions and research suggest that further declines in productivity are expected as temperature changes exceed critical physiological thresholds (Lobell et al., 2011). The extreme climate increases production risk and places a growing burden on farmers' livelihoods. Climate change poses a threat to the food supply of both rural and urban populations. Extreme climate events have a negative impact in the long run, as exposure to risk and increasing uncertainty affect the introduction of effective economic innovations. Consequently, the number of low-risk, but relatively lower-return activities will increase (Lesk et al., 2016). Risk mitigation is also of paramount importance because farms are capital-deficient in many countries around the world (Fenyves et al., 2019a, Fenyves et al., 2019b). Agricultural activity contributes to global warming. Agricultural CO_2 emissions in 2010 were 5.2–5.8 gigatonnes of CO_2 equivalent per year, accounting for 10–12% of global anthropogenic emissions (Diaz and Moore, 2017). Processes related to agriculture with the highest CO_2 emissions include fermentation, use of organic manure and fertilisers, and the combustion of biomass. Given the need to further increase agricultural production, emissions of harmful substances are also expected to increase. The main source of emission growth is the use of traditional agricultural techniques (as opposed to precision farming), which can result in further severe damage to the ecosystem, such as further water and soil pollution (Fróna et al., 2019). Changes in the environment can exacerbate malnutrition by limiting the ability to produce food products. Extreme weather events (such as droughts and floods) can contribute to volatile changes in food prices, which, in extreme cases, can cause serious problems in the form of riots or further increases in famine (Godfray, 2014). Sustainable food security solutions require the gradual development of innovation that covers the entire food chain. Openness to a commitment to innovation can introduce new perspectives and approaches to agriculture that can help solve the sector's problems. The development of human capital in agriculture is also important, as the success of the application of innovations depends to a large extent on the effectiveness of human activities (Pretty et al., 2010).

3.4. The issue of food and oil prices

Changes in food prices fundamentally affect the quantity and quality of food available to people. In developing countries, where much of household income is spent on food, changes in food prices are a critical factor. Relatively moderate price changes in these areas can also have a significant impact on food security. In recent decades, food prices were fluctuating. Market developments require the collective cooperation of the countries concerned in order to mitigate the adverse

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effects of price changes. Swinnen and Squicciarini (2012) drew attention to the contradictory messages of the parties involved in the food safety debate. These messages do not always correctly provide the true cause of high or even low food prices (Swinnen and Squicciarini, 2012). Not only price level but also greater variability may be a cause for concern (Calvo-Gonzalez et al., 2010). As noted by Baffes and Haniotis (2016), reversing the declining trend in food prices until 2000 has already had an impact on food security in developing countries (Baffes and Haniotis, 2016). According to Timmer (2008), the main sources of the recovery between 2000 and 2007 were increased inventories induced by global economic growth, the devaluation of the dollar, as well as changes in inventories and the utilisation rate (Timmer, 2008). In addition, adverse events, plant diseases and trade policy changes also had an impact on the aforementioned events, such as the growing demand for biofuels (where food crops, especially maize in particular, provide the raw material) (Baffes and Haniotis, 2016). According to a study by UNCTAD, agricultural prices are inherently more sensitive to fluctuations. These effects will require a more effective risk-sharing mechanism between markets, which may be able to strengthen the safety net for changes in food prices. Increased price volatility has a detrimental effect on developing countries due to the high proportion of low-income rural households, which often rely heavily on self-produced inventories (IMF and UNCTAD, 2011).

Changes in oil prices (and changes in energy prices in general) can be a critical factor in other prices. The impact of oil prices is twofold: first, high oil prices increase demand for alternative energy sources such as biofuels. These changes, in turn, increase the demand for raw materials, which can change the distribution between food, feed, and fuel. The second impact is that higher oil prices lead to higher production costs, which reduces food supply stability in the long run (Hochman et al., 2014). The Worldbank (2016) estimates that energy costs typically account for 10% of agricultural production, which means that agriculture and related sectors are extremely energy-intensive. In developing countries, production technologies and transportation are inefficient. For this reason, changes in energy prices can have serious consequences. Several studies have shown a stronger impact of energy prices on agricultural prices (Kristoufek et al., 2012, Kristoufek et al., 2013, Gilbert, 2010). These studies confirmed the link between energy and the agricultural market after the global economic and financial crisis. The obtained results clearly supported the possible non-linear effects, the increased transmission mechanism, and the long-term relationships (cointegration). At the same time, the root of the price increase is the basic market mechanisms, such as supply and demand. As Timmer (2008) noted, the long-term question is how supply will be able to keep pace with demand generated by rapid economic growth. As research results are often lagging behind in this area, the only chance to increase yields is the emergence of new agricultural technologies. The most effective solution against high food prices may be to increase agricultural production within a sustainable framework. The combined effects of climate change and water scarcity call for a quick and effective solution to the problem. Public opinion is often concerned with global warming, but the long-term

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consequences are not yet reflected in our everyday thinking or in widespread growth models. Macroeconomic models have an infinite time horizon and are modeled on non-limiting variables of capital factors, at least in terms of production factors, while real resources are very finite. The three factors of growth function are technology, capital goods, and labor. It is worth considering that, with the current or even a reduced amount of capital, growth is possibly only by means of technological development, i.e. the improvement of productivity, without further compromising nature's carrying capacity. For this reason, innovative innovations must be applied at all stages of production. Due to the growing demand for energy and food, it has become clear that greenhouse gas emissions, especially that of carbon dioxide, have an impact on the global climate. There is a growing demand for arable land where food production, fodder production, energy crops and urbanisation compete. These problems are exacerbated by the gradual depletion of soil productivity, which is also greatly affected by climate change (erosion, water scarcity, increase in soil salinity, etc.). Land use changes can damage biodiversity and increase greenhouse gas emissions. According to the scientific elite of global climate change, increasing global levels of greenhouse gases are leading to a general global warming trend, although the main question is still how anthropogenic activity is contributing to this tendency. What can we do to prevent this threat from escalating further, what can we do to end hunger and malnutrition? Is there enough arable land and water to feed the Earth's population? The answer to this phenomenon may be that it depends on how we manage these remaining resources. Technological innovations can enable humanity to increase food production in a sustainable way to meet reasonable needs. Finally, the issue of food security affects both people and the finite resources. There is no simple or easy solution to sustainably feed the projected 9 billion people, especially if consumption patterns follow the current unsustainable trend. Hopefully, scientific and technological innovation will help overcome this challenge. Sustainable food production can only be achieved by reducing greenhouse gas emissions and water use. We must avoid further loss of biodiversity, not only because biodiversity provides many of the public goods on which humanity relies, but also because we have no right to deprive future generations of the goods provided by nature. Together, these challenges represent a critical issue to be addressed. Its solution requires a social revolution that breaks down barriers to the flow of information between food production science and agriculture. The aim is not only to maximise productivity, but also to optimise the results of production, environmental protection and social justice (equity in food distribution) in a much more complex way.

4. In conclusion

Sustainable agriculture is essential for safeguarding the future. Considering the environmental load, agriculture is one of the most environmentally damaging activities. At the same time, providing the growing population with adequate quantity and quality of food, in a way that no longer destroys the environment and

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biodiversity, poses a huge challenge for researchers, producers, policy makers and consumers. Growing populations and changing food consumption habits (growing demand for higher value-added foods) in developing countries are expected to increase food demand by 60% by 2050. Sustainable production of food for human consumption requires new technology that allows for more efficient use of limited resources such as soil, water and fertiliser. Traditional agricultural production cannot be economically or environmentally sustainable.

A fundamental transformation of food production is needed to preserve the ecological conditions of the planet and avoid health risks. The key to the solution is so diverse that it is essential to integrate and innovate the relevant disciplines. These include, for example, molecular biology, food science, medicine, agronomy, ecology, soil science, IT, and natural biology. Long-term, interdisciplinary human health studies need to be further integrated to achieve higher standards and compatibility of sustainable food production. Global food security requires further industrial and scientific revolution. It is also important to note that there is a growing demand for arable land for which food production, feed production, energy crops and urbanisation compete with each other. These problems are exacerbated by the gradual decline in soil productivity, which is also greatly affected by climate change (erosion, water scarcity, increase in soil salinity, etc.). Land use change can damage biodiversity and increase greenhouse gas emissions. According to the scientific elite of global climate change, increasing global levels of greenhouse gases are leading to a general global warming trend, although the main question is still how anthropogenic activity is contributing to this. What can we do to prevent this threat from escalating further, what can we do to end hunger and malnutrition? Is there enough arable land and water to feed the Earth's population? The answer to this phenomenon may be that it depends on how we manage these remaining resources. Technological innovations can enable humanity to increase food production in a sustainable way to meet reasonable needs. Hopefully, scientific and technological innovations will help to overcome these challenges.

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ECONOMIC ANALYSIS OF SUBCONTRACT DISTILLERIES BY SIMULATION MODELING METHOD

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Abstract: *The economic analysis of the subcontract distilleries is a less-explored area of literature. At present, there are approx. 140 commercial and 500 subcontract distilleries in Hungary, in the distribution of production, the former is about 2 million, the latter producing 9 million liters of 50% vol distillate. In the study we carried out an economic analysis of subcontract pálinka distilleries by simulation modeling. Prior to our study, we defined which distillery can be considered to be average in Hungary today and this was taken into account in the marginal conditions of the investigations. Calculations were made using @Risk 7.5 software package. The special feature of margin calculation compared to commercial distilleries that they do not have their own fruit base. It has been proven that the cost of distillation can vary from 331 to 1068 HUF/litre taking into account the extreme values of 1000 simulations, and the average of self-cost is 545 HUF/litre. Based on the empirical distribution of the simulations, it can be stated that 61.1% probability is that the cost below 550 HUF margin level is expected, what is to say the distilling is profitable. Increasing production can significantly reduce the cost of distillation production by up to 30% compared to the original value but practically not, or very difficult to implement. When examining the elements of the cost factors, it was found that four determinants (cost elements and production) that have a decisive influence on the first cost. Income per liter is closely related to the first cost. According to the simulation results, it can vary between -239 and + 150 HUF/litre at 90% probability. The most significant increase in cost is the specific wage cost, and the effect of changes in energy and general costs is only six-tenths of the wage cost. It is advisable to continue making pálinka as a part-time job. By simulation modelling, setting a 1% tolerance for the difference between revenue and expense, we found 29 cases where the production volume can be considered as a brake even point. By determining the simple arithmetic mean of these cases, we can declare that the brake even quantity is 13892 liters. By setting the minimum and maximum values, we have developed a model applicable to any payroll, which can be used for cost-benefit calculations. Generally, the pálinka making can be considered as a profit generator, but the resources, location, and demand have a great influence on this income-generating capacity.*

Keywords: *subcontract distilling; margin calculation; simulation modeling; first cost; income.*

JEL Classification: *C15; L66; Q00.*

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1. Introduction

The economic analysis of the subcontract distilleries is a less-explored area of literature. Although several authors also dealt with the competitiveness, distribution channels and profitability of palinka (Kopcsay, 2010, Török, 2010, 2011, Koris, 2015), the studies were focused mainly the commercial distilleries. The article dealing with the return on technological upgrading investment can be considered as the antecedent of the study. (Harcsa, 2016/a). At present, there are about 140 commercial and 500 subcontract distilleries in Hungary, they produce 2 million and 9 million liters of distillate, respectively, with 50 vol % in the distribution of production. (I1)

Because of the legal changes of the previous years, the market for subcontract distilling has been declining since 2015 (Harcsa, 2016/b; I2). We intend to determine the brake even quantity by analyzing the data of a specific, but average subcontract distillery. Typical data of an average distillery are the following:

1. Rural location. According to Kovács et al. (2015), based on the New Hungary Rural Development Program (NHRDP), every settlement below 10 000 inhabitants is rural, and the districts where the population of the central city is more than 10 000 inhabitants, but the population density of the district is below the national average (107 persons/km^2). In January 2019, the list of updated subcontract distilleries recorded 558 units, of which 400 were in rural areas (I3).

2. Size of the micro or small enterprise. The number of employees is less than 10 people, the sales revenue or the balance sheet total is less than € 2 million (I4). Of the above-mentioned subcontract distilleries, only three were found to be irrelevant.

3. Traditional small pot technology is used with a capacity of 500 liters.

4. Energy supply was mainly based on wood and electricity.

5. It works seasonally, as distilling can be carried out after the ripening and mashing of the fruits.

6. The resulting by-products are utilized by soil management. Currently, this is the only cost-effective way to use. (Békési - Pándi, 2005)

7. The fee of distilling is between 500-850 HUF/litre (calculated for 1 litre of 50% vol. distillate), based on the data on the websites of the individual companies.

8. Official checks carried out by the National Tax and Costoms Office (NTC).

9. Compulsory use the distilling diary.

10. Provides only a subcontract distilling service, the product may not be commercially available. (Act XLVIII. of 2016).

11. The owner or employee should be qualified at least National Training List (NTL) Fruit palinka maker.

12. It must be in possession of the necessary authorizations for the operation (ÁNTSZ, NÉBIH, Fire Department, Water Management Directorate, notification obligation at the local government, etc.).

13. The subcontract distillery does not have its own basic material (fruit), it is provided by the customers.

14. As a separate service, it occasionally performs mashing, delivery, or provide advice.

15. In the case of commercial plants, the excise duty is paid by the distillery at 100%, while in the case of the subcontract distilleries the tax is 50% and paid by the customers.

Effect of influencing elements (costs and revenues, as independent variables) by varying a threshold intervals are studied to the cover costs, as dependent variable, during the determination of the dynamic margin calculation In terms of statistical reliability, this can only be achieved by stochastic also a large number of simulations Lakner et al. (2014) made model calculations based on expert estimates using their price-cost-margin-profit models for *commercial* distilleries. No such model calculation has been carried out for *subcontract* distilleries. The most widespread method of subcontract distilling is the batch distillation process, (small pot, in Hungarian: "kisüsti") the essence of which is that we get first low-alcohol from the mash and then it will be refined. Kassai et al. (2016) found that the vast majority of pálinka distilleries are subcontract distilleries. Adapting the ideas of Lakner et al. we have developed a simulation model which is suitable for the analysis of a cost-benefit-profit of subcontract distilleries. By applying this method, it is statistically validated to show how much the income can be realized by a brewer operating under average conditions, which factors primarily affect its magnitude, and what kind of output (distillate) they can make.

2. Material and methods

Our work attempts to determine the margin amount in a dynamic approach. Baseline data were obtained from the database of Hun-Dest Drink Kft. Generally, businesses refuse to release their own internal data. One of the authors belongs to one of the family interests of this company, so getting to know its cost structure was not a problem. This company fully comply with the conditions listed above. The operation of the distillery and its various economic parameters are affected simultaneously by several factors. Consequently, an approximate picture of the profitability of the distillery can be obtained by examining the influence of input and output relations on the economic indicators of the distillery in various ways. An obvious tool for the analysis is to predetermine the parameters (distribution type and characteristics) of the factors affecting the examined parameters (such as cost, profit), and then to estimate the values based on the combination of values from each generated distribution. During the analyzes, we followed the logic outlined above, characterized by independent, pre-estimated random distributions of variables affecting the economic parameters of the distillery (production volume, production costs, etc.). According to Vajda and Kasza (2017), @RISK software is widely used in risk analysis. The plugin integrates with Microsoft Excel and allows to consider multiple scenarios using simulation modeling. In the case of interrelated variables, some combination of the values of the variables and their joint change in their parameters can be determined by scenario analysis. Building on a consistent combination of variables, scenario analysis provides a more accurate definition than a pessimistic

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or optimistic value (Illés, 2009). Calculations were made using the @Risk 7.5 software package (Dikmen - Birgonul - Arikan, 2008). After performing a minimum of 1000 simulations, it was possible to examine the results mathematically and statistically.

The main objective of this study is to explore the cost-income relationships of an average subcontract pálinka distillery as an economic enterprise.

The research analyzes the costs of operating the pálinka distilleries, and then the income from the distillation, using model calculations based on factual data. The following boundary conditions were taken into account during the tests.

1. The distillery is legally operating in accordance with the Hungarian laws and regulations in force.

2. According to expert estimation, the value of the building and the equipment used in the case of a small pot system is in the range of HUF 5 - 5 million. The annual depreciation of buildings and structures was set at a depreciation rate of 2.5%. Technological machinery and equipment were depreciated at a rate of 4% per annum.

3. The distillery does not buy the raw material (mash), it is made available by the customers. Consequently, the cost of producing the raw material was not calculated.

4. The purpose of the distillery is to make distillates from the raw materials made available and supplied by the clients. If requested by the customer, the brewery will deliver the mash to the distillery within 30 km from the customer for a separate service charge.

5. In the breakdown of costs, the general practice of the Hungarian Accounting Act and the rules of domestic corporate costing rules were applied. However, for the sake of economic clarity, the process cost principles and approach have been implemented wherever possible.

6. Obviously, there are significant differences between the cost-income ratios of distillation, depending on the resource combination used by each distillery and the cost of each resource; and the efficiency of their exploitation. The investigations are basically based on the specific data of Hun-Dest-Drink Kft's distillery, which is approximately representative of the average subcontract distillery in Hungary.

7. During the calculations one main average number of employees was established. Wages were set above the minimum wage due to the expected 12-hour work schedule.

8. During the research, the price-cost-margin-profit calculation was carried out according to a standard system widely used in agricultural higher education (Nábrádi-Felföldi, 2007). In order to explore the role of production volume in profitability, individual cost factors have been split into fixed and variable costs. On this basis, it was possible to determine the profit. Based on the relation $Ny = Q \times (Á - Vk) – ÁK$; where Q - total production (distillate); á - revenue per unit of product; Vk - specific proportional cost, ie proportional to the volume of production; Ak - the total cost, that is to say, the fixed cost between the lower and upper limits of the production volume examined.

9. An estimated value and an estimated standard deviation for each cost factor and revenue were established when creating baseline data for the studies. Where

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deemed necessary, assuming "truncated" distributions, the value of each factor could not fall below a given minimum level.

During the simulation studies, the estimated values were approximated by varying distributions. We used ß general distribution for fixed and variable logistics costs, wages, marketing, variable energy, variable marketing, and depreciation of buildings and machinery. For fixed energy costs, a normal distribution was determined, while for corporate overhead, a gamma distribution was determined (Figure 1).

The individual distributions are considered expert advice and delimitation of extremes. For this reason, Weibull, Beta and Gamma distributions should be used in addition to the normal distribution. The distribution functions as well as the initial data of the simulation together provided the conditions for performing thousands of stochastic simulations with the model.

Sampling was performed by using the Latin hypercube method, which ensures that the random sample represents variability (Van Dam et al., 2007; Körtvélyesi, 2012).

Name of the function and the type of the distribution	Figure of the distribution
Energy cost Normal distribution	
Marketing cost Weibull distribution	
Permanent logistic cost Beta-genral distribution	

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Name of the function and the type of the distribution	Figure of the distribution
Building amortization Beta-genral distribution	
Amortization of machinery equipment Beta-genral distribution	
Corporate overhead cost Gamma distribution	
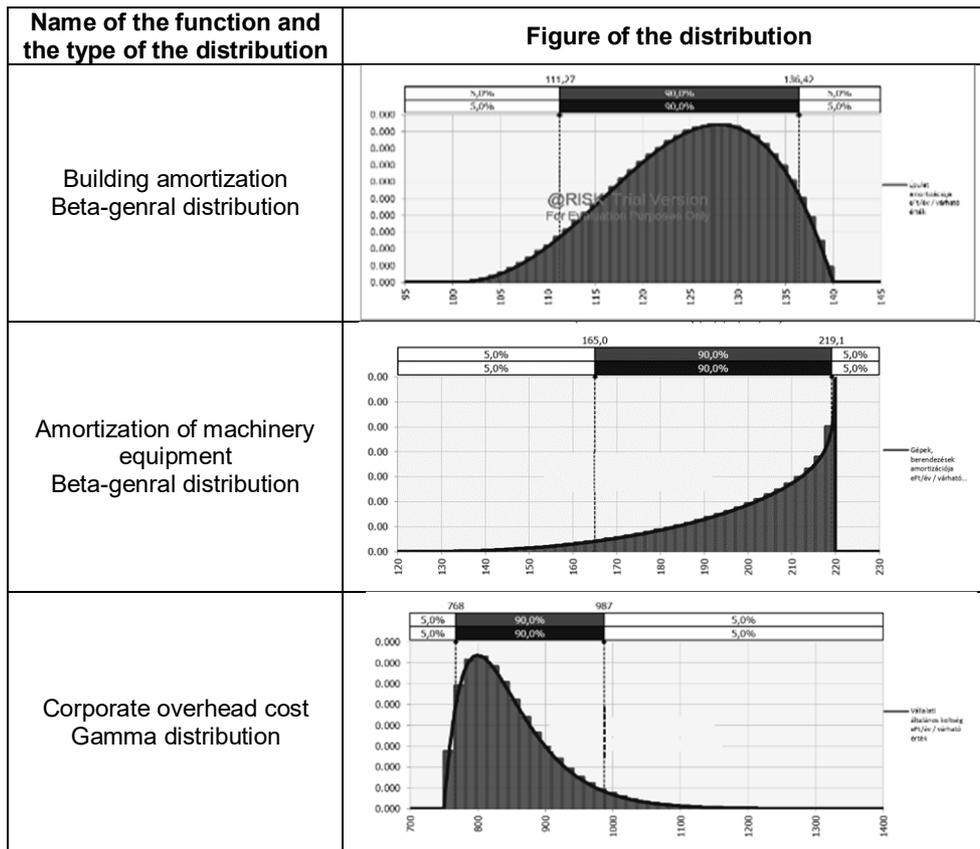
Figure 1: The distribution functions of the simulation investigations.
Source: own editing.

Table 1: The initial data of the simulation.

Denomination	Variable costs			Fixed costs		
	expected value	variance	minimum value	expected value	variance	minimum value
Production volume, litre	15000	5000	5000			
Wage cost, thousand forint				3000	300	2400
Energy cost, forint/litre or thousand forint	13	2	10	500	72	360
Marketing cost, forint/litre or thousand forint	25	7	15	200	30	180

Denomination	Variable costs			Fixed costs		
	expected value	variance	minimum value	expected value	variance	minimum value
Logistics, forint/litre or thousand forint	50	3	20	120	10	100
Building amortization, thousand forint per year				125	12	100
Amortization of machinery equipment, thousand forint per year				175	20	125
Corporate overhead cost, thousand forint per year				800	80	750

Source: own calculation.

A large part of the energy cost is due to the high basic monthly charges so called "Availability fee", but in the case of any kind of problem the service providers give priority to these customers when troubleshooting. The highest proportion within the energy cost is represented by the heating energy. A distillery that wants to meet its customers' needs as much as possible must deal with logistics as not all customers can transport their mash. In the fixed part of this cost element the permanent costs relating to the vehicle (automobile tax, mandatory vehicle liability insurance, service, etc) are indicated. In the case of smaller subcontract distilleries the application of marketing can be observed. Pre-negotiated contracts can achieve better prices in media. At the same time, applying the principle - "If business goes, it is worth advertising, if it does not go, must be advertised"-, in case of higher production it is worth making extra marketing expenses, therefore marketing costs are also indicated among the variable cost elements.

3. Results

It has been verified that the cost of distillation, considering the results of 1000 simulations - including the extreme values - can vary between 331 and 1068 HUF per litre, and the average cost price is 545 HUF/litre. This is illustrated in Figure 2, where the empirical distribution of the cost is shown in light gray, and the solid line is represented by the fitted theoretical distribution, which is an Invert Gauss distribution.

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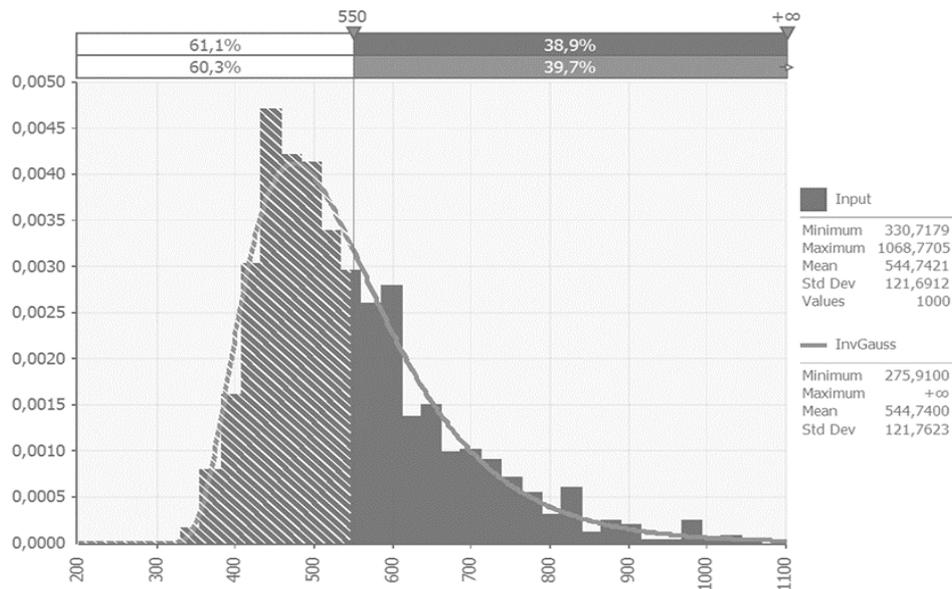
Figure 2: The first cost density function and histogram of the examined subcontract distillery based on 1000 latin hypercube simulations.
Source: own calculation.

The relatively high average cost of distilling (545 HUF / l) calls attention to the fact that in normal circumstances the possibility of earning "dancing on the edge" as the service fee is currently around 550 Ft / l. Based on the empirical distribution of the simulations, it can be stated that there is a 61.1% probability that the cost price below the HUF 550 coverage level can be expected, ie the distilling is profitable. If this revenue factor cannot be increased, then it will be necessary to examine how to reduce expenditure and to analyze how far the specific fixed costs can be reduced by increasing output, ie by increasing distillation quantity. The following two figures illustrate the excess emissions; Figure 3 and 4 illustrate the effect of all these.

Figure 3 shows that increasing output will reduce cost. That is good, but there are a few things to note. The output cannot be increased indefinitely, since physical capacity (technical capacity of the distillery), human resource capacity (palinka master, staff) and ordering capacity (consumer demand) all affect the quantity of produced distillate. In principle, cost reduction can be achieved by increasing output, but in practice it is not, or very difficult to implement.

Figure 4 shows the percentile values, expressed in % of output as a function of the cumulative probability distribution of cost. During the simulation, seven percentile values have been recorded. In the case of maximum capacity utilization, the cost analysis was carried out at 99%, followed by a decreasing rate of 95%, 75%, 50%,

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etc. The results spectacularly show that increasing production can significantly reduce the cost of producing distillate by up to 30% of its original value.
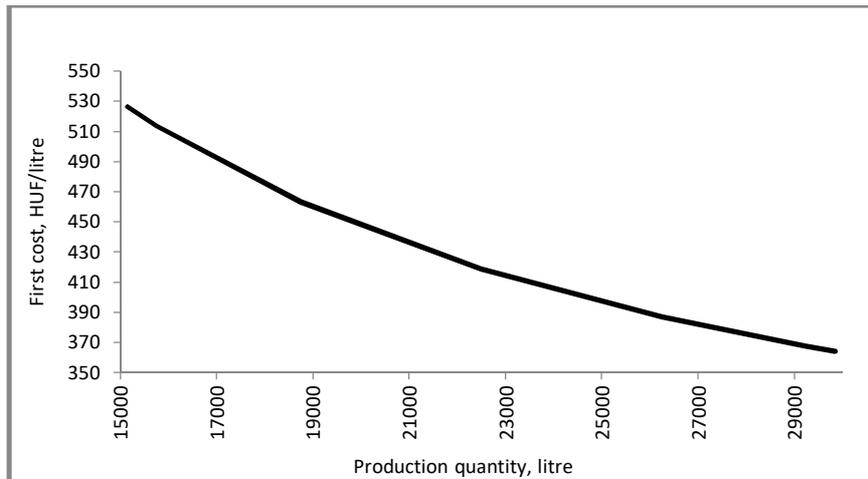
Figure 3: The relationship between the first cost and the amount of produced distillate based on 1000 latin hypercube simulations.
Source: own calculation.
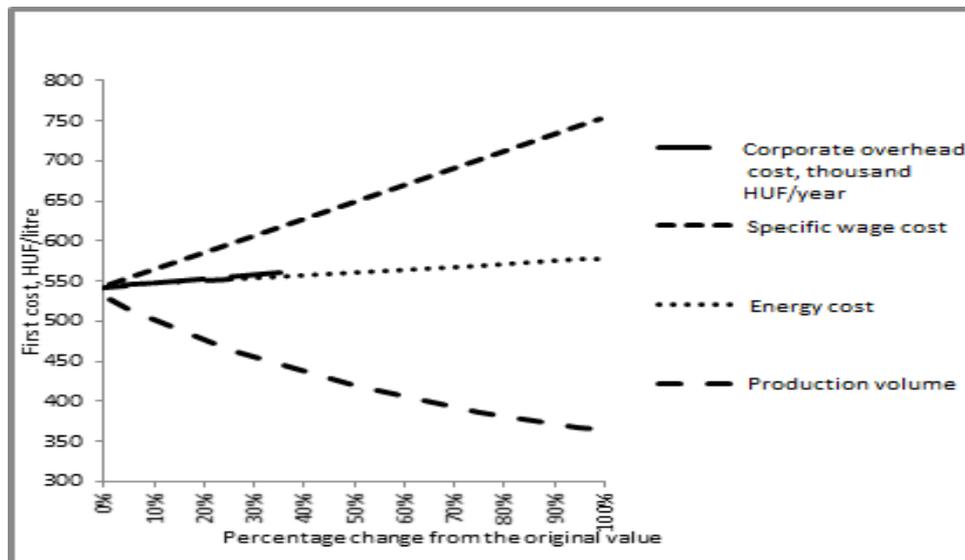
Figure 4: The cumulative distribution of the first cost depending on output based on 1000 simulations.
Source: own calculation.

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Examining some of the factors affecting the first cost, it was found that there are four determinants (cost element and production) that have a decisive influence on the cost of distilling. In a downward direction the output (produced distillate) and in ascending direction unit labor costs, energy costs and overheads. The relationships between these factors are shown in Figure 5.
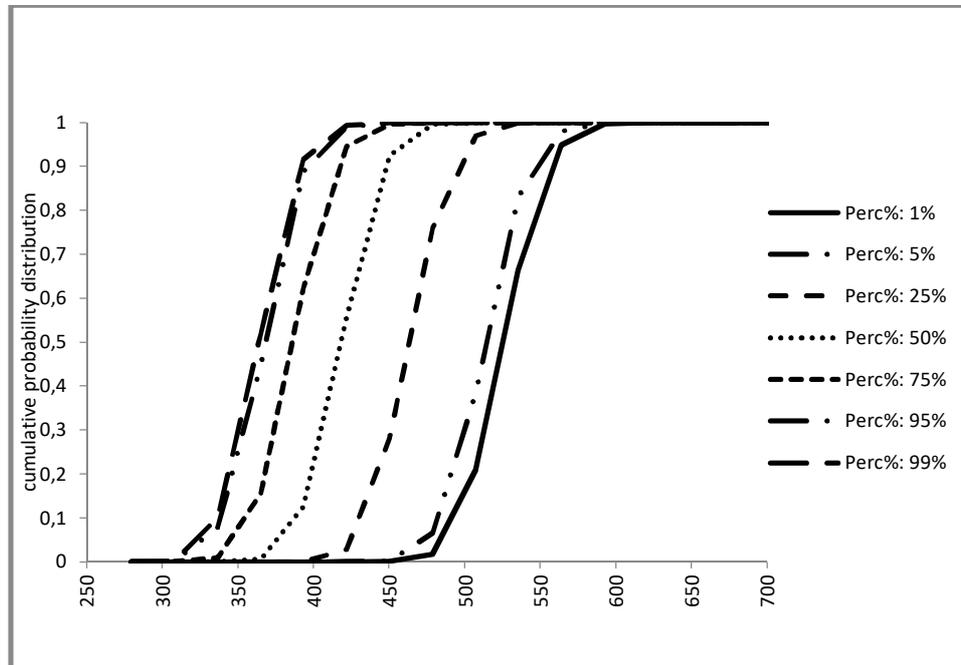
Figure 5: The effect of percent changes in major influencing factors th the first cost based on 1000 simulations
Source: own calculation.

There is a strong correlation between first cost and income per liter. According to the results of the simulation, with a 90% probability, it can range between -239 and + 150HUF / liter (Figure 6). Similar to first cost, there is an approximately 60% probability of positive income from distilling activities.

The effect of unit labor costs, production volume, energy costs and overheads on the cost of production were also studied. The process of the sensitivity analysis was the following: For each of the 4 factors, seven percentiles of their distribution were considered (1,5,25,50,75,95,99). The value of a given factor in the sensitivity test line was recorded at the appropriate percentile, while the values of all other factors were sampled from the theoretical distribution with 1000 iterations according to the principle of Latin hyper squares. Then tthe average cost per 1000 iterations was calculated and then the whole analysis for all percentiles were made. Thus, for each factor, there were 7*1000 simulations, and for the four factors, a total of 4*7=28

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sensitivity analysis. The sensitivity tornado diagram (Figure 7) shows the results of the 28 sensitivity tests separately for each variable and shows the range over which the average of 1000 simulations is applied using each percentile.
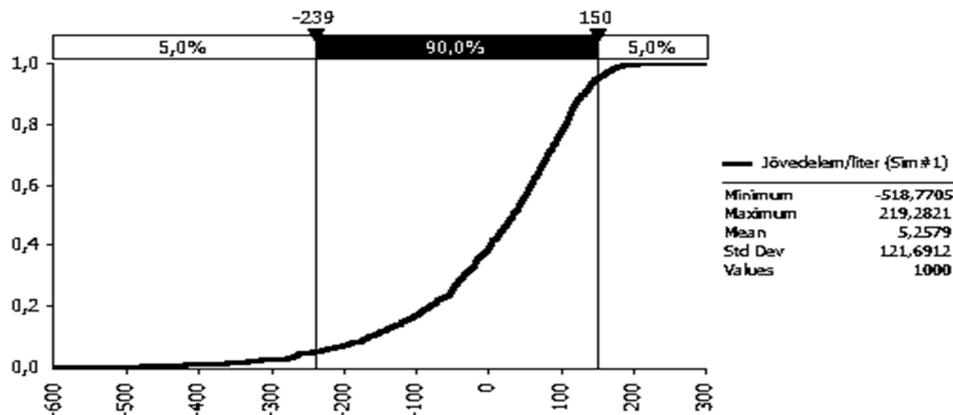
Figure 6: The saturation curve of income, HUF/litre.
Source: own calculation.

The tornado diagram shows the factors influencing first cost, in order of their relative importance. The change in unit labor cost was the most sensitive to the first cost, in the amount of HUF 205. If we take a very small distribution value for the production volume (1% percentile 15150) and a very high production volume (99% value 29850), we will only experience a HUF 162 fluctuation in the average first cost. The effect of the change in energy cost is HUF 33, while the corporate overhead costs affect HUF 23. It can be concluded that unit labor costs have the greatest impact on the first cost, while the impact of changes in energy and overheads is only one-sixth one-tenth of the cost of labor.

With simulation test setting 1% tolerance for the difference between revenue and expenditure, the production volume can be considered as a break-even point in 29 cases based on 1000 simulations. This was determined by a heuristic approach. Based on the mean of the production volumes of the 29 cases (Revenue-Expense~0) the break-even volume is 13,892 liters. This means that an average distillery must produce at least as much distillation per year as its revenue will cover its expenses. Based on the actual data, it can be conclude that in 2017, ~ 500 enterprises produced ~ 9 million liters of distillation, so the average operating output was 18 thousand liters.

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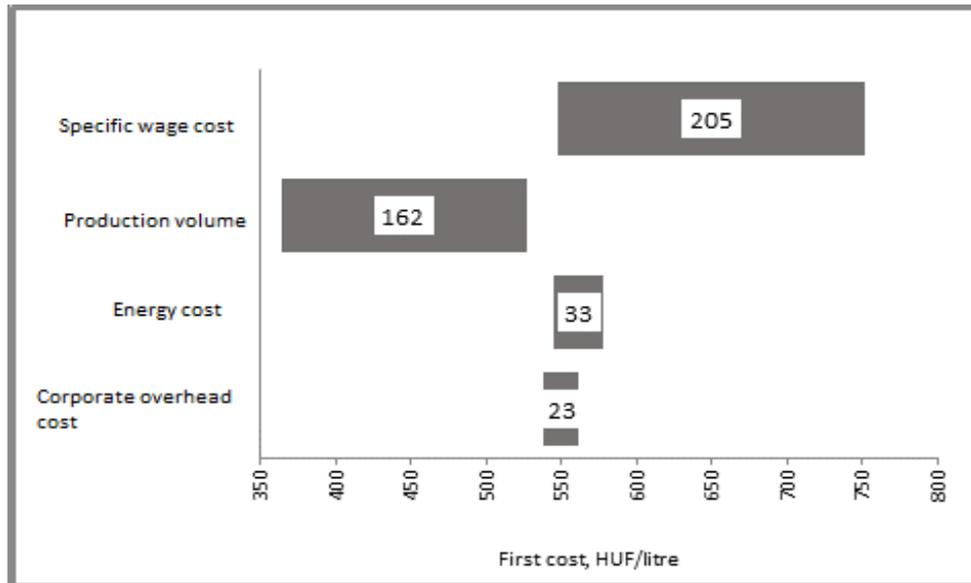
Figure 7: Tornado diagram, the most important factors affecting the first cost in order of importance.
Source: own calculation.

We can also conclude that distilling is a revenue generating activity. But this number is just an average. There are businesses where this output is feasible, some of them are cannot reach this. The fact is that the lack of customers compared to the tax exemption period after the amendment of the excise law in 2015 is drastic and the quantity of distillate produced is decreasing.

4. Conclusions and proposals

If the distilleries have the opportunity, it is strongly recommended to apply a higher price level than the HUF 550/liter mentioned in the example. Theoretically, it is possible to increase the output, since this can only be realized in the case of distilling as a service if there is a consumer demand. The most important factor that can be influenced by the enterprise is the cost of labor. Due to the high contribution burden, it is advisable to continue making palinka not as a full-time job but as an additional income generating activity. In addition, energy costs and overheads have an impact of between HUF 24 and 33 per liter when compared to the HUF -239 and +150/liter available income points to the fact that lowering wage costs and increasing output could raise the income. However, there is only a 60% probability of positive income from subcontract distilling.

The break-even quantity has been determined as 13.9 thousand liters, which, although on average distilleries exceed, but the trend is that the volume of distillation

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produced by subcontract distilleries after a change in excise law in 2015 has fallen well below previous levels.

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THE INFLUENCE OF FOREIGN BANKS' ENTRY ON THE MAIN MACROECONOMIC INDICATORS IN THE (EMERGING) HOST ECONOMIES. CASE STUDY: ROMANIA, HUNGARY AND BULGARIA

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Abstract: *There is an impressive number of studies concerning the effects of the presence of foreign banks on the economy of the host countries. However, the positions and views concerning this topic are immensely diverse. Moreover, the relationships between the two elements may not be unidirectional, given that they depend on many factors, as the global, conjunctural or structural events, or trends in the analyzed time period. Foreign banks can present the host market with several benefits, namely: a reduction in the cost of financial intermediation, an increase in the quality of offered services and products, increased access to financial services, imposing prerequisites and provisions upon demanding debtors to obtain useful medium- and long-term benefits, increased competition levels and diversity of products and services available on the home market, stimulating the diffusion of technology and spread of know-how, acceleration of reform in the field of management, risk management, corporate governance, etc. International banks, by having a diversified and efficient structure, can more easily absorb and cope with the shocks that take place on host markets, and can be considered as being a key source for a stable source of capital. In the same time, we must not forget that the presence of foreign banks can also bring forth and involve costs and risks for the host country: often foreign banks tend to select only the best customers, thus affecting the availability and activity of indigenous banks in the process of granting loans to the real sector, especially to small and medium-sized companies. In some instances, foreign banks may be a channel by which shocks in the bank's home country are transmitted, and may affect the provision and granting of loans in the host country, thus contributing to the appearance of financial instability. In this paper, we intend to examine the impact of foreign banks' presence in several countries in Central and Eastern Europe (Romania, Hungary and Bulgaria) in order to understand how foreign participation in the banking sector in the aforementioned countries has had an effect on the economic macro-stability of these countries, and whether the entry of foreign banks into the banking systems of each host state follows a similar model. We are also interested in finding out whether the trends are maintained over time, or are significantly influenced by the socio-economic, political and conjunctural particularities of each country. Finally, we want to find out whether the recent economic and financial crisis has decisively changed the behavior of foreign banks and the relationship with the analyzed macroeconomic indicators.*

1. Introduction

Over the past two decades, we have noticed that the global footprint of banks has increased, and this has been carried by using two methods. On the one hand, they have increased the offer and availability of cross-border loans either to other banks, or directly to companies. On the other hand, they have expanded their global coverage by establishing a (physical) presence abroad through networks of variable complexity of branches or subsidiaries. While most economists agree that the global banking sector is essential for international business cycles, the literature is somewhat divided regarding the role and utility of the presence of international banks in host economies, and their influence on the stability of the host country. On one hand, there are some studies, such as Buch (2000), Morgan and Strahan (2004), De Haas and Van Lelyveld (2006), De Haas and Van Horen (2013), which show that funds borrowed from countries with strong economies by countries with weak economies can have a destabilizing effect upon the latter. On the other hand, we find that studies by Peek and Rosengren (2000), De Haas and Van Lelyveld (2014) consider that global banks can increase stability by providing a solid, secure source of funding during time of liquidity shortage (associated with the economic-financial crises). Given this diversity of results and perspectives, we are inclined to presume that the relationship cannot be unidirectional, and that it depends on the initial level of the global banking presence in the economy.

2. Literature review

The literature concerning banking competition and economic stability, even though divided, does suggest that the effects of entry of foreign banks on a particular banking system and host economy may generally be correlated with the degree of competition that global banks face in that particular host country. Keeley (1990), Boot and Thakor (1993) predict that given more banking concentration and activity on a host market will result in higher stability levels, whereas Boyd and De Nicolo (2005) bring evidence that contradict the previous prediction. Anginer et al. (2014) consider that economies with less competitive banks are less stable and that this relationship is bound to be stronger when foreign banks have a smaller presence. (Love, et al., 2013) note that the increase in the volume of loans granted by foreign banks was high before the crisis only in Eastern Europe, and that these levels have decreased more than in the case of domestic banks in these countries during the crisis period, largely due to an excessive decrease in the number of credited companies. Similarly, De Haas and van Lelyveld (2014) have reported that the decrease of the growth rate of loans from the subsidiaries of multinational banks was almost three times greater than in the case of domestic banks during the 2008-2009 global crisis.

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Although the effects of the presence of foreign banks in the host banking systems and/or financial stability have been extensively and largely been investigated, the number of studies examining the situation and the direct effect of this presence on macroeconomic stability is (relatively) limited. Moreover, some studies investigating the behavior of banks during the financial crisis of 2007-2009 (Claessens & Van Horren, 2013) point out that global banks, given the unfavorable financing shocks present at that period, have reduced the weight and importance of lending offered by local branches. The negative effects of increased competition on economic stability are explained by the fact that banks are increasingly taking higher risks, while in the same time decreasing the monitoring of loans granted, due to the low interest margins and the reduced ability of small banks to diversify their risks.

Thus, we can appreciate that the presence, and the increase in the share of foreign banks can be beneficial for the host market in several ways. First of all, the presence of foreign banks tends to reduce the cost of financial intermediation whilst increasing its quality. Secondly, the presence of foreign banks increases access to financial services for (certain types of) businesses and households alike. Thirdly, this presence enhances the financial and economic performance of the borrowers. These benefits lead to increased revenues, competition and market availability of products and services, while in the same time stimulating the diffusion of technology and the dissemination of know-how. Moreover, this presence functions and acts as an accelerator of internal reforms in management, risk management, corporate governance etc.

What is more, international banks, given their diversified structure, can more easily absorb external shocks that are taking place on the host markets, and can therefore be a more stable source of capital. However, the extent of these benefits depends on the characteristics of both the host market and the foreign banks themselves: in some cases the benefits are large, while in others instances, they are only marginal (Clarke et al., 2006).

From another point of view, the presence of foreign banks may also entail costs and risks for the host country. If foreign banks tend to select only the best customers that are present in that host market, the domestic banks will thus only have a mediocre customer portfolio, which can affect the profitability of domestic banks and the availability of loans to the real sector coming from domestic banks. In some instances, the net impact of the presence of foreign banks in the offering of loans may be negative, given that their aggregate credit offer is not enough in order to compensate for the reduction of the loan offer coming from the existing domestic banks (Detragiache et al., 2008). Furthermore, foreign banks can be a channel through which the shocks in a country, for example, from the home market of the foreign banks, could be transmitted and can affect the offering of loans in the host country in which they now operate (Peek & Rosengren, 2000). Thus, from this perspective, foreign banks are considered a contributor to economic and financial instability (Claessens & Van Horren, 2013).

A comprehensive empirical study concerning the entry of foreign banks into the economies of the host countries was conducted by Claessens et al (2001). The main result of the study was that, in the case of developing countries, foreign banks tend

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to have higher profits than domestic banks, while in already developed countries, foreign banks are less profitable their domestic counterparts. The results of this study also show that a greater presence of foreign banks in host country is related to lower profitability, costs and lower margins of domestic banks. Hermes and Lensink (2003) further developed upon the model envisioned and used by Claessens et al (2001). Their results state that, given a lower level of economic development, the entry of foreign banks onto this lower developed host market is associated with higher costs and margins for domestic banks. In the same time, at a higher level of economic development in the host market, the entry of foreign banks has a less significant effect on the profitability of domestic banks.

Claessens et al. (2001) have empirically investigated the way in which the presence of foreign banks affects the functioning of the internal/domestic banks, and show that the entry of banks onto new (domestic) markets generally involves all bank related aspects and segments, either corporate or retail banking segments. Claeys et al (2008), Clarke et al. (2006) and Gande et al. (1999) have studied the effects of foreign banks' entry onto a new corporate market, by proving that a higher presence of foreign banks on a host market brings forth increased competition levels on that particular market. In terms of market concentration, there are numerous studies that indicate that the entry of foreign banks tends to decrease market concentration while increasing competition. In addition, several authors discussed the competitive effect of different entry modes. When an internal banking market is opened and allows for the entry of foreign investors, foreign banks can either enter through domestic bank acquisition or through a greenfield / *de novo* investment. In the first option, the number of banks present on that host market, remains constant. In the same time, entering through a greenfield / de novo option increases the number of banks operating on the host market (but the real effect is only felt after a period of time when the newly formed bank begins relying on the lending or on innovative business/market solutions). Claeys et al. (2008) has analyzed the ways in which different entry methods for foreign banks affect competition levels on the newly reformed host market. As per Martinez Peria and Mody (2004), banks that enter a new market through a *de novo* investment method tend to practice lower interest rates than banks entering through the acquisition of a domestic bank in the host country (this is, at least in part, due to lower operating costs and "clean" portfolios). Over time, it is found that a greater presence of foreign banks leads to a reduction of costs for all banks operating on that host market.

Given all this, we must ask the following questions: is competition in the banking sector as important as it is in other sectors, and if increased competition in the banking sector is safe and beneficial? Classically, competition reduces prices and increases the quantity of goods and services existing on the market, increasing the overall well-being of a country. Also, from a dynamic perspective, it can be argued that through competition the standard of living increases, because competition increases the innovation incentives for business. Although economic theory predicts that innovation should not decrease with competition, evidence brought forth by Aghion et al. (2005) prove the contrary. Even so, economists and policy-makers alike are convinced that competition in the banking sector differs and manifests itself

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differently than competition in other sectors. Foreign banks can improve the financial system of the host market by disseminating new methods of risk management, banking practices, know-how, financial regulations etc., but it is not certain that these changes will be made gradually, without affecting the host market and implicitly, the financial-banking stability.

The presence of foreign banks and their influence on economies are topics approached in a similar manner in various works by other authors. Almost all use the ratio of foreign assets to total bank assets, or the number of foreign banks compared to the total number of banks in the host market (the former is obviously more suggestive than the latter). Banks are labelled as foreign if at least 50% of the shares are owned by foreign entities (legal entities or individuals), meaning that this share of over 50% gives the "foreigners" the control over the decision-making process and operations of the bank (Badulescu and Simut, 2012).

3. Research methodology, results and discussion

We have employed several macroeconomic and financial indicators to better capture the evolution of some economic aspects during the studied time period, to see whether there is a connection between these variables, and what result have these influences generated. The variables used in this paper are Foreign Bank Assets, as a percentage of the total bank assets, as an exogenous/independent variable, and as dependent variables, the following Macroeconomic Indicators: Economic Growth – the real growth rate of the Gross Domestic Product, Inflation (percentage change in the consumer price index), and Unemployment rate (%). In this subchapter we will use annual data for three countries (namely: Romania, Hungary and Bulgaria) selected from a group of more than 11 countries in Central and Eastern Europe (including the Baltic states), for the period 1996 - 2015.

The majority of scholar and decision makers consider 50% the threshold for the domination of foreign banks of a host market. This threshold does not necessarily imply the certainty of this domination in the medium and long run. Given that we have noticed that, in some countries, this 50% threshold has fluctuated throughout consecutive time periods, we have considered 60% to be a more relevant level, considering it accurate enough in order to prove the moment from which the foreign banks became a stable majority on the host market.

3.1. Quantitative and qualitative analysis of the relationship between the presence of foreign banks and macroeconomic stability in Romania

The process of moving from Romanian state-owned capital system to a foreign capital/private market system was carried out over a longer period of time, as foreign banks have thoroughly analyzed the economic situation of Romania and foreign investors were in a position to make decisions regarding entry and the development of production capacities. In Table 1 we represented the evolution in the share of foreign bank assets in the total assets of the banking sector in Romania during the 1998-2015 time period. It can be observed that, starting with 2001-2002, the share of foreign bank began to exceed 50%, and we can thus consider 2006 as being the

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year in which the position of foreign banks in Romania can truly be considered as being dominant. Given these two essential time periods, we will thus differentiate between what happened before the share of foreign assets had a majority/became dominant on the Romanian (before 2006) and the period when they became dominant in the Romanian banking system (after 2006). Another key moment in our analysis is the year 2008, the year in which (at least for Romania and a number of other countries in CEE) the first serious effects of the economic-financial crisis can be noticed (the most obvious effect being the ceased growth of GDP and the beginning of a downward trend for this indicator; see Table no.1). Obviously, the starting point for this economic crisis can vary; it can be considered being the year 2007 or the year 2008, depending on country, either way, this variation is small. As opposed to this small difference, reaching the threshold of 60% foreign banks assets in total banking assets (time wise) is very diverse within the sample of selected countries (Morutan & Bădulescu (2016) and (Badulescu & Morutan, 2016).

Table 1: The evolution of Foreign Bank Assets and the main macroeconomic indicators in Romania (1996- 2015)

Year	Foreign Bank Assets	Economic Growth	Inflation	Unemployment
1996		3.87	38.8	6.7
1997	12	-4.82	154.8	5.51
1998	15	-2.09	59.1	5.63
1999	44	-0.4	45.8	6.24
2000	47	2.4	45.7	6.97
2001	51	5.59	34.5	6.56
2002	53	5.18	22.5	8.11
2003	55	5.52	15.3	6.95
2004	58	8.36	11.9	7.72
2005	59	4.17	9	7.17
2006	89	8.06	6.6	7.27
2007	89	6.86	4.8	6.41
2008	89	8.46	7.8	5.79
2009	85	-7.07	5.6	6.86
2010	85	-0.8	6.1	6.96
2011	83	1.06	5.8	7.18
2012	81	0.64	3.3	6.79
2013	90	3.53	4	7.1
2014	89	3.08	1.1	6.8
2015	90	3.94	-0.6	6.81

Source: The World Bank (2018) and European Bank for Reconstruction and Development (2018)

After 2006, the share of foreign banks present on the Romanian banking landscape has quickly accelerated, reaching, in just a few years, almost 90% of the total banks' assets on the Romanian market. Therefore, even though the share of foreign banks has fluctuated, it has nonetheless maintained a high level: from 89% (2007 -2008), to about 81% (2012), up to a maximum of 90-91% (2013-2016), and finally to about

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77-78% during 2017-2018. It should be mentioned, however, that this evolution over the last 10-15 years is not only the result of the actual entries upon the Romanian banking market of new foreign banks, but it is also the result of the rapid gain of market shares by the existing foreign banks, as a result of above-average performance. Even so, some of these changes are also due to other phenomena, tendencies or circumstances, such as: changes in the shareholding structure of some domestic banks (through which the foreign shareholders become the majority), sales, mergers and restructuring that are resetting over a shorter or longer time period, the ratio between foreign and domestic capital (private- or state-owned) on the banking market. However, it is beyond doubt that in the last decade in Romania, the presence of foreign banks is and has been extremely strong, and that large European international banks (for example Société Générale, France, or Erste Group and Raiffeisen, Austria) hold top places in the ranking of the most important banks in Romania. Given these favorable and concentrated market conditions, the fact that these foreign banks hold top positions shows once again the importance of their influence both upon the banking market/sector and upon the Romanian economy in the last decade.

Although these developments seem suggestive, we must see the evolution of the main macro-economic and financial/banking indicators during this time period. Also, in Table 1 we present the evolution of the inflation rate, the unemployment rate and the economic growth in relation to the assets of the foreign banks (as a percentage of the total bank assets) in Romania the 1998-2015 time period. Beyond difference as regards their scale (the magnitude of economic growth or unemployment does not exceed 5-7% throughout the decade, while the share of foreign banks can "jump" slightly by 10-15% in just a few years), we do notice a sharp reduction in the inflation rate between 1998-2008 (from about 45% in 1998 to below 7% in 2008, followed by a slow decline and a relative stabilization throughout the next decade, while the other two indicators - the rate of economic growth (the evolution of GDP) and the rate of unemployment have slightly more temperate evolutions (excluding the sudden fall of the GDP in the 2008-2010 time period).

Even if taken as a whole, during the analyzed period, a similar evolution can be observed between the rate of assets of foreign banks in the Romanian banking system and the indicator of economic growth, and, we can notice that the latter has certain variations throughout three time periods. During the pre-crisis period (the end of 2008), the economic growth indicator has had a positive evolution (with small variations, up to a level of about 8.46% growth in 2008), and this situation has occurred together with a consolidation of the presence of foreign banks on the Romanian market, which reached about 89% in total banking assets by the end of the same year, 2008. It is difficult to say, at least now, during these stages of this research, that there is a causal connection between the two phenomena, and if there is, how strong it is. In other words, our descriptive analysis can perceive a similar behavior of the two phenomena, but we cannot say, at least for the moment, that the economic growth has determined the increase of the presence of foreign banks in Romania (by means of entry of foreign banks or by the expansion of the existing ones); we also cannot state that the reciprocal situation is valid, that the increase of

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the presence of foreign banks has stimulated economic growth; neither can we state that there is a two-way causal relationship between the two, that is, that two phenomena would influence each other. Coming back to the evolution of the two phenomena (the evolution of the share of foreign banks and that of the economic growth), we can however review some features and particularities of the 1998-2006 time period. This is the period when foreign banks, after a period characterized by prudence and by carefully waiting, began to invest in Romania, having an increased interest for lending, especially on the household (credits mortgages, or for general needs loans). This is an economic boom time period, when the majority of loans have been granted in foreign currency, the interest on the loans in local currency being less attractive. In banking terms, this has contributed to an expansion of lending (more pronounced for households, more temperate for productive/companies' sector) and whose effects were seen, at least apparently, in the economic growth (Badulescu and Petria, 2011), (Badulescu et al, 2014). We can say that the economic growth of that period was not just a consumption-based one, because the banks were also lending to the economy, many small and medium-sized businesses applying for a loan in order to finance and increase their production, to make investments, to become more competitive; this situation took place even if in some cases the "appetite" for expansion exceeded the object and the possibilities of a balanced growth management. According to the Romanian National Bank (2019), the loans granted to non-financial companies increased from about RON 73 billion in 2007, to RON 94.5 billion in 2009 and to RON 96.2 billion in 2010 (an increase of 32% in only 2 years); following, in 2012, this level increased to almost 119 billion RON. The decrease was rapid in the following years, and only at the end of 2018 (if we also consider the inflation rate), in real terms, pre-crisis levels have been reached.

With the onset of the economic crisis, although the presence of foreign banks (in terms of assets) fluctuated insignificantly during 2006-2012, (from 89% in 2008 to a minimum of 81% in 2012), the economic growth suffered a major contraction, of almost 14% in two years (from 6.86% in 2007, to minus 7.07 in 2009). A positive evolution of GDP, of about 0.64%/year, is reached only a few years later, in 2012. In absolute terms, the GDP levels of 2008 (the year with the highest value of GDP in the pre-crisis period) has only been reached again at the end of 2014 (EUROSTAT, 2019).

Regarding the unemployment rate, it has remained relatively constant, gradually decreasing from about 7-8% in during 1998-2010, to 5% in during 2016-2018. We could appreciate that this evolution was not related to either the accelerated growth period of 1998-2007 (when significant decreases should have occurred, but which are not particularly evident),or to the recession period from 2009 to 2012 (when, instead of an increase in the unemployment rate, we have initially experienced a stabilizing period, and then a rapid decrease). Probably, the influence of demographic phenomena (mass emigration, reduction of the cohorts entering on the labor market) and/ or socio-economic factors (retirement) has reduced the internal supply of labor force, at a rate more accentuated than the demand.

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Based on the descriptive observations, in Romania we can therefore notice a positive and significant association between the share of foreign banks in the banking system and GDP, respectively, a negative and significant association between the share of foreign banks in the banking system and inflation. Regarding the relationship between the share of foreign banks in the banking system and the unemployment rate, we can see that regardless of method, there is no connection between the two variables. The results suggest that an increase in the size of foreign bank assets in the banking system of the host country has had a significant growth effect upon GDP during the sample period and it has had a mitigating effect on inflation.

3.2. Quantitative and qualitative analysis of the relationship between the presence of foreign banks and macroeconomic stability in Hungary

As can be seen from the data presented in Table no.2, in Hungary, the percentage of assets of foreign banks in total banks exceeds 60%, and it has done so since 1999. We should mention that, since 2014, Hungary has begun an extensive process of reorganizing the credit institutions. In this regard, a tax was imposed on bank assets, which determined that some banks would have to exit the Hungarian market, while others would have to reconsider their prospects and, consequently, their market share in Hungary. For these reasons OTP Bank (the largest bank in Hungary, a domestic bank), has succeeded in increasing its market share through purchases made on the banking market, in addition to developing plans to acquire other banks in other Central and Eastern European countries. For this reason, starting with 2014, the evolution of the share of the foreign banks segment on the Hungarian market has fluctuated, and it has followed the same trend throughout the next period. What is more, in Table 2 we have presented the evolution of the inflation rate, the unemployment rate and the economic growth in relation to the assets of foreign banks (as a percentage of the total bank assets) in Hungary between 1998-2018. There is a gradual decrease in the inflation rate, from about 20% in the first years of the analyzed period to 3.6 - 3.9% in the years preceding the crisis (2005-2006); following this period, we can notice a steady 7-8% increase. The last few years have seen a declining course of inflation to slightly negative values of around -0.1% or -0.2%, and they were by a temperate reclaiming of this growth, with values below 3%. The unemployment rate seems to follow more closely the profile of the crisis – characterized as being a period with relatively low unemployment (especially as compared to other countries in Central and Eastern Europe), having made a significant jump in 2007-2013 and it has reached levels of 11%. In recent years, we could notice a gradual decrease to values below 4%. Likewise, the economic growth of Hungary knows meritorious, but fluctuating values in the 1996-2007 period, a significant decreases (of -6%) during the economic crisis, followed by alternative evolutions (increases and decreases during the next few years), and during the last years of the our analysis, it has shown solid growth, of about 3-4% annually.

We can thus observe a positive and significant association, in the case of Hungary, between the share of foreign banks in the banking system and GDP, respectively a negative and significant association between the share of foreign banks in the

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banking system and inflation, as well as between the share of foreign banks in the banking system and the unemployment rate.

Table 2: The evolution of Foreign Bank Assets and the main macroeconomic indicators in Hungary (1996- 2015)

Year	Foreign Bank Assets	Economic Growth	Inflation	Unemployment
1996				
1997	46.2	0.01	23.4	10.02
1998	61.3	3.31	18.3	8.99
1999	59.2	4.22	14.2	8.93
2000	61.5	3.2	10	6.93
2001	67.4	4.2	9.8	6.56
2002	66.5	3.77	9.2	5.67
2003	85	4.5	5.3	5.61
2004	83.5	3.83	4.6	5.79
2005	63	5.01	6.8	5.83
2006	81.6	4.38	3.6	7.19
2007	65	3.86	3.9	7.49
2008	64	0.45	7.9	7.41
2009	67	0.89	6.1	7.82
2010	64	-6.56	4.2	10.03
2011	63	0.68	4.9	11.17
2012	62	1.74	3.9	11.03
2013	59	-1.6	5.7	11
2014	60	2.12	1.7	10.18
2015	50	4.05	-0.2	7.72

Source: The World Bank (2018), and European Bank for Reconstruction and Development (2018)

The results suggest that an increase in the size of the assets of foreign banks in the banking system of the host country had a significant growth effect on GDP during the sample period and a mitigating effect on inflation, as well as an effect upon decreasing the unemployment rate. According to the results, when the share of foreign banks registered values lower than 60%, the inflation rate and the unemployment rate registered higher values as compared to those recorded during the period when the weight of foreign bank assets registered values greater than 60%.

3.3. Quantitative and qualitative analysis of the relationship between the presence of foreign banks and macroeconomic stability in Bulgaria

Over the last two decades, the evolution of the banking system in Bulgaria has undergone some difficult stages, moving from the often-inefficient domination of the state-owned capital, to crises, followed by massive restructuring with various results, from inconsistent, to remarkable ones. Thus, throughout the middle of 1996, the Bulgarian banking system was on the verge of collapse (OECD Observer, 1999). During that period, commercial banks had a negative aggregate net worth and

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extremely low liquidity, while the government no longer had the resources to save them. The reasons are similar to many other cases throughout Eastern Europe. The political administrations used, especially during the first part of the 90s, the banking system to provide loans with relatively low interest rates to state-owned underperforming enterprises (in fact, implicit state subsidies). Benefiting from these easy refinancing opportunities, managers of commercial banks have extended their lending activity towards state-owned companies, but especially to the newly developing private sector, more often than not, corrupt practices being deployed. Loans granted by commercial banks to the non-financial sector have reached an extremely high level, probably the highest of all the transition economies of Central and Eastern Europe (relative to the size of the economy). After a low economic growth in 1996 and a high inflation rate (of over 120%), the following year, the economy faced a major crisis (see Table no. 3), and thus the economic growth has been a negative one (1.1%); following this, the inflation has climbed sharply, reaching huge values, of over 1000% (!). The real interest rate was negative (-70%) and capital investments were practically non-existent (below 1%).

As a result of this, a number of extremely harsh measures were adopted. The National Bank of Bulgaria has radically changed its approach and strategy, thus greatly reducing the refinancing of banks and has managed to improve the system of penalties and incentives granted to commercial banks. Regulation and prudent supervision were strengthened and became more severe. In the second half of 1997 and throughout 1998, commercial banks managed to become better-structured and capitalized, having a solid activity, and the banking sector managed to generate profit. Over the next few years, the share of the state sector gradually decreased, leaving room for increases in the private sector and for foreign banks. Among the problems of the last decade faced by the Bulgarian banking system, one important problem was the weakness of the institutional framework, which has prevented commercial banks from playing a profitable role as regards financial intermediation/mediation, from developing their corporate governance and from being involved in solutioning of liquidation/termination and bankruptcy related activities. All of these have had a limiting effect upon the activity of banking sector. Bulgarian commercial banks (regardless of the nature of their capital - private or state owned, or of their origin - domestic or foreign) have thus been limited from expanding their loan portfolios in a profitable way.

As can also be observed in Table no. 3, in just a matter of a few years, the structure of the banking system in Bulgaria has fundamentally changed. From values of under 10% in 1996, foreign banks have rapidly started growing and have reached a value of over 30% in 1998, approx. 75% in 2000 and a maximum of 84% in 2008, this last growth occurring very close to the time that the economic crisis has begun. The last decade (after 2008) can be classified as being a stabilization period, reaching values of 82-84%, followed by a decrease to values of 60% - 63% towards the 2010's. Recently, we have noticed a resuming of the increases of the share of foreign banks in the Bulgarian banking system, most likely due to the strengthening of the positions of foreign banks already present and operating in the market (endogenous development and new acquisitions). What is more, Table no. 3 presents the entirely

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exceptional situation regarding the evolution of the inflation rate in Bulgaria, as compared to the evolution of the share of foreign assets in total banking assets in Bulgaria. The other indicators have had more predictable and certainly much more temperate developments: economic growth resumed after 1999, with values between 4 and 7%, decreasing by almost 10% during the crisis period (from 5.6% in 2008, to -4.4% in 2009); following these decrease given the crisis, growth will slowly resume, reaching a 4% - 4.5% for the last analyzed years of this study. Similarly, the unemployment rate, after a slight increase up to 19% in the first years of the interval, recorded a continuous decrease (up to 6.6% before the onset of the crisis), followed by resumed growth, reaching 13% in 2013. During the last years of this analysis, a slow decline is once again being registered.

Table 3: The evolution of Foreign Bank Assets and the main macroeconomic indicators in Bulgaria (1996- 2015)

Year	Foreign Bank Assets	Economic Growth	Inflation	Unemployment
1996	2.6	1.6	121.6	13.5
1997	18	-1.1	1058.4	13.7
1998	32.5	3.5	18.7	12.2
1999	42.8	-5.61	2.6	14.1
2000	75.3	5.01	10.3	16.22
2001	72.7	4.25	7.4	19.92
2002	75.2	6.02	5.8	18.11
2003	82.7	5.08	2.2	13.73
2004	81.6	6.56	6.3	12.04
2005	74.5	7.24	5	10.08
2006	80.1	6.75	7.3	8.95
2007	82.3	7.68	8.4	6.88
2008	83.9	5.65	12.3	5.61
2009	84	-4.22	2.8	6.82
2010	80.7	0.05	2.4	10.28
2011	76.5	1.92	4.2	11.26
2012	70	0.03	3	12.27
2013	69.8	0.86	0.9	12.94
2014	60.8	1.33	-1.4	11.42
2015	62.5	3.62	-0.1	9.14

Source: The World Bank (2018) and European Bank for Reconstruction and Development (2018)

We can thus notice the following: a positive and significant association between the share of foreign banks in the banking system and GDP, a negative and significant association between the share of foreign banks and inflation, respectively the unemployment rate. The results suggest that an increase in the size of foreign bank assets in the banking system of the host country has had a significant growth effect on GDP during the sample period and a mitigating effect on inflation and unemployment.

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4. Conclusions

The literature tends to be extremely diverse in terms of the role and usefulness of the presence of international banks regarding the stability and economic performance of the host countries. There are numerous studies that show that funds borrowed by countries with weak economies can have a destabilizing effect upon their economies, but research in this field also argues that global banks can increase macroeconomic stability by providing a solid and secure source of funding during times of economic crisis, characterized by liquidity shortages.

In this paper, we have used a series of macroeconomic indicators (GDP evolution, Inflation and unemployment rate) to create and develop an evolving image on some economic and financial-banking aspects that have occurred during the studied time period. We have analyzed the impact that the share of the assets of the foreign banks in the banking system has had on the macroeconomic indicators, andif these relations changed in the crisis years, in the case of the three countries from Central and Eastern Europe (Romania, Hungary and Bulgaria), between 1996 and 2015.

When analyzing the case of Romania, we have found the existence of a positive and significant association between the share of foreign banks in the banking system and GDP, and a negative and significant relationship between the share of foreign banks in the banking system and inflation. Additionally, we found no relation between the share of foreign banks and the unemployment rate during the studied time period for Romania. In the case of Hungary, we have found a positive and significant association between the assets and the presence of foreign banks and GDP, and a negative and significant relationship as between the share of foreign banks and the evolution of inflation and unemployment rate. Finally, in the case of Bulgaria, we have observed a positive and significant relationship between the share of foreign banks in the banking system and GDP, respectively a negative and significant association between the share of foreign banks in the banking system and inflation, and between the former and the unemployment rate. These results are, probably, relevant for each of the involved countries, but cannot be extended to describe the overall image of the evolutions and correlations in this analyzed region. Subsequently, the discovery of a model applicable to most countries, within the studied time frame, is an objective of our future research.

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DIFFERENCES IN THE STANDARDS LIVING IN RURAL AND URBAN AREAS

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Abstract: *Despite significant differences between developing and developed countries, health and access to health are of key importance worldwide. Even in countries where the majority of the population lives in rural areas, some resources are concentrated in cities. In the case of developing and developed countries, we can see significant differences between urban and rural areas, as the difference in development is even more acute in this respect. The reason for this phenomenon is that in developed countries the phase of urban explosion took a long time and affected fewer people than in developing countries. Overpopulation and changing habits are putting great pressure on both agriculture and rural areas. Explosive, uncoordinated growth can also lead to a significant increase in land use and a disproportionate spread of urban areas, which must be avoided at all costs. There is a strong correlation between population growth and urbanisation. As the population grows, the proportion of the urban population continues to grow, thereby increasingly contributing to the depopulation of rural areas. Changes in the world's population also have a direct impact on the natural environment. There is no doubt that population growth is one of the main drivers of global change. Urbanisation is accompanied by a transformation of lifestyle and consumption patterns. Combined with income growth, urbanisation is accelerating dietary diversification in developing countries. While consumption of cereals and other crops will decline, consumption of vegetables, fruits, meat, dairy products and fish will increase. The growing demand for semi-processed or ready-to-eat foods is causing further concentration in food chains. The rapid change in eating habits is associated with urbanisation, among other things. People who give up farming are moving en masse to cities where their eating habits are changing. Even today, more than half of the world's population lives in cities, and their proportion will inevitably continue to grow in the future. While the proportion of the urban population is increasing, rural regions continue to be home to the majority of the poor, where hunger is not uncommon. Nowadays, more and more people are studying the changes in the global population and the resulting situation.*

Keywords: *Population; Working; Population density; Health status; Health; Urbanisation.*

JEL Classification: *R11; R13; R51.*

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1. Introduction

Settlements can be divided into two main categories, namely urban and rural areas nased on population, development, comfort, employment opportunities, education, etc. A city refers to human settlement where urbanisation and industrialisation levels are high, while in a rural settlement, the rate of urbanisation is rather low.

Nowadays, many people believe that people living in the city have many more benefits than those living in the countryside. The term "urban" refers to an area that is densely populated and has the characteristics of a man-made environment. People living in such areas are mostly engaged in trade or services. Cities can be characterised by a high level of industrialisation, which results in better employment opportunities compared to rural areas. The delimitation of the urban area is limited not only to the cities but also to the cities and suburbs (suburban areas). Today, people migrate to cities because rural unemployment frightens them. People who move to cities come under the influence of the urban way of life in every aspect. Basically, three types of urban migration can be distinguished in terms of how the city affects rural society through migration:

- Employment in cities
- Industrial cities
- Metropolises

There are many benefits to living in urban areas, such as easy access to a variety of amenities, entertainment and education options, better transportation options, and health facilities. Although it has certain disadvantages, such as high levels of air pollution caused by large-scale industrialisation and means of transport such as buses, trains, cars, etc. Urban and rural societies are two extremes of a relationship, as they coexist and are interconnected day by day.

In contrast, the term "rural" is called a suburban region. It refers to a small settlement located outside the boundaries of a city, commercial, or industrial area. This region may include rural areas, villages or homesteads where natural vegetation also appears. The population of these areas is low. The primary source of income for the population is agriculture and animal husbandry, but trade also appears. The number of people living in a city varies from continent to continent. For example, there are settlements in India that count as cities only above 15,000 local residents.

Research in the European Union focuses primarily on the relationship between the EU and the global development process. Based on my previous research and literature review, I have come to the conclusion that regional development and catching-up issues have become increasingly important in recent years. Due to the different characteristics of the countryside, it is necessary to have development concepts tailored to each region, however, at the same time, the exploration of common features can be useful for all regional development efforts.

At the same time, it is important to emphasise that the role of the countryside is constantly re-evaluated due to urbanisation. The previous misconceptions that there are no opportunities in the countryside, it is difficult to get to a smaller or larger city, or one can live in isolation, seem to fade out. In addition to the obvious difficulties,

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there are many benefits to living in the countryside that make it worthwhile for people to make this compromise. More and more people from big cities are moving to the countryside for healthier living conditions. Research also confirms that stress in the countryside is reduced, thus the chances of developing many diseases and chronic complaints (high blood pressure, cardiac problems). In addition, the air is cleaner in the countryside and there is more opportunities for physical activities, which is increasingly contributing to the development of health awareness.

In recent years and decades, increased attention has been paid to various forms of health-conscious behavior and their potential effects on everyday life. The topicality of this issue has been accelerated by the spread of various social media, where many thematic pages and blogs await readers interested in the topic. In addition, a number of different lifestyles have become known in recent years, which have extended the diet compiled by doctors for a particular disease to people who did not need it strictly from a diagnostic point of view. In such cases, the volunteer followers of the diet themselves live a life like their fellow human beings who are forced to do so.

2. The importance of population density

Population density has a significant impact on the socio-economic characteristics and sustainability of urban and rural communities. However, it is important to emphasise that both urban and rural areas are essential to the well-being and quality of life of Europeans. Cities are centers of economic and social development and innovation, and therefore attract large numbers of people through a wide range of educational, employment, entertainment and cultural opportunities. However, high concentrations of people and well-being often present a number of complex economic, environmental, and social challenges (Biagi et al., 2018). Romão et al., (2018) have shown that the attractiveness of cities is influenced by the social dimension of sustainability, while the appearance of the urban environment also influences the reputation of settlements from an attractive point of view.

The difference between big cities and small towns allows for a different way of life. Both types have fundamentally similar infrastructural opportunities, but large cities are very different from small towns in quantitative terms, and this quantitative difference often entails qualitative differences (Waitt and Gibson., 2009; Vanderbeck and Morse Dunkley., 2003). A smaller population is not necessarily a disadvantage; with proper municipal development and the resources available for this purpose, development success can be achieved even in less developed regions at the level of individual settlements. However, if a small town is located near a larger settlement, it generally has a beneficial effect on the attractiveness of such cities, the opportunities available there, including job opportunities, and various forms of entertainment (Fertner et al., 2015). At the same time, the proximity of larger settlements can also be dangerous for the functioning of smaller settlements, which may become commuter cities as a result. These settlements are characterised by a number of commuters who live in the town but their work increases the economic performance of other settlements.

As a result, current disparities between cities and small settlements on the periphery may worsen (Horeczki., 2014). The available work opportunities, which constitute the most important basis for the financial well-being of the population, are extremely important for the sustainability of rural areas. Accordingly, settlements where employment opportunities that fit the local educational structure are available to the population can be more successful (Harangi-Rákos, and Szabó, 2012). Although a wider range of products is readily available in cities, opportunities are more limited in rural areas. People living in the countryside regularly shop in shopping malls on the outskirts of big cities, which can be easily accessed by those living in urban settings. Therefore, the difference between urban and rural lifestyles also leads to differences in consumption patterns (Broadbridge and Calderwood., 2002).

Currently, the differences between urban and rural lifestyles are narrowing. On the one hand, rural people are increasingly able to enjoy leisure activities in the same way as urban people, and on the other hand, more and more urban people are spending their free time outside cities. However, it is important to note that even in countries where the majority of the population lives in rural areas, resources are concentrated in cities (Blum., 2005). With the establishment of the European Union, the relationship between the city and the countryside also seems to be changing, as the service sector, which plays a significant role in the national economy, operates in an urban environment. The centralisation tendencies inherent in the functioning of the unified market further strengthen cities, while the partial successes of agricultural transformation and depopulation clearly weaken rural areas (Memagh and Commins., 1992). Although interest in rural areas, their results, and problems have increased in recent years, the scope of research still does not reach the depth of analyses of urban areas (Jentsch and Shucksmith., 2004).

On a global scale, the health status of people living in rural areas is usually worse than in urban areas. Several studies have attempted to analyse the cause of this trend. Previous research has shown that the number of medical staff per person living in rural areas is lower than the same value in urban areas, even in developed countries such as the United States (Bolin et al., 2015). These data show that it is more difficult for people living in rural areas to use quality medical services available in urban areas. The health status of rural people is often compared to the health status of urban people - and, of course, the available health services are also compared. Based on this comparison, the health prospects of the rural population are weaker than the health prospects of the urban population (Malatzky and Bourke., 2016). The opportunities of elderly people living in the countryside to access health care services and especially those of older people accessing health care in rural areas cannot reach the level of elderly people living in rural setting (Zhong et al., 2017). Unfortunately, the general tendencies can also be felt in Hungary, where an increasing number of doctors and dentists are missing in basic health care (Nagy., 2019). These factors also encourage people to move from rural areas to cities (Humphreys et al., 2002).

It should not be forgotten that more than a billion people in the world's larger cities live without proper waste management or sanitation while inhaling polluted air. Urban life is accompanied by a stressful lifestyle that leads to various cardiovascular

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diseases. Accordingly, it can be stated that both urban and rural areas have disadvantages (Smith et al., 2008). Interestingly, in the case of big cities, a process has begun as a result of which people are moving from increasingly expensive and less livable cities to rural areas.

Table 1. Advantages of the rural and urban environment (2019)

Rural	Urban
Village people live in the countryside	There is a greater supply of employment opportunities in cities
Open air – physical activities	Salaries in the city are higher
Human relationships	Shopping is easier → convenience
Self-sufficient farming	Educational infrastructure is more developed in cities
Horticulture	Edication in large cities are usually of higher standard than in rural areas
Livestock management	Development level of health care
Lower real estate prices	Less space

Source: Own research, own construction 2019

Table 2. Disadvantages of the rural and urban environment (2019)

Rural	Urban
Limited job opportunities, lower educational level	Traffic jams, crowd, stress, noise, crime, polluted air
Lack of municipal infrastructure (institutions serving the population)	Lack of green environment – diseases
Inequality / lack of municipal technical infrastructure (e.g. pipeline gas supply)	Urban air can be harmful to health as early as fetal age
Lack of transport infrastructure	
Few programs and entertainment opportunities	

Source: Own research, own construction 2019

There are basically two social groups that tend to move to small towns in the catchment areas of big cities: rich people, who want a more enjoyable natural environment, and those fleeing urban poverty. It is obvious that the members of these two groups live in different settlements, which can cause significant differences between the settlements in suburban areas. Wealthy people move to settlements with good opportunities that provide a healthy environment and easy access, while those in less favorable financial situations move to settlements with poorer health care, less access and fewer opportunities. This process further increases the disadvantage of lagging groups (Vasárus., 2016). Due to poverty, poor health and the high proportion of diseases in rural areas, special attention should be paid to improving the health of people living in the countryside. In general, lifestyle-related diseases are more common in rural areas. Peaks and depths of the economic cycle have a greater impact on rural communities (Hartley., 2004). A survey performed among young people showed that university students migrating from rural areas to urban areas justify their relocation strategy primarily with the greater job opportunities available in cities. However, other reasons listed immediately after job opportunities were lifestyle and living conditions, which is in line with the results

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described above. Thus, a university operating in a rural area will be attracted to young graduates in 2017 by means of the benefits of urban life, including the living conditions listed above (Dajnoki et al., 2018).

However, it can be seen that rural settlements make a strong effort to form a positive image of themselves. Known as the current main area of research, municipal marketing aims to make settlements, including many rural settlements, more attractive to potential investors and residents. With the appearance of investors, the general situation of these settlements improves and, as a result, they are able to catch up with more developed areas and improve all properties that appear as potential risk sources or causes of backwardness (Tózsa., 2014; Rechnitzer., 1995). The development of these settlements depends primarily on the amount of money spent on various investments. In order to make a settlement more attractive to investors, public expenditures had to be made, for example to meet the infrastructure needs of investors. In this case, public expenditure could be covered by local budget resources, which are mainly based on the local tax system, or by means of support from the national budget (the source of budget support could be international support to the country, such as that of the European Union). Many Member States joined the EU in 2004 or later. In addition, private investment can also support the development of different settlements. In these cases, investors can make extra profit after their investments. The development of settlements usually results in an increase in locally earned wages, and under these circumstances, the average standard of living and the average income level of households may be higher, resulting in an additional tendency for local companies to use more services and consume more products (Sørensen., 2018).

3. Conclusions

One the other hand the goals of sustainability and sustainable development could be reached in the countryside much easier than in urban areas. In cities and suburban areas many diseases are caused by the low air quality, the pollution. During urban planning specialists have to pay attention for these circumstances (Zhou et al., 2017).

Explosive, uncoordinated growth can also lead to a significant increase in land use and a disproportionate spread of urban areas, which must be avoided at all costs. Furthermore, the significant increase in cities is accompanied by an increase in urban poverty and an increase in the proportion of people living in slums. As cities have significant economic potential and a large share of GDP is generated in cities, it is important that instead of fragmented and dissipated urbanisation, a concentrated urban growth is taking place, which also keeps the resource use of cities relatively lower. However, in addition to concentration, attention must also be paid to addressing the specific challenges of megacities, where the problems listed above (e.g. air pollution, inadequate infrastructure, transport, housing, etc.) are concentrated in these settlements due to their high density (Káposzta., 2018).

In many developed countries, funding for health services and infrastructural support for rural and remote communities has declined (Bernard., 2019)

The difference between a big city and a small town allows for a different way of life. Although a big city and a small town have fundamentally similar infrastructural opportunities (hence both are cities), big cities are very different from small towns in terms of quantity, and this quantitative difference often means. a difference in quality, too. For example, there are many small towns with - mostly one - theater, while in big cities, the fact that there are more theaters in the settement could also mean a quality improvement. The fact that small towns provide a calmer way of life is not true in all respects.

Rural and urban social contacts are determined by the circumstances where they take place. It can be observed that the metacommunication of people is differnt in public spaces, shops, public transport, the countryside and in large cities. A good example of this observation is that in Budapest or Debrecen, during a one-hour journey on public transport, one meets many more people than the total population of a town. As a matter of course, there is no direct interaction with the people seen along the way, which changes this kind of relationship compared to small-town public behavior (Beling et al., 2018).

Today, the differences between urban and rural lifestyles have largely diminished. On the one hand, rural people are also gaining more and more access to leisure activities as urban people, and on the other hand, people living in cities are spending an increasing amount of their free time outside the cities (mountain tours, castle visits, rural tourism). Even though this is a trend, differences still exist today. Watching television, as one of the main leisure activities, largely determines both lifestyles (Strasser., 2003).

Through its specific objectives, the WHO International Development Program has developed a policy and action plan to promote sustainable livelihoods, including access to land, resources and markets for people, as well as better education, health and opportunities for the rural population. This program contributes to reducing child and maternal mortality and improving basic health care for all, including reproductive services. Training the rural population, and in particular along the careers available in rural areas, is important for addressing the challenges of rural areas. As a result of up-to-date knowledge, the labor market situation of individuals improves and the development of rural areas is also easier (Kőmíves et al., 2019). The WHO has recently launched the "Towards Unity for Health" project (TUHF), the aim of which is to study and promote efforts to achieve the unity of health care organisations, in particular the sustainable integration of medicine and public health, in other words, individual health and community health activities and important reforms (Boelen., 2000).

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EU FUNDING – A POSITIVE IMPACT ON GDP?

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Abstract: *A large number of countries believe that their economy has been boosted thanks to the EU funds. This is difficult to say yes because everyone comes up with different results. Experts in the field have performed numerous and diverse studies on this topic, using different types of methodologies and tools. Several hypothesizes have been tested and the general agreed conclusion is that the main reason for these results is not the amount of money obtained from the EU, but the way they are used. The pro-development way of utilizing the funds has increased the probability to generate valid economic growth. Moreover, long-term planning and strategic implementation regarding EU funds have proven to be more effective than short-time solutions. This paper proposes to analyze the impact of EU funds on the gross domestic product in ten European countries by using linear regression. The Member States must wish and plan for a sustainable, healthy growth, which will not cause the accumulation of risks, imbalances, and painful tensions, however, it will cause inevitable corrections in the future. To do this, countries need to focus on qualitative and not just quantitative growth, which will also determine the convergence of production structures and endowments with infrastructure, not just revenues. This would mean an increase in endowments with production factors. The focus is therefore on increasing the growth potential, an unobservable but extremely important variable of the economy. Many financial experts emphasized that countries of Central and Eastern Europe will spend EU money on the development of roads and railway infrastructure. There is a big recommendation on focusing on Research and Development, which is a tool that could help the economies of the region in the long term. The EU should motivate these countries to absorb the funds as quickly as possible by reprimanding the governments. Experience of best practices is a key element in EU funding and also the trigger for readjusting the framework and mindset of national stakeholders.*

Keywords: *GDP; EU funds; panel analysis; linear regression.*

JEL Classification: *E20; N34; C23.*

1. Introduction

Understanding the patterns and determinants of economic growth has been a central motivation in the field of economics. In the context of European integration, which has helped to successively link Member States' economies with one another, the degree to which growing interrelationships have benefitted poorer and/or more recent entrants into the EU is of particular relevance. Economic convergence has been a long-standing policy objective underpinning EU economic policy coordination

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and financial assistance. Moreover, efforts to deepen and complete Europe's Economic and Monetary Union aim at creating more jobs, boost growth and investment, and increase social fairness and macroeconomic stability.

The degree to which economic convergence takes place, and under which conditions, remains a contested issue in both theoretical and applied economic research.

The analyses of different financial experts indicate that the amount of money obtained from the European Union is not the most significant aspect, but more importantly the pro-development way of utilizing the EU funds. Some analysts, such as Gary Marks (1992), have agreed that EU funds were a form of "side payment" that is given to poorer European Member states to compensate for potential losses caused by the processes of privatization or liberalization of their markets. In other words, the European funds represented "a response to new concepts of fairness and equality" developed inside the EU institutions and among the European Member States. From this political standpoint, the effectiveness of EU funds appeared to be a secondary matter. However, even in academic financial literature on the effectiveness of EU funds, very few papers benefit from or even mention the accumulated findings of almost four decades of research in foreign aid.

Member States need European funds to complete the structural reforms, some of which still refer to the provision of basic infrastructure or the development of human resources, and others to the technological leap needed to recover the gaps from the euro area countries. But, first of all, these countries need EU funds for the continuity of the European project. The paper is structured in 5 sections. The first section presents an introduction to European funds. The second section shows the results of various studies identified in the financial literature. The third section describes the research methodology used to analyze the impact on GDP growth. Section four presents the data used and the results obtained in this research. The last section shows the findings of the study.

2. Literature review

One of the principal tools of the European integration process has been solidarity, which was manifested in the funding set aside to support economic convergence within the European Union. Financial literature presents controversial results regarding the use and impact of European Structural and Cohesion funds on the economic growth of Member states.

Sarantis (2009) studied the impact of EU funds on regional income growth in 13 regions in Greece over the period 1990–2005. This period in Greece was characterized by the acceleration of the European integration process. The researcher used an extended reduced-form model of Barro and Sala-i-Martin (1992). The empirical results showed a positive impact of EU funds on regional growth, illustrating the recent growth performance in Greece. On the other side, Albulescu and Goyeau (2013) found that the absorption rate of EU funds has no effect on the short-term GDP growth rate, but in the long-term the impact is negative. The research was made on 27 EU countries for the period 2007-2011 by using a panel

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and identifying the instruments through a system GMM estimator (a model proposed by Blundell & Bond, 1998).

Due to the different used methodology, the empirical evidence has provided contradictory and mixed results. Some results are showing a positive long-run impact of EU funds on economic growth (such as Midelfart-Knarvik & Overman, 2002; Puigcerver-Peñalver, 2007; Ramajo et al., 2008). Nevertheless, several studies find a negative impact (Dall'erba & Le Gallo, 2008; Checherita et al., 2009) or a weak positive effect (Boldrin & Canova, 20015; Esposti & Bussoletti, 2008; Lolos, 2009). These contradictory results are due to the poor quality of data on cohesion and structural funds at the regional level.

Paun (2015) is seeing EU funds as consistent support for weak economies of the new EU members in the Eastern European area. Also, EU funds are seen as local authorities, which are obsessed with the "absorption rate", "reimbursement rate" or "contracting rate". Furthermore, GDP growth became an obsession of each country, so the absence of this growth is seen to create social convulsions. Nevertheless, the EU funds should be used to boost growth. Moreover, this growth proposed by the European Union is not a durable one, because it is far from market conditions.

A few types of research found a conditional effect of EU funds on GDP growth, but the effect was not a direct one, such as the impact of regional aid was positive only in the presence of institutions (Rodríguez-Pose and Garcilazo, 2015), or when the stock of human capital is high and the government is decentralized (Bähr, 2008), or when the funds are managed efficiently (Wostner and Šlander, 2009). Some experts found positive effects only in specific sectors of the economy (Rodriguez-Pose and Fratesi, 2004) and for specific funding objectives or only at some levels of analysis (Le Gallo et al., 2011).

Nekrep et all (2018) analyzed the impact of EU funds on research and development on GDP growth. Their study is made on EU28 countries during the period 1995-2013 by using a quadratic regression model. The study showed a causal link between variables of the concave parabola, EU's target of reaching 3% of GDP spent on R&D to be achieved by 2020 seems in support of reaching maximum productivity in the EU.

Fidrmuc et al (2019) studied the impact of EU funds on the economic growth of European regions, using 2SLS. They estimated a spatial model to account for inter-regional spillovers. The empirical results show a significant and positive effect of EU funds on regional economic growth in the EU. Also, their results confirm the positive impact of institutional quality; the improvements in economic development across the EU do not necessarily require the only redistribution: institutional reform can also help boost growth performance. We estimate an augmented version of the standard Solow-Swan growth model on the NUTS2 regions over the period 1993-2013.

3. Research methodology

To analyze the impact of the EU funds on economic growth, we have achieved the following linear regression based on a balanced panel:

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GDP = c_1 + c_2 * FUN + ε_t
Where:
GDP - Gross Domestic Product
FUN – EU funds
ε_t - the residual variable

While claiming that EU funds have a positive impact on the economic growth of European countries, we formulated the hypothesis:
H_0: EU funds increase GDP growth
and the competing alternative hypothesis also deriving from prior theoretical and empirical research:
H_A: EU funds decrease or have no impact on GDP growth
The data sample comprises 120 observations, the analyzed period being 2007 - 2019, the frequency of the data is annual. The analysis is made only on the Gross Domestic Product and EU funds in ten European countries (Annex 1). The regression was done in Eviews. The data were taken from the Eurostat database. Data on EU funds and gross domestic product are expressed in percentage terms, as well as an increase from one year to the next.

4. The results obtained

4.1. Descriptive statistics
The table below presents the descriptive statistics of the analyzed variables. The average of the variables analyzed is positive throughout the analyzed period. The minimum value of the variables analyzed is negative, which means that in the analyzed period, the analyzed countries experienced fewer decreases in GDP and EU funds.

Table no. 1: Descriptive statistics of analyzed values

	GDP	FUN
Mean	0.01125	0.582897
Median	0.031741	0.49967
Maximum	1.040742	9.956773
Minimum	-0.81321	-0.98452
Std. Dev.	0.1878	1.153492
Skewness	-0.87394	4.679239
Kurtosis	18.22437	37.89083
Jarque-Bera	1174.183	6524.757
Probability	0	0

Source: Own work in Eviews

According to Skewness, the gross domestic variable distribution has the elongated right tail. As regards the distribution of the EU funds variable, it has the elongated left side (the value is negative).

According to Kurtosis coefficient values, the distributions have a value greater than 3, therefore the analyzed distributions are sharper than the normal distribution (leptokurtosis).

4.2. Interpretation of the results obtained

According to the results obtained, other factors are influencing GDP as R^2 is only 15.3 %. In other words, only 15.3% of the GDP variation is explained by the variation of EU funds.

The evolution of EU funds has a positive influence on GDP. The impact is not statistically significant, as the probability is above the 10% threshold (prob.= 0.8933). The EU funds coefficient is 0.02014, which means that for a unit EU funds increase, GDP will increase by 0.02014 units.

The regression will look like this:

$$GDP = 0.010077 + 0.02014 * FUN + \varepsilon t$$

The EU membership is generally considered as an important factor for the Czech post-accession economic growth. Furthermore, in the first years after the European Union accession, the GDP of Czech experienced unprecedented growth. This growth was accompanied by the increase in labor costs, by the increase of investments - due to the weight of the manufacturing sector in the whole economy - and by the strengthening of the Czech crown. During the period 2000-2017, the investments in the Czech Republic have had an annual average of 27.5 % of GDP, which is one of the highest levels at the EU level. Also, the level of public investment dropped around 4% of GDP during 2018-2019, due to the strong influence of the EU funds cycle.

Cyprus joined the European Union in 2004 to catch up with the EU average in terms of economic growth and income. The EU funds invested in Cyprus over the period 2004-2020 were €1.7 billion under the European Structural and Investment Funds, respectively €98 million under the Juncker Plan from 2014. These funds have had very positive results on GDP growth, not only due to EU funding but also to the efforts of Cyprus to reform and become an attractive place for businesses and for investors to settle and thrive. The evolution of GDP per capita in Cyprus has grown by 31% in the period 2003-2018 and compared to the EU average this evolution reflects the severe impact of the global economic crisis on the Cypriot economy.

Since 1981, Greece has been a major beneficiary of EU funds. Also, for decades, the average EU funds transfers ranged from 2.4-3.3% of the country's annual GDP. In 2018, Greece had received around €16 billion European funds, which was the equivalent to 9% of the 2017 annual GDP of Greece. Due to the exceptional measures, Greece was the first EU country to have fully absorbed all the EU funds available for the period 2007-2013. Also, Greece is the second top absorber of European funds for the period 2014-2020 due to exceptional measures.

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Furthermore, Greece ranked first in the EU regarding the total expected investment under the European Fund for Strategic Investments, compared to its GDP. In 2017, after almost a decade of contraction and stagnation, Greece's economy started to grow again and continued to recover in 2018, in terms of both growth and employment. Economic growth is projected to exceed 2% in 2020. Investment is set to become the biggest contributor to GDP growth. Some academic studies have analyzed the impact of EU funds on the medium- to long-term economic growth in Greece. The results of most studies show a positive correlation between EU funds and GDP growth (Funck and Pizzati, 2003; Fagerberg and Verspagen, 1996; Pereira, 1997; Cappelen, et al. 2003; Puigcerver-Peñalver, 2004). Also, Funck and Pizzati (2003) used Hermin model simulations for the period 2000-2006 and demonstrated that the impact of EU funds on GDP reached 6%. Surprisingly, a few experts obtained a different conclusion: European funds did not improve growth performance. One study, in this case, is the research of Ederveen et al., 2006.

The economic situation of Hungary is different; it hardly depends on European funds. The growth of the Hungarian economy was only 4.6% during the period 2006-2015, without EU funds sent by the EU to Hungary in the framework of the period 2007-2013 funding cycle, GDP growth would have been only 1.8%. Despite the big amount of EU funds received by Hungary, this country was ranked last in group ten in the World Economic Forum's competitiveness report; in 2006, Hungary was placed first or second in the seventh group. There are some reasons why the Hungarian economy did not grow in the first ten years since its accession to the European Union. One reason is the state authorities' irresponsibility, while the population was indebted due to foreign currency loans risk; the authorities increased the wages without an economic foundation for it. Another reason was the receiving EU funds, which has started very slowly. It is known that EU funds for the period 2007-2013 started to arrive after 2009. Furthermore, all of this has been upset by the global economic crisis, which has pushed back worldwide economies.

The majority of Poles agree with the idea that their country`s membership in the EU is beneficial, especially due to the economic benefits that it brings in the fields of economic development, improvements in the quality of Poles' lives, and new professional opportunities. Some financial analysts think that Poles are one of the strongest euro-enthusiasts across the European Union. When the global financial crisis hit EU member countries in 2008, Poland was the only country that avoided a serious recession and whose GDP did not shrink. Many experts said that EU funds that fed the Polish economy played an important role. Their argument is based on the fact that EU funds carry instruments for planning, controlling, and evaluating EU expenditure. The Polish Ministry of investment and development analyzed EU funds' impact on GDP, and his result showed an increase of at least 0.5 percentage points each year in GDP. Also, the difference in gross domestic product between Poland and the European Union average decreased by 21% during 2004-2016 due to the cohesion policy.

The financial experts agree that the impact of EU funds on GDP growth has been significant in Portugal. In the absence of EU funds; the public investment will be greatly affected in Portugal. During the period 1994-1999 EU aid in Portugal was for

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3.3% of GDP. Also, the GDP rose by 9.9% in 1999. The strong economic performance has partly driven by the economic cycle and potential growth has improved significantly. Based on the experts of the EU Commission, potential growth was already identical to the EU average at 1.6 % in 2018, respectively 1.7 % in 2019. This is a significant improvement from the trough of -1.3 % from 2012. Also, the positive economic development during the past years has stabilized the country's per capita income relative to the EU average in the range of 77-78%.

Evaluations on how European money has influenced the evolution of the economy have been completely lacking in Romania. Some studies show that European funds contributed 10 percent to the growth of the gross domestic product. This means that 10% of the total economic growth is due to the absorption of European funds. According to the data of the Ministry of European Funds, without this contribution to economic growth, the GDP of Romania would have been, even in 2018, below the peak level of 2008. The use of European money led the Romanian economy over the GDP of 2008. A finding valid for the entire analysis on the European funds is that the important effects in the economy begin to appear visibly from 2011, that is to say, four years after Romania accedes to the European Union. From the total growth of investments, a quarter is brought by European funds. Also, these funds influence the creation of new jobs and the unemployment rate. Thus, the employment rate is about 4% higher due to EU funds. As for the unemployment rate, at the end of 2015, this would have been 3% higher without attracting European money. The effects on consumption and average wage were also positive.

Spain has been the biggest recipient in absolute terms, it set to receive almost EUR 200 000 million during the period 1989-2020. In relative terms, the largest amounts were received during the period 1993-2003, when Cohesion Policy was over 1% of GDP per year; furthermore, Spain received 25 % of the total funds. Spain is currently the third-largest recipient and it is receiving 8% of the funds, while Cohesion Policy is contributing around 0.3% of GDP annually. Many experts agree that GDP growth in the second half of the 80s was mainly driven by European funds. Spain is one of the most pro-EU countries and due to its integration in Europe; these funds have been part and parcel of Spain's modernization. EU accession provided funds to develop infrastructure in Spain, while EU and eurozone membership have made macroeconomic policy more disciplined, improved the financial conditions, and lured foreign direct investment for Spanish companies to make acquisitions abroad and facilitated export growth.

Since 2004, Slovakia has experienced a sustained GDP growth due to its integration into the European Union. An exception is the global financial crisis of 2008-2009, respectively the Eurozone crisis of 2011-2012. In recent years, the GDP of Slovakia has returned to growth, due to the return of internal and European demand and EU funds. Some financial analysts have found a modest impact on the EU funds on growth.

During the EU accession process, Slovenia's basic development goal was to exceed the average economic development of the enlarged EU to be able to improve and secure social security, faster development, respectively to improve the environment.

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GDP growth was held back mainly due to slow progress in projects supported by the EU funds. So, these funds have an important influence on GDP evolution.

5. Conclusions

Many financial experts emphasized that countries of Central and Eastern Europe will spend EU money on the development of roads and railway infrastructure. There is a big recommendation on focusing on Research and Development, which is a tool that could help the economies of the region in the long term. The EU should motivate these countries to absorb the funds as quickly as possible by reprimanding the governments. Furthermore, the economists involved in the assessment of the impact of EU funds on economic growth suggest that an important tool is the amount and speed of spending of the funds alone, so the quality of their use is not important in the context of the economic situation.

The analyses regarding the impact of EU funds on economic growth in each European country are discussed and published so rarely, furthermore, the politicians are focused on the individual amounts and programs. In other words, this sad truth confirms that especially Eastern European countries are having a short-sighted approach to EU funds; they simply want to gorge themself with these funds. It is not so important the speed of spending of European funds or the level of contracted funds or the number of participants in EU-funded projects, but more important is the real impact of EU programs on population behavior, on the labor market, on consumption and the overall condition of the economy.

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Annex 1: Evolution of GDP in EU10 countries

Source: Eurostat

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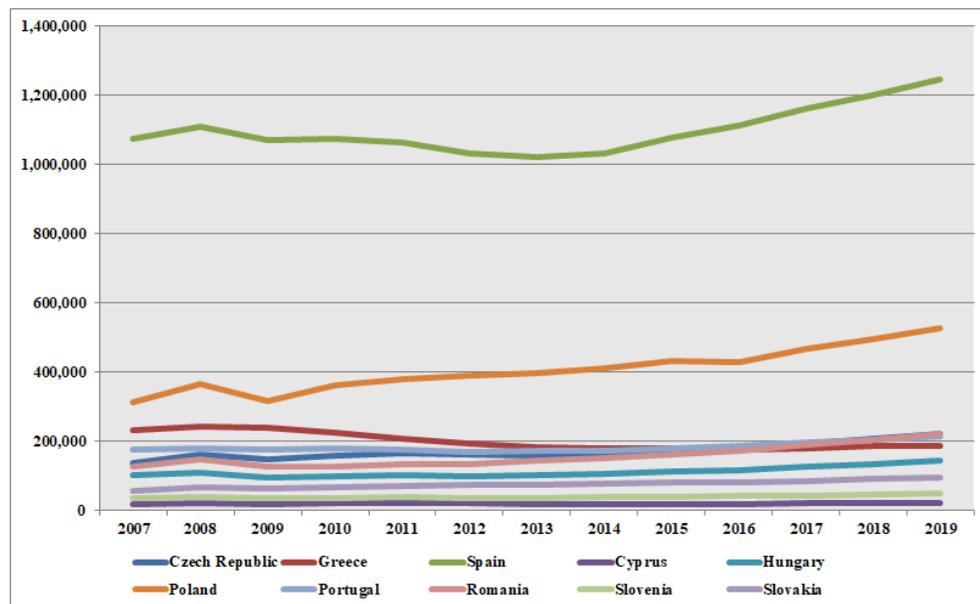
THE DEVELOPMENT OF THE ROMANIAN CLUSTERS AND THEIR DETERMINANTS

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Abstract: *Innovation is the key to sustainable growth, development and competitiveness, and also the engine of the economic clusters. Nowadays innovative processes are conducted within clusters where each component plays its own strategic role at the highest rate of specialisation. The development of the clusters relies on the cooperation between companies, universities and R&D institutions and local, regional or national authorities. First of all, a cluster emerges due to the spatial proximity of businesses, but the real motivation consists in the need for cooperation; the effect, along with the rational use of resources and the activities' specialisation, relies in the enhancement of competition, a positive outcome for the economic environment. Within a cluster, the partners share resources and develop future strategies; the mostly known positive outcomes are the specialised labour force, products of higher quality, cost reductions, powerful networks of suppliers and clients, etc. In our paper we aim to assess the cluster phenomenon in Romania and we seek to determine the catalysts for the emergence of the cluster partnerships in Romania. Our approach is bidirectional: firstly we assess a correlation between the economic clusters, as a cause, and as effects, the number of working persons, unemployed persons and recorded turnovers of the regional businesses where the clusters exists; secondly, we analyse the presence of clusters in the selected regions as an effect caused by the size of the active labour force, unemployed persons, number of higher education institutions, population of 25-39 years old, working specialists and technicians and lastly, the recorded turnover, in our opinion, all these six factors being the most relevant for the development of clusters. We considered suitable for our statistical approach to calculate the Pearson coefficient and also to apply the ANOVA method being able to assess also the extent of each factor's influence on the development of the Romanian clusters. In the last part of this paper the findings are tested by using the Student's and Fisher's tests.*

Keywords: *clusters; geographic agglomerations; economic development; influence factors; ANOVA method.*

JEL Classification: *C38; J24; R23.*

1. Introduction

Our research focuses on the economic clusters' contribution to the development of the Romanian economy. Considering that "success breeds success. Small

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businesses attract others working in related fields so that mutually sustaining clusters begin to grow" (Newbigin, 2010:38), this paper aims to verify if there is any correlation between the existence of established clusters and the number of workers, companies' revenues and unemployment. But this relationship can be perceived as bidirectional so, we intent to assess the correlation also by considering the existence of the clusters an effect of the various factors such as: active labour force, number of unemployed persons, number of higher education institutions, population of 25-39 years old, number of working specialists and technicians, recorded turnover.

We analysed each region of Romania by assessing the relationship between the number of clusters existing in each region and the number of working persons (active labour force), number of unemployed persons, number of higher education organizations, population of 25-39 years old, working specialists and technicians and, the recorded turnover. The labour force is a relevant determinant in the clusters' development (Dan, 2015:5) so we wanted to analyse it in this paper through three different points of views: active labour force, unemployment (persons available to work) and workers by level of qualification, as specialists and technicians. Another factor, the population aged between 25 and 39 years presents high mobility and the most numerous potential persons with high qualification, the later could represent the main reason for finding a good job in Romania and not choosing to emigrate.

The last indicators are not referring only to those companies included in clusters; they are referred to all their extent for each analysed region.

Firstly, we used the Pearson coefficient to assess the relationship between the number of clusters (independent variable) and the number of employees, the recorded turnover and the number of unemployed persons (dependent variables). Another statistical approach consisted is applying the ANOVA method in order to assess the existence of a relationship between the number of clusters and some specific catalysts (active labour force, number of unemployed persons, number of higher education institutions, population of 25-39 years old, working specialists and technicians, recorded turnover) and, also to assess the influence power of each selected factor in this correlation. Our findings suggested the active labour force, the population of 25-39 years old and the number of working specialists and technicians, to be the most influential in the emergence and development of the Romanian clusters. But the relevance of this information had to be verified by applying the Student's and Fisher's tests; these tests pointed out that only the influence of the working specialists and technicians is statistical significant but it does not apply generally to the whole population, just in our particular cases.

2. Literature review: clusters

2.1. Clustering the economic activities and their importance
The clusters as a phenomenon were firstly considered in 1920 by Alfred Marshall, as a network between the organizations and businesses of London's surroundings, sharing labour force, specialised suppliers and knowledge (Dan, 2011:165-168). The

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geographic agglomerations were beneficial for these three aspects: the *labour force* benefited of increased wages and high level of professional qualification; the *suppliers* had focused on high specialisation which led to cost reductions and higher quality products; and the technological transfer made knowledge more shareable between the business partners (Marshall in Clustero, 2012:5).

A cluster represents an agglomeration of "formally independent companies, which located geographically in a relatively small area conduct similar activities, or contribute to the production of similar goods or services (...), face the same threats and harness the same opportunities, keeping open the communication channels between them" (Pencea, 2007:3). Another definition of this concept highlights its potential in the development and the competitiveness of the region, framing the cluster as a "geographical concentration of interconnected institutions and companies forming a research, production and distribution ecosystem enjoying the possibility of becoming competitiveness poles for a city or region" (ARCUB, 2015:6). During the time, some experts have noticed that the companies are more efficient when they compete with each other and become more creative when they cooperate (Pencea, 2007:2). Porter had given one of the most popular definition of the clusters, naming the basis of them as *the diamond of competitive advantage* – the facets of this diamond are represented by "production (skilled labour), demand (influences innovation in the enterprise), interdependent sectors and support (due to the network of providers the distance between them and manufactures are shortened), the strategy, structure and competitors of the enterprise (in order to remain competitive the enterprise is forced to upgrade and invest continuously)" (Porter in Dan, 2012:5). The clusters enjoy from various advantages over increased productivity due to the access to more diverse and numerous resources, the promotion of innovation and professional specialisations in other fields and, the facilitation of lifelong learning, as well. The benefits brought by clustering to the local communities (Scorsone in Pencea, 2007:22) imply:

- Higher rate of employment;
- Access to higher professional training;
- Higher wages and local prosperity;
- Augmentation and diversification of the local demand leading to new business opportunities;
- Higher revenues for the local administration from collected taxes and fees, providing the resources for investment in the local infrastructure and also other investments that would enhance the attractiveness of the city (Suciu et al., 2009:210).

The positive aspects of operating within a cluster were highlighted in a report of the European Commission regarding the economic importance of the clusters, where the analysis found out that during 2014-2016, in comparison to the non-cluster firms, those involved in clusters benefited of +13.5% higher average wages, +0.7% higher annual wage growth rate, +0.5% higher annual employment growth rate, 77% more high-growth companies and 141% more rapidly growing start-ups (European Commission, 2019:8).

Considering the actual crisis, we should emphasize that community, national, regional or even local level cluster partnerships are essential for the European Union due to the "necessity to act rapidly on the external fluctuations and to compete on a basis of excellence in order to overcome internal economic crisis (...) the cluster policy is identified as a key action for a smart, innovative and sustainable industry, as the cluster serves as catalyst in the creation of competitive cross-sectoral industrial value chains" (Turcu at al., 2018:25). The cluster strategies seek to support small and medium enterprises, by operating together on a basis of smart specialisation and cooperation. By creating business networks in a cluster partnership, the aim is to breed seeds of a sustainable economic development, the business sustainability proving the ability to adapt to critical situations.

2.2. Clusters in Romania

A cluster to be identified in Romania must be constituted as an "established legal association which conducts non-profit economic activities, fulfils the management and coordination tasks of the cluster's projects, promotes the cluster's image, supports the cooperation between the existing members and attracts new members" (Clustero, 2015:2).

According to the *triple helix model, m*ost of the clusters are based on the partnership of three actors: enterprises; universities and R&D institutions; and local/regional authorities (Todeva & Danson, 2016:2). Unfortunately, this model doesn't enjoy much popularity in Romania because the three potential partners don't cooperate and don't know each other so the *triple helix model* has to adapt and to transform itself into the *four leaves model*, where the fourth category comprises catalyst organizations such as consultancy companies, specialised centres in technology and innovation, etc. (Clustero, 2015:1).

According to the Ministry of Economy, Energy and Business environment, in July 2018, there were registered a number of 72 (Turcu at al., 2018:26) clusters initiatives and 46 (Clustero, Online) members in Clustero – The Cluster Association of Romania, the most well-known Romanian association in this field. The lack of database's accessibility of the Ministry of Economy, Energy and Business environment, determines us to consider only the accredited members of Clustero. The clusters recognized by Clustero operate in various fields, the most of them in fields specific to the creative industries, as Tabel 1 presents below.

Table 1: Domains of the Romanian clusters (2020)

Field	No.
ICT Services	8
Intelligent energy	6
Textiles and fashion	5
Healthcare	5
Nano-micro-technologies	3

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Field	No.
Production engineering	3
Creative industries	3
Agriculture and agrofood	2
Wood and furniture	2
Tourism	2
Smart technologies	2
Machine building	1
Electrical engineering	1
Sustainable constructions	1
Machine building	1
Transportation and logistics	1
Automotive	1

Source: Own elaboration based on information from CLUSTERO accessed at 18.04.2020

These clusters are unevenly distributed around Romania and don't seem to follow a specific rule in their establishment and development. Aiming to figure out their contribution to the economic regional development we assessed the number of the recognised clusters with several factors considered influential in cluster development.

3. Analysis

Our collected data regard measures of the Romanian regions for 2019, in a rapidly changing economy we considered the newest data being the most suitable for our research.
We notice in Table 2 that the region of Bucharest – Ilfov recorded the highest values for almost each factor, but we have to mention that this region comprises only to the capital of Romania, Bucharest, and the Ilfov county, whereas the other regions imply several counties. Another noticeable aspect is that those regions recording the highest values of the analysed factors, do not count also the most of the clusters.
Clusters are recognised to enhance economic activities in the regions where they are established, as Yang et al. states "some typical cases are Silicon Valley in the U.S. and the economic clusters around Cambridge and Oxford in the U.K.. Additionally, the significance of knowledge creation and spillover is found to stimulate creative clusters in the inner city, particularly with regard to the media, cultural and design industries".

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Table 2: Variables included in the analysis (2019)

Regions	No. of clusters	Active labour force (no. of persons)	No. Unemployed persons	No. of higher education institutions	Population (25-39 years)	Specialists and technicians	Recorded turnover (thousand lei)
Bucharest - Ilfov	8	1059506	55079	42	525344	474037	20550
Center	11	940345	56994	10	398410	171007	9882
North-West	8	1069626	50596	16	446815	245692	11860
West	5	747149	40088	14	308803	180302	8485
South-West	2	857119	43173	4	318083	167084	4628
South	2	1344065	68031	4	499977	235125	9696
South-East	7	1048866	58365	7	402112	152918	10698
North-East	3	1441083	61982	15	523083	240490	10449

Source: Own elaboration based on information from CLUSTERO, Borg Design, INSSE, accessed at 20.04.2020

Considering that the development of the Romanian clusters boosts the economic activity of the region and so the number of employees and the revenues, but also diminishes the unemployment, we calculated the Pearson coefficient in order to test this hypothesis.

Table 3: Clusters' influence on specific variables

Crt. No.	Variables	Pearson Coefficient	Statistical Significance
1.	Active labour force	-0.32499	Negative weak correlation
2.	Turnover	0.477022	Positive moderate correlation
3.	Unemployed persons	-0.03532	Negative weak correlation

Source: Own elaboration at 21.04.2020

As Table 3 presents, the strongest correlation is between the number of clusters and the turnover recorded and even so, these two hold a weak to moderate positive linear correlation. The active labour force presents a negative weak relationship and concerning the unemployed persons, there is confirmed a weak linear relationship between the variables.

However, we intent to assess this relationship also from another point of view, considering the number of clusters the dependent variable and turning the previous dependent variables (active labour force, recorded turnover and number of

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unemployed persons) into independent variables along with other three influence factors, each of them marked as it follows:

- x1 - the active labour force;
- x2 - number of unemployed persons;
- x3 – number of higher education institutions;
- x4 – population of 25-39 years old;
- x5 – number of working specialists and technicians;
- x6 – recorded turnover.

Table 4: The influence of the selected factors on the number of cluster (ANOVA Method)

	Values of R^2	Explained variance	Residual variance	Total
R^2 (Aggregate)	**0.9912**	12.4738	0.65722	13.13102
R^2 without **x1**	*0.6925*	10.45749	11.60628	22.06376
R^2 without **x2**	0.9912	14.96819	0.32953	15.29772
R^2 without **x3**	0.9777	14.76381	0.84048	15.60429
R^2 without **x4**	0.7716	11.65204	8.61991	20.27195
R^2 without **x5**	*0.61008*	9.212307	14.71923	23.93154
R^2 without **x6**	0.98803	14.9192935	0.45176	15.37106

Source: Own elaboration at 06.05.2020

Applying the ANOVA method, the results proved the existence of a strong correlation between all selected influence factors (independent variable) and the number of clusters (dependent variable). But our concern regarded the influence power of each factor so we applied again the ANOVA method in order to calculate the regressions and to highlight how lessens or strengthens the correlation each influence factor. In Table 4 presents the values of R^2 for each regression and so we notice that the most influential factors for the number of existing clusters are, firstly, the number of working specialists and technicians and, secondly, the active labour force. If we overlook these two influence factors, one by one, the relationship between the number of clusters and the selected factors will change dramatically from a strong correlation to an average one. Another important influence factor is represented by the population of 25-39 years old; eliminating this factor, the regression lessens and a moderate correlation results. On the other hand, eliminating one by one the factors of higher education institution, unemployed persons and recorded turnover, doesn't change the correlation's intensity.

In order to assess their statistical significance, these findings need to be verified by applying the Student's and Fischer's tests. Table 5 presents the P-values for each correlated catalyst, but only the number of working specialists and technicians records a value which proves its statistical relevance. Continuing with Fisher's test, the influence of the working specialists and technicians is not confirmed for the whole population, meaning that our findings cannot be generalised.

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Table 5: Testing the statistical significance by applying Student's and Fisher's tests

Influence Factors	P-value	Statistical significance of the factor's influence (x5)			
x1	0.107633	c	x5	R²	P (F- test)
x2	0.966259				
x3	0.430032	0.210267	0.689516	0.028483	0.689515
x4	0.125103				
x5	**0.095479**				

Source: Own elaboration at 06.05.2020

4. In conclusion

According to the Lisbon Strategy, some of the objectives set by the European Union target smart, sustainable and inclusive growth by fighting against the crisis, facilitating job creation and rising the standards of living (Dan, 2012:4). One of the most suitable choices for meeting these expectances are the clusters, represented by structures based on the cooperation between business environment, universities and research institutions – the three actors operating and using knowledge together in order to ensure economic and social progress. But in Romania this model has to be enlarged by the fourth actor – consultancy companies, technology centres, etc. – its purpose being to connect the first three actors, to set a connection and cooperation between them.

There are less than 100 clusters identified in Romania, as formal establishments recognised by the authorities. Most of them are operating in the ICT Services and Intelligent energy. The establishments of the Romanian clusters are influenced mostly by the existence of skilful, highly qualified and experienced labour force; our research have proven that the number of working specialists and technicians along with the active labour force, manifest the strongest influence on the number of clusters; the population aged between 25-39 years is also an important factor considering the number of clusters. It seems that the most of the clusters don't rely on the available labour force (unemployed persons), nor on the turnover recorded by the businesses operating in the regions, not even on the number of higher educations institutions. The later produce confusion, universities representing a key actor in the cluster establishment, but our research has some limits: it counts the number of higher education institutions but not their dimension or ranking.

So clusters do not necessarily emerge in the most prosperous regions, nor those regions counting the most higher education institutions where more academic partners could be reached, but in those regions with a highly qualified, specialised and experienced labour force.

However, the most important determinants – active labour force, persons aged 25-39 years and working specilistst and technicians - are influencial only in our particular cases, the Student's and Fisher's tests din not confirm them as relevant to whole economy.

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EMPLOYMENT-RELATED HABITS AMONG STUDENTS MAJORING IN TOURISM AT THE UNIVERSITY OF DEBRECEN

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Abstract: *Youth unemployment is one of the most pressing problems in the world today, which, through its spill-over effects, affects more than just young people. From an economic point of view, it is also important to examine at what age and with what type of qualifications do young people start to work or how mobile they are. These factors have an impact on the current and future tendencies and developments in a country's labor market and thus in it's total economy. Despite the actual trends among the generations that have grown up during their university years, it has been observed in recent years that students are paying more attention and becoming increasingly conscious in their specific expectations when choosing their future workplace and working conditions. This paper reviews some of the tendencies of starter labor generations that can be observed in Hungary. In our study, we examine the active work experience of full-time BA and higher education vocational training students at the University of Debrecen, majoring in tourism focusing on what work experience they have, what factors do they associate to labor market, can attract them, how they are affected by the issue of employment, and what their preliminary expectations and plans may be in connection with subsequent employment. In our research, we tried to draw conclusions based on the obtained results, with which we can help either higher education institutions or employers by exploring the needs and intentions of young people related to labor. We wanted to explore what the most important aspects are that influence students when they have to decide whether to leave their current residence because of a job opportunity. Our study was conducted using a student questionnaire in which the questions focused primarily on work-related experiences, job expectations, the relocation effects of more developed residential areas, and mobilization.*

1. Introduction

The situation of young people and career starters (age group between 15-29) is always of paramount importance for the future and prosperity of a country, as this age group provides a human resource reserve for a nation state. Employment also plays a key role for young people studying at universities, as it enables them to

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finance part or all of their own training, to contribute to the well-being of their families, or to lay the foundations for their future existential plans.

According to the statistics data provided by the Hungarian Statistical Office, more than 258 thousand young people were employed in Hungary in some form among the primarily university age group (20-24 age group) in 2019 (HCSO, 2019a), which is 5,86% of the total Hungarian employment (4.47 million people). Compared to 2010, this means almost 52,000 more employed young people in this age group, thanks to Hungarian and international employment and internship programs, and the increasingly conscious career planning of young people.

Our research focuses on the expectations of the generation of career starters and whether they are aware of the opportunities and realistically see the labor market. Thus, the question arises as to what the students themselves expect in connection with employment, on the basis of which criteria they choose a job, what factors can motivate and influence them and what plans and ideas they have for their future occupation. Therefore, we conducted a survey among the students of the tourism and hospitality course of the University of Debrecen to find out what they expect from the future.

2. Literature review

The employment situation in Hungary shows a more favorable picture year by year. The positive shift can be observed in the 20-24 age group after the global economic crisis of 2008, starting in 2011 (HCSO, 2019a). 201.1 thousand young people aged 20-24 were employed in 2011, while in 2019 it reached 258 thousand people. At the same time, the employment rate of this age group increased from 33.1 to 48.4 between 2011 and 2018 (HCSO, 2019b).

Youth Guarantee, the related European-level program and a study carried out in 2016 also focus on providing a good quality job offer, apprenticeship, other type of traineeship or short-term traineeship and further training to young people shortly after having completed their studies or those who lost their jobs (Tosun, 2016; Krekó et al., 2019). In this way, it is intended to lower the unemployment rate of the younger generation entering the labor market and start them in their careers.

Based on differing interpretations of the modern definition of work (Robertson, 1985; Lane, 1991; Rimler, 1992; de Foucauld, 1996), we can conclude that work remains a means of satisfying emerging needs, as wages and other benefits received in return for work serve as a means of payment when we want to satisfy our own emerging needs. However, work is also the basis of culture, one of the possible ways of our participation in the functioning of society, but at the same time the fundamental layer of our social embedding and social interactions (Móré, 2018).

In our modern world, work also means a certain level of security (R. Fedor, 2018). This is not only because individuals can provide basic living conditions (housing, food, clothing, etc.) from the income they receive in return for work, but also because, in the absence of work, i.e. those who do not have a job are locked out of many services, including mainly public services whose pre-requirement is employment itself. Therefore, without work, they have to anticipate the lack of these benefits (e.g.

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social security). In order for people to avoid job losses, unemployment and the associated lack of benefits, higher education can provide a kind of guarantee in the labor market (Bartus and Róbert, 2019; Mincer 1974, 1991; Kertesi and Varga 2005). This type of assurance is permanent despite the dangers of mass higher education, such as the negative change in the value of diplomas and how employers value them, which have been highlighted in several studies (Polónyi, 2000; OECD, 1997, 2006; Balázs, 2014; Eichhorst and Rinne, 2017; Varga, 2019). Based on research conducted in the Hungarian scene, in the long run, a university degree is still a well-paying investment for young Hungarian, pre-employment, early-career generations (Galasi, 2002; Róbert, 2002; Zerényi, 2017; Fenyves et al., 2020).

At the same time, one of the most dangerous factors for a country's labor market supply is not the value of diplomas, but the fact that the number of generations entering the labor market is much lower than that of exiting generations (Pongrácz, 2018; Siskáné Szilasi et al., 2017; Kőmíves et al., 2014). In Hungary, in 2010, there were still 6 million 736 thousand people of working age (15-64 years old), and by 2017 their number had decreased to 6 million 415 thousand. In 2018, the number of employees decreased by another 46 thousand people and by that time their number was only 6 million 369 thousand (HCSO, 2019a). In our opinion, the importance of the role of younger generations may increase in the coming decades. As everything in the world is constantly changing, so can work-related requirements, attitudes, and employees' expectations of employment.

Also in Hungary, the need for employee efficiency and success ratio has emerged on the part of institutions and, in part, employers operating at the ministerial level, which requires and classifies the factors determining the effectiveness of human resources into two categories. The first can be called direct factors. This category includes factors that can be measured properly and objectively from the statistics point of view. This category includes factors such as population, education and economic activity. The other indirect group, which includes public safety, housing, or entrepreneurial willingness, is much more difficult to express in terms of metrics (Polónyi, 2016).

However, in addition to population, acquired qualifications and practices and efficiency expectations, another important threat lurks in our modern world, especially against developing countries, as well as developed countries and regions that are considered poorer than others. This is nothing else than the mobilisation provided by better employment opportunities. Because of their livelihood, many people choose mobility mainly when employment is difficult in their place of residence (Udvardi and Urbánné Mező, 2016; Kőmíves et al., 2018). This issue also arises in the younger generations, especially after finishing their own studies, i.e. when the transition to employment needs to take place. Therefore, nowadays, mobility has become a part of people's careers. It can be stated that mobility is becoming an increasingly common practice in Hungary as well and a kind of social norm among young people (Nagy, 2018), especially in those social strata who are looking for work in precarious situations in their area of residence (Vysotskaya, 2017).

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In addition to internal migration, since the change of regime in Hungary, the society has become increasingly involved in international migration processes. The accession to the European Union in 2004 accelerated this process, thanks to which the number of Hungarian citizens leaving the country for a short or long period of time is increasing. These people are mainly migrating to countries of the EU that are economically and socially more developed, such as Germany, Austria, France and the United Kingdom, which is ceased to be a member of the EU from 2020. Opportunities such as emigration is becoming more and more accepted and common among Hungarian youth as their life strategy. This phenomenon can be traced by the drastic increase in the proportion of young people leaving Hungary for a shorter or longer period of time to study or work. The main reasons for emigration are uncertainty about the future, dissatisfaction with actual changes and also missing changes in the education policy, as well as growing dissatisfaction with the social welfare system. Motivations that strengthen emigration also include the easing of the administrative conditions for studying abroad (Blaskó and Gödri, 2014; Caporale and Gil-Alana, 2014; Siskáné Szilasi et al., 2017).

3. Material and methods

Our study presents the results of a questionnaire survey conducted among university students studying at the Faculty of Economics of the University of Debrecen.
The final questionnaire was completed following a paper-based pilot survey. The questionnaire survey included active, full-time students studying on the Faculty's Debrecen campus (169 people), all of whom were between 20 and 25 years of age.This is important because we were able to adapt to the labor surveys of the Hungarian Central Statistical Office, in which the 20-24 age group is usually assessed as a separate segment, as this is the career-starting generation, which represents the supply of human resources. The questionnaire contained 24 questions, four of which assessed socio-demographic data and 20 were aimed at students' attitudes, their intentions to participate in training, wage demands, and relocation motivations in the form of closed questions.
The response rate was high, we managed to reach all students selected for the sample by the preliminary criteria (study status, work schedule, major). However, this is also a limitation of research. The present research only focuses on students majoring in tourism and hospitality. However, we plan to extend the research to students of other majors, possibly other faculties in the future, in order to get a complex picture of the entire university student base.
Prior to multivariate statistical studies, the sample was presented based on demographic data. As a next step, we analysed student opinions, expectations, and intentions. In the analytical work, we used Microsoft Office 2013 Excel and IBM SPSS 24 for Windows, with the help of which we evaluated the answers given by the students in the survey. Cross-tabulation analysis was one of the most commonly used forms of multivariate analysis. The statistical procedure related to cross-tabulation analysis is the chi-square test, which is applied to the values observed

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and expected in the case of independence. In this analysis we use the p value and the value of significance belonging to the chi square (Barna and Székelyi, 2008).

4. Results

The aim of our survey was to find out what the tourism and hospitality students of the University of Debrecen expect from the future in the field of employment and what they will be willing to take for a job. The survey included 167 full-time university students with active student status and students in higher education vocational training. 73.05% of the students participating in the survey are female and 26.95% are male, which covered the total number of active, full-time, BA or higher education vocational training students in the tourism and hospitality training program of the Faculty of Economics of the University of Debrecen. 34.13% of the students participating in the survey have their permanent residence in a city, 32.34% in a county seat, and 17.96% in a village. 2.99% of them live in a large village, while 10.18% live in a town of county rank but not in a county seat. Only 2.40% of students have their permanent residence in the capital.

94.01% of the students surveyed had their own regular income, which does not include financial support from their own families or income from scholarships obtained during their studies. Of those who had their own income, 44.31% earned less than 30,000 HUF net per month, 20.96% earned between 30,000 and 50,000 HUF and only 5.98% of students came close to or exceeded the net amount of the guaranteed minimum wage in 2020. In terms of age, 55.09% of the students in the survey are between 21 and 22 years, 37.13% are between 18 and 20, and only 7.78% have reached the age of 23, but all of them are younger than 25.
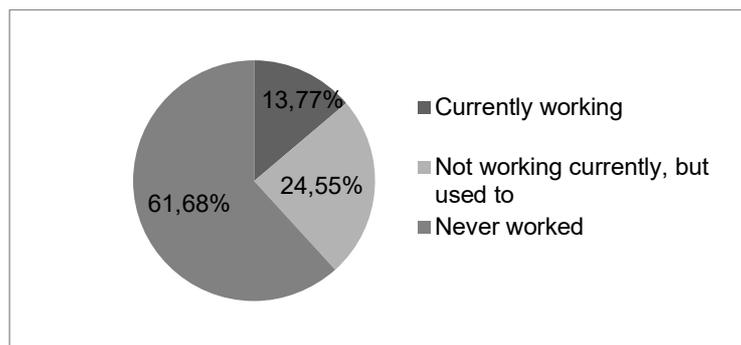
Figure 1: Proportion of students with work experience (%)
Source: Own editing

86.23% of the surveyed university students already had some work experience. 24.55% of them are currently working on the side of their higher education studies (Figure 1). 50.60% of them found work through their family members and acquaintances. It is common for students to be employed in some form in small and

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medium-sized family businesses. In addition, student work intermediaries are significant, with 25.30% of respondents finding work through these organisations.
As regards respondents' future plans, two-thirds of them would like to do work related to their current university studies. 13.79% of them thought that they specifically wanted to find a job in an area related to the economy later, but not in the tourism and hospitality sector. Of the students who want to work within the tourism and hospitality sector, 30.69% plan to be active in the accommodation sector. 25.93% of them think that organising travels would be the right area for them, and 17.46% would choose hospitality and the provision of gastronomic services as their profession. Event organization is the fourth most important item on students' preference list (3.70%). However, 8.99% of university students had not yet made a decision about what field they would like to work in.
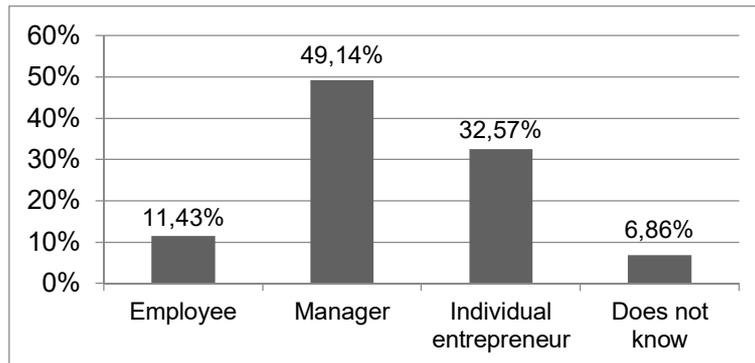
Figure 2: Employment forms preferred by students
Source: Own editing

In connection with preferences related to different fields of work, we were also curious about what form of employment they would like to work in the future. As a matter of course, the employee form was broken down into subordinates and managers (Figure 2). A significant proportion of the responding students (49.14%) are preparing to work in a managerial position (for example, head of department, shift manager) in the foreseeable future. In addition, it was highlighted that 32.57% of students would like to work self-employed after finishing their university education. In the survey, we also examined how students perceive the issue of leaving their career and whether they plan to work in areas that require knowledge other than their degree. 50.30% thought they would like to find a job in the area they are currently studying for, while 13.77% already thought they would leave the field of tourism and hospitality after finishing their studies at university.
We examined whether there is a discrepancy between the intention of students living in different settlements to leave the field. In the cross-tabulation analysis, based on the chi-square value ($p=0.278$), it can be concluded that there is no significant difference between the students' opinions, i.e. it does not matter where they live when they have to form an opinion on the topic of leaving their field of profession.

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When students were asked what gross salary they thought would be expected with a degree in higher education, most of them (41.32%) thought that a gross salary between 200 and 250 thousand HUF would be appropriate. This sum is in line with the average net earnings of full-time employees in Hungary, without benefits, which were 244,609 HUF in 2019 (HCSO, 2020).

We raised the issue of whether the respondents' salaries could change over time. We asked students what gross salary they would expect for a young person working in the economy 5 years after graduation from a higher education institution. 38.92% of them believed that the expected gross salary level would be between 300 and 350 thousand HUF. 11.38% would expect a gross salary over 400 thousand HUF, but 6.59% think that the expected gross salary would be between 200 and 250 thousand HUF.

Similar to leaving the field of profession, we did not find any significant difference in salaries among students. Whether in terms of the starting salary expectations (p=0.531) or the post-experience salary (p=0.911), there were no significant difference between the students' opinions, i.e. it does not matter where they came from to study at the university, either from a small village or more populated county seats.
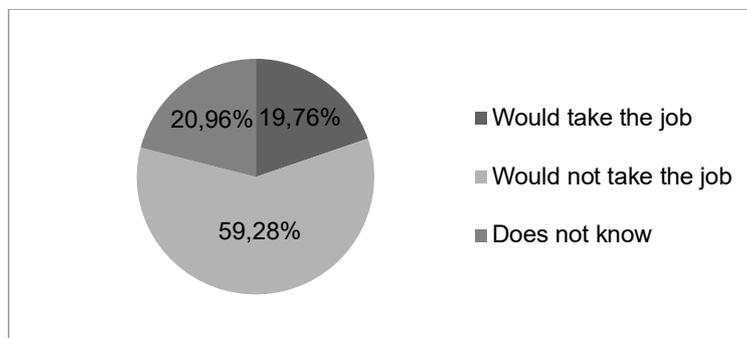
Figure 3: Distribution of employment intentions relative to salaries below the expected wage level (%)
Source: Own editing

We asked students whether, based on their current position, they would take a job with a salary lower than their own wage expectations (Figure 3). Based on the obtained responses, we found that 59.28% of university students surveyed believe that they would not take a particular job under any circumstances if they were offered a salary lower than their own salary expectations. However, 19.76% of them thought they would be willing to deviate from their preliminary wage expectations.

In relation to this aspect, the question also arises as to whether students are satisfied with their own settlements in terms of employment, or whether they prefer to seek prosperity elsewhere. 24.55% of respondents thought they wanted to work in the same settlement where they currently live. At the same time, 54.49% of students

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thought that they would like to work in a settlement other than their current place of residence at a later date.
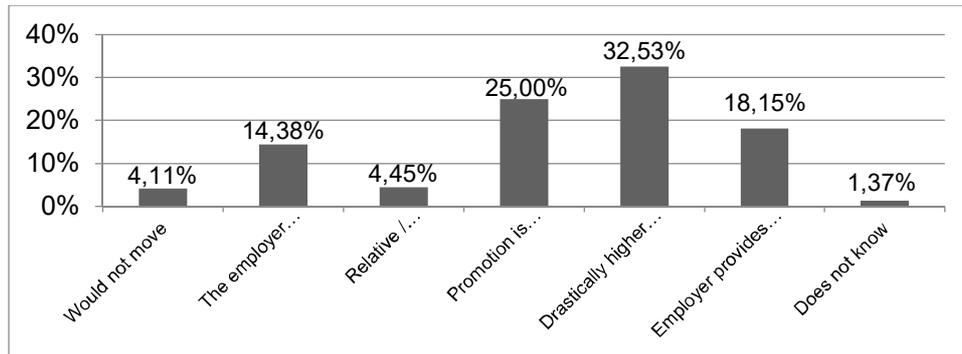
Figure 4: Presentation of results for which students would be willing to move to another Hungarian city in connection with a job opportunity
Source: Own editing

Among students' arguments in favor of leaving the current area of residence, the primary consideration is a salary drastically higher than the wage level in their current living environment (Figure 4). According to this statement, 32.53% of them would be willing to move to a Hungarian settlement much further away from their place of residence if the potential employer offered them a higher level of pay than they could receive in their current place of residence. In the event that an employer can provide predictable, guaranteed professional advancement in the long run, 25.00% of students would be willing to relocate to another settlement. 18.15% of students would be willing to move elsewhere if the employer in a given new settlement could provide non-wage benefits that are not available in their current area of residence.

If we look only at the topic of commuting, the most important factor that would make students willing to regularly travel to a settlement larger than their current place of residence, i.e. to commue, was the amount of wage. 59.85% of respondents believed that an achievable higher wage level was the most important incentive in favour of commuting.

In the event that commuting should be replaced by resettlement, the level of wages (36.67%) was also indicated by students as the primary motivating factor. However, better housing conditions (23.64%) were also considered to be a particularly important factor.

For this reason, we can see that the amount of wage was the most important factor that could encourage students to relocate, whether in the form of commuting or by moving permanently.
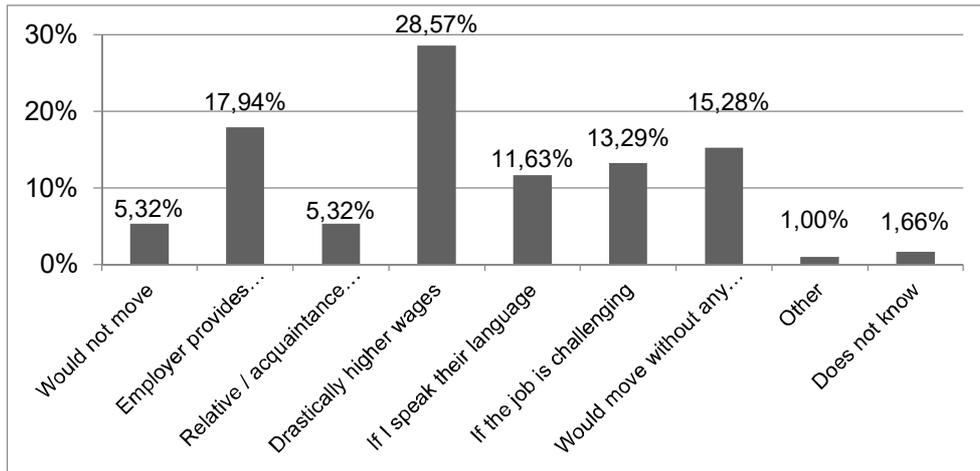
Figure 5: Presentation of results for which students would be willing to move to a foreign city in connection with a job opportunity
Source: Own editing
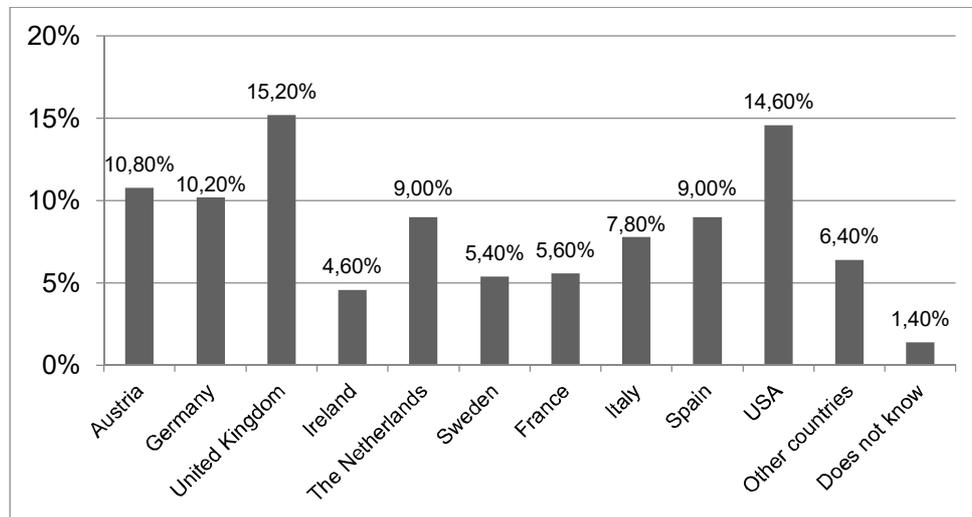
Figure 6: Students' preferences of potential places to work abroad
Source: Own editing

We examined what might be the primary factor that can make students willing to move to a foreign city for work (Figure 5). As a result, it can be concluded that for 28.57% of the respondents, similarly to the motivation of moving to a different place within Hungary, the drastically higher salary was the most important factor that would make them willing to work abroad. In addition, accommodation provided by the employer (17.94%) and jobs with challenging tasks not available in Hungary

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(13.29%) were identified as other important factors. 15.28% of students believed that if they got a better opportunity from abroad than the job offers available in their area of residence, they would be willing to move to another country and work there without any other conditions.

The respondents indicated the most influential English-speaking countries (Figure 6), i.e. the United Kingdom and the United States, as well as the German-speaking countries, i.e. Germany and Austria, as the target countries for a possible work abroad. Only after these groups of countries did Europe follow with its New Latin-speaking countries, of which Spain and Italy were considered attractive to students. The other frequently mentioned potential destinations were Norway, Switzerland, Japan and Australia.

5. Summary

The situation of young career starters is always a key issue for the future and prosperity of a nation. Based on recent years, the employment situation in Hungary is showing an increasingly favorable picture. In the age group of people between 20-24, which represents the supply of labor, a positive shift can be observed from 2011 onwards. The significance of this phenomenon lies in the fact that early employment benefits young people and creates the basis for individual fulfillment, which is financed by the pay they receive for their work, i.e. different forms of early work can help the younger generations. However, work also means a kind of security, and not only because workers can provide the basic conditions for their initial existence from the income they earn, but also because, in the absence of work, they would be deprived of several public services for which having a job is a prerequisite.

Despite the fact that, in the long run, higher education degrees are still considered a well-paying investment among young people starting their careers in Hungary, several factors pose a threat to the supply of a country's labor market. Examples include the issue of the value of higher education diplomas and their evaluation by employers due to mass education, as well as the number of current generations entering the labor market and the total population, as well as efficiency expectations and mobilisation, which can be a problem mainly between developing and developed regions.

In our related survey, we involved 167 full-time university students with active student status and students in higher education vocational training. More than four-fifths of them already had some work experience. 94.01% had their own income from regular work, which does not include family allowances and income from scholarships. During the survey period, 44.31% of those with their own income earned less than HUF 30,000 net per month, and 20.96% earned between HUF 30,000 and HUF 50,000.

It is important for students to do work that is related to their current university studies. 30.69% of them plan to live in the field of accommodation. 25.93% of respondents think that organising travels would be a suitable field for them, 17.46% would like to be in the field of hospitality and 3.70% would like to work in the are of event organisation. Based on the knowledge they gained during their studies and their

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subsequent practice, the majority of students believed that they would work in some managerial position (e.g., department head, shift manager) in their future job. However, they showed a keen interest in continuing their future activities as individual entrepreneurs.

But only a quarter of respondents wanted to work in the same settlement where they live. 54.49% of students thought that they would like to work in a settlement (city, county seat) different from and larger than their current place of residence. The primary consideration in the change of settlement was the drastically higher salary than the wage level available in their current living environment. This aspect was followed by the possibility of guaranteed and predictable career advancement and by the fact that the employer would be able to provide them with non-wage benefits that they cannot achieve in their current place of residence.

Many of the students who took part in the survey thought they would be willing to live and work abroad for a longer or shorter period of time. They would be happy to move to a foreign city if their pay was drastically higher than what they could achieve in Hungary, if their employer initially provided them with accommodation, making it easier to move, and if they filled challenging jobs that they felt were not available at home. First on students' list of potential foreign countries to work in were the United Kingdom and the United States of America, as well as the German-speaking countries, i.e. Germany and Austria, as these countries were considered reasonable and accessible destinations, followed by Spain and Italy.

6. Acknowledgement

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KNOWLEDGE TRANSFER AS A CONDITION OF EMPLOYEE DEDICATION

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Abstract: *The appreciation of human capital generated the broadening of human resource management functions. Human resource management frames attracting, employing, developing, motivating, ensuring the dedication of the employees, retaining the talents and terminating the employment as well. Corporate effectiveness and managing efficiency are ensured by overlapped and consistent HR functions in the long run, which supports both organisational and individual objectives. In this study, we tried to answer the followings: which are the main differences emerging as the interpretation of satisfaction and dedication, and what could be the basis of them and how to connect employee dedication with organisational knowledge management. The research aims to summarise through secondary analysis in a review, the significance of creating organisational knowledge management as a fundamental element in forming dedication. In the study, we synthesised significant literature approaches to the issues. As a result, we hypothesised that satisfaction could be interpreted as the prerequisite of dedication. Indeed unsatisfied employees can not contribute to organisational operation in a dedicated way. Consequently, it could also be established that every dedicated employee is satisfied; however, not every satisfied employee will be automatically dedicated to the employer. Achieve the state of satisfaction; more factors should be present at the same time. These include supporting working conditions and organisational atmosphere, which is the basis for knowledge management. Also, for an organisation to ensure itself with dedicated employees, it has to emphasise job design which contains the content of tasks, complexity, difficulty, factors within the organisation like knowledge and technology. Dedicated employees will be the ones who are considered as a value by the employer, appreciated, given career path and ensured with the appropriate working conditions, including the involved knowledge and available knowledge base in the job, also tools and opportunities for development. If the company lost a talented employee, the cost includes more than finding a new applicant. Invested costs with the lost employee, also the lost knowledge are hardly replaceable in many cases. Dedication and loyalty of an employee have to be maintained, with the application of the correct management tools, employee satisfaction can be achieved, which is worth investing in the long run. The paper discusses the possible connection between organisational knowledge sharing and dedicated employees, focusing on the system of linked HR functions.*

Keywords: *knowledge transfer; employee dedication, satisfaction, organisational knowledge; HR functions.*

JEL Classification: *J24; J53; O15.*

1.The general tendency of dedication to work

From an organisational point of view employee dedication and satisfaction are closely related concepts, of which more and more surveys have been made. But to interpret these surveys duly however, we need to clarify these two concepts and reveal the differences and connections between them. Employee dedication has no generally accepted definition but the approach is the same on the basis of each expert's opinion since they all mention the positive connection to the organisation and the work in this area. Some definitions interpret dedication simply as a positive feeling towards work while others (Armstrong and Taylor, 2014) identify it as an immersed state doing work with passion. Employee satisfaction similarly to dedication can be interpreted as a pleasant, positive feeling though its basis is given by the evaluation of experiences connected to work. The scale of satisfaction, dedication and happiness appear with very different results in each country (Helliwell et al, 2018). Based on the comprehensive survey of Gallup (2017) we can say that only 15% of the employees are dedicated to their current employer and the same ratio is true for Western Europe, as well. The remaining 85% of the employees are either neutral or what is more, even have negative feelings towards their workplace. The significance of the topic is obvious by a conclusion which was defined as a result of the above research that is if the rate of dedicated, enthusiastic and motivated employees can be doubled than it would double the productivity which would clearly show in the increase of the GDP. If we consider employee satisfaction results of the Visegrád4 countries (Czech Republic, Poland, Slovakia, Hungary) we can establish that the lowest satisfaction with the workplace and the highest number of actively dissatisfied with the workplace are in Hungary among the Visegrád4. The results of the Hungarian survey conducted on the rate of employee satisfaction (AON, 2018b) display that workplace dedication has decreased among the employees questioned compared to the previous years (62,000 employees of 87 companies took part in the survey), since 59% of the people who answered the survey said that they felt dedicated to their workplace. This is not a very promising tendency since nowadays one of the biggest challenges for employers is to acquire, retain and motivate talented employees but the decreasing loyalty makes this aim harder to achieve. The conclusion of the research is that one of the possibilities of the long-term retention of employees is to provide the right experiences however, only half of the leaders consider employee experience important nowadays (AON, 2018a). Based on the Ipsos (2019) research results we can see the following characteristics of Hungarian employees between the ages of 18 and 65; their dissatisfaction with their workplace stems from the dissatisfaction with their salaries. But the background of the satisfaction with the workplace does not rank satisfactory salary in the first place but good community and human relations, which means that the push and pull factors of employee satisfaction do not always match. If we continue to ponder about this result we can state that within an efficient action it is necessary to examine all the elements which cause dissatisfaction and separately those factors which lead to satisfaction. The two areas are not necessarily the same which means that just by

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handling those factors which cause dissatisfaction will not necessarily lead to satisfaction (Herzberg et al., 1959). The employers are aware of this trend since based on Deloitte's (2019) global survey – which included 119 countries, including Hungary – it turned out that 49% of the close to 10,000 corporate leaders and HR leaders who answered the survey think that the employees of the organisation are satisfied with their job and 42% of the people answered think that employees are satisfied with their daily tasks. According to Deloitte's (2019) experts, organisations need to strive along the concept of employee satisfaction, to provide as complete a "human experience" as possible for their employees. Part of this should be the continuous learning, interpersonal relations and the motivating working tasks. The results of the research consider the change of classic organisational structure as one possible development direction which means that instead of the hierarchic structure we should move in the direction of a team-based structural model.

That is why it is important from the employer's side to put great emphasis on not making too much pressure in the workplace environment but on the other hand we should form the jobs and the expectations connected to them more along the individual skills. It is an essential condition that the difficulty of the work to be done would not surpass the individual skills since with this disproportionate stress is burdened on the employees the consequence of which is anxiety and worry (Csíkszentmihályi, 2010).

The continuous, unattended stress which exists for a long time can easily lead to such a mental distress which can couple with physical symptoms. This means such a real danger, because of which the World Health Organisation (2019) officially declared burnout a health disorder which is "a syndrome caused by chronic workplace stress that is not duly attended". Some of the consequences of burnout for the organization are high absenteeism, high fluctuation, poor performance, increased ill-health, poor motivation and satisfaction in the workplace (Rozman et al, 2017). Nevertheless, we must strive not to make the task to be done much easier than what we are able to do otherwise the individual skills will not be used and the feeling of boredom can be formed in the employee (Csíkszentmihályi, 2010).

2. The general factors and conditions of satisfaction with the workplace

An average one third of the time when we are awake we spend with work. From the point of view of our balance it is essential to find satisfaction at our workplace and the sources of happiness that stem from this though it depends on the availability of factors which are different in each individual (Staw-Ross, 1985). Though the question is not novel but the actuality of the field is shown by the fact that, the connection between work and happiness has been brought into the focus of academic interest where researchers attempt to reveal those factors which can contribute to a more complete experience of happiness during work. This ambition has spread in the economic world, too where they are striving to reach balance for the organisational members and to assure employee happiness by different organisation development tools. For people job happiness means on the basis of certain approach the feeling of general satisfaction in connection with the workplace,

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the ability to handle failures by accepting it, the cordial relationship with the people in our environment (colleagues, clients, customers etc.) and it also means that the work we do is important for us, for our employers and for the people in general (Simon and Thomas, 2018). There are several techniques available to achieve this such as relying on our strengths (Fisher, 2010) which is not only supported by the individual ambitions but even while we are planning the job we can put an emphasis on realising this aim. Job planning is an activity of the HR units, certain approaches of which emphasise among others that by certain elements such as more interesting, more challenging jobs employee satisfaction can be enhanced. These factors also include the following (Szilágyi and Wallace, 1990):

- the content of the job: the diversity, complexity and difficulty of the tasks, the responsibility, competence and significance of the job, work method, relationships etc.
- the environmental elements of the job: social, economic, political, geographical etc.
- factors within the organisation: technology, compensation etc.
- individual characteristics: needs, values, personality etc.
- output performance elements: task accomplishment, efficiency, cost-effectiveness, absence, fluctuation etc.

The presence of what elements are important to the different people to feel satisfaction at the workplace depends on how one interprets work itself (Figure 1).

1. Job-orientation	2. Career-orientation	3. Profession-orientation
• the acquisition of material wealth • ensure livelihood	• career building • promotion	• enjoyment • social usefulness • self-realization

Figure 1: The possible aspects of job interpretation
Source: Based on Wrzesniewski et al. (1997), Schwartz (1986); Bellah et al. (1985), own editing

People who belong to the Job-orientation category think of work as a tool of livelihood, they do not search for anything and do not expect anything else from their work so promotion via work is not an aim for them, nor is the self-realization. On the other hand, those people who belong to the second category relate to their work with a deeper and more personal investment. People with a career-orientation approach not only expect a material return from work but also require promotion and advancement in the work, which naturally results in an increasing power connected to the job, maybe a higher social status for the employee. For people belonging to the profession-orientation group work is the aim itself, they enjoy doing it thus for them work is significant and they feel that by this they contribute something to the society. They tend to continue working even if from a material point of view it would not be necessary for them. They do their job neither for material wealth, nor for hierarchical promotion but because of an internal impulse (Wrzesniewski et al., 1997,

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Schwartz, 1986; Bellah et al., 1985). In Yen et al. (2019) research, they found that if career adaptability enhances person-job fit, it will results in greater career satisfaction, if the individual wants to follow a career route within the company(Héder et al., 2018). The critical part of useful work, integration into the organisation, is finding the appropriate job for the individual, or redesign it if it needed (Dajnoki 2014). How people interpret work itself massively depends on how and in what quality they do their tasks. Consequently, those employees who do the same job and have the same job description can do their tasks differently in connection with the responsibilities they take up and the relations within the organisation depending on how they personally interpret work, tasks, what sense they make to their job, what their identities and values are and how they see themselves in the given job. The phenomenon of personalising the job through which the job is created and changed is called "Job Crafting" (Berg et al, 2008, Berg et al, 2013). During the process the individual forms his/her own job in a way that it also forms the sense of work for himself/herself. Job planning thus is not only a procedure organised from above but also it takes place and forms actively on a lower, employee level. This phenomenon can carry both positive and negative consequences in itself from the individual and organisational side thus the observation and tracking of this process on the management level is very important. But it is essential to keep in view that such reinterpretation of jobs can have efficient results since this rethinking of jobs are often done in the interest of the employees. Consequently, a less static view and the possibility to reinterpret jobs can be the key to reach employee satisfaction, too (Berg et al, 2008). A job description which includes the content and details of the job is to be created individually in case of every organisation which means that its content and structure is not the same. In every case it has to be deduced from the organisational aims and form the content of these documents along those. There are such ambitions which are trying to make even the job descriptions interesting and lend a spectacular experience to the user – that is the people who fill up these jobs. The 3D creation of job descriptions (Pató, 2014) makes the visualisation, the display and understanding of jobs possible as a result of which the people concerned can receive a visual assurance about all processes connected to the job. With its help we can think over the essence of certain jobs and their connection with other jobs which overall is connected to the whole employee experience.

3.Knowledge sharing and HR functions

Knowledge management is not a novel notion. In every era, valuable knowledge and experiences were created which were required to be handled, systematized, preserved and passed on. Information is the defined data which is the set of facts and measuring data created in the given situation and time and the given circumstances (Eirma, 1999). Knowledge is inconceivable, and it is difficult to define. According to Davenport and Prusak (1999), knowledge is a combination of information, ideas, rules as well as processes which are in possession of those with knowledge. If we look at the business side of it for the organisation knowledge is everything we can know about customers, services, products, processes (O'Dell –

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Grayson, 1997). By quoting Polányi (1958) "a human knows more than he/she can tell". The tacit and explicit cannot be fully separated; they mutually complement each other. The steps start with the decision of making the transfer and the definition of its main factors. In the introductory phase technology and training appear. Then it is followed by reaching the determined performance targets then integration and the further development of the system. In what scale the knowledge to be transferred can be used and how special it is to has a decisive role in choosing the most appropriate and efficient channel for transferring and the tools which should be applied for this (Demeter et al., 2017). Knowledge transfer is mostly a personal decision, the driving force of which are at least two key factors, ability and willingness. To reach a high performance – whichever level we are talking about – the collective existence of both abilities and skills and motivation are necessary (Baldwin, 1959).

According to Vroom (1964), we can expect more from the individual who is motivated and whose skills we develop than from one who is relatively not motivated, but his/her skills are right. After gaining knowledge, the person who transfers it is not always successful in sharing knowledge because it lacks the necessary skills, competencies and language techniques (Cabrera, 2003). Consequently, knowledge often requires resource and depends on the interaction between the people and patience. On the other hand, from the part of those who transfer knowledge – in possession of the right experiences and abilities – we can observe the total lack of willingness. In terms of results, by examining abilities and willingness, we found a connection. The stronger the two factors are the higher value the knowledge transfer will have by the end of the process (Minbaeva – Michailova, 2004).

Human resource management models applied by a company provide guidance to human flow strategy, which helps to use human capital effectively, optimise investing in employees' knowledge and skills aligning them with environmental factors. Individually gained experiences are shared as knowledge to improve company processes (Cegarra Sanchez et al. 2018. There is an increased need for knowledge-based work, creating learning organisations, management practices, emphasising quality is more meaningful as the knowledge level's continuous development is essential if company efficiency gain is the aim. The amount spends at education, training, development is not a cost but an investment in developing, efficiency, performance and increased competitiveness (Csath, 2012). Education and training have an important role in both developed and less developed societies (Pierog et al. 2015), skills, abilities of career-starters become much more appreciated in the accelerating business and globalisation (Dajnoki – Kun, 2016). Transferring and sharing gained knowledge is essential to ensure profitability by innovative and new ideas. The expansion of digitalisation has a significant effect on business performance and the integration of technology in company operation (Obermayer et al. 2019). In organisational efficiency and competitiveness supporting knowledge-based economy, the key players are talented employees. Continuously developing them is a fundamental goal (Armstrong – Taylor, 2017). Research finding of Dajnoki – Kiss (2015) concludes that training, development and lack of career opportunities are often the cases behind staff turnover. Technological development, innovative

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procedures and globalisation processes affect human resource management and its functions. Beside traditional functions, new areas of activities occurred or increased in value as knowledge-, retention-, generation-, competence-, talent-, and diversity management. Also, HR/employer branding, employee health, HR controlling and employee journey are involved (Dajnoki – Héder 2017). Human resource management strategies in the business environment (for example resource-ensuring and motivation systems, organisational development, creating high-level dedication, culture change and knowledge management, employer branding) are key elements at organisational competitiveness and performance (Chovan et al. 2017, Fehér 2011, Karoliny-Poór 2010, Losey et al. 2006). If the frames of organisational knowledge transfer are not ensured, there is lack of support, and individual's knowledge stay concealed from others, the outcome affects innovation and creativity negatively (Li-Ying et al. 2018; Gergely-Pierog 2018; Malik et al. 2019). In the finding of Lee et al. (2020), it stated that firm performance is not determined by how much firms know, but how effectively firms use what they know through their knowledge management systems. Rechberg (2019) said, there is a connection between emotional intelligence and knowledge sharing. If corporate strategies consider and develop individuals, it will help with knowledge processing in the organisation, due to knowledge creation through self-awareness, facilitation in knowledge sharing, promotion of commitment and job satisfaction results in aiding the retention of the organisational knowledge. According to Poór (2013), due to unpredictability, knowledge (supporting competitiveness) and its sharing become one of the most significant organisational potentials, because it improves adaptability. Organisational level adaptability has a value-creating effect.

4. Summary

The significance of intellectual capital is growing increasingly next to human capital. To correctly handle the challenges in the business environment, the organisation has to have a human resource strategy and management approach. Finding quality employees is not the only source of issues; retaining and developing are also a difficult task. However, if the employee became dedicated to the organisation, then investing in them worth it in the long run. Preserving intellectual capital can be the key to competitiveness. Success in knowledge sharing between employees has many elements.

The overall aim of programs related to knowledge sharing and knowledge availability is to make knowledge available and its transfer among the individuals. If the framework of storing, availability and sharing of knowledge is not established, and there is no managerial support, the process often fails.

Employee dedication has to be separated from motivation because emotionally based dependence not necessarily means higher quality work or better performance. However, motivation undoubtfully has its advantages from the organisational point of view.

Consequently, the employees' satisfaction depends on the work challenges, the fairness of received remuneration, the supportive working conditions, the

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atmosphere experienced in the organisation as well as the factors communicated by the colleagues and the superiors. In conclusion, we can assume that the existence of satisfaction can be interpreted as a prerequisite for dedication since dissatisfied employees cannot contribute to the organisational operation in a dedicated way thus every dedicated employee is satisfied, as well but not all satisfied employees will be clearly dedicated towards the employer. The result of the Ipsos research (2019) and also the opinions of the people involved in the survey, few people experience the effort and the solution of the problem from the employers side after a negative experience at the workplace although, this could be a key factor in terms of creating employee dedication and satisfaction. Based on the results we can say that employer reactions greatly affect employee satisfaction so the introduction of active and purposeful practices on a corporate level should be necessary if the organisation want to employ employees who have long-term satisfaction and dedication.If the employee feels dedicated and satisfied in the current job, the process of knowledge sharing will be more effective within the frame of the corporation.

5. Acknowledgements

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INTERNATIONAL TOURISM IN GLOBALIZATION CONDITIONS

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Abstract: *Modern tourism has been subjected in the last decade to the process of internationalization and globalization. With the development of technology, means of communication, but also the variety of means of transport (from air to sea and not only) consolidates the mobility of people from one corner of the world to another, leading to the globalization of tourism. The phenomenon of globalization is manifested in many areas, but perhaps the one that best characterizes this phenomenon is the tourism sector. Through globalization, the interdependence between countries, economies, but also people develops. Globalization means not only huge corporations, but also medium-sized, small or even family businesses. There are clearly some aspects of globalization that have a visible impact on the tourism industry. The ease with which anyone can access air transport, the liberalization of trade in services, new technology, the widespread use of the Internet, the policies of countries contribute to the continuous growth of tourism. These processes have led to the creation and operation of the global tourism market in which exotic destinations become a reality. At the same time, globalization creates a lot of development opportunities. Thus, 1.4 billion people traveled in 2018 and 1.5 billion people traveled in 2019. Tourism revenue is $ 5800 billion in 2019, accounting for 6.7% of the world's total GDP. Tourism globalization leads to cultural exchanges, social interaction, exposure to local cultural traditions. At the same time, this phenomenon, helped by the economic policies also changes the profile of the tourist. Today's tourists are increasingly turning to global destinations, which many of them book online; they expect the vacation to be as close as possible to the spirit of the place they are visiting; they want the services they contract to be as personalized as possible in order to accumulate new cultural information and more. The expansion and direction of global tourism has been analyzed based on data from the last 3 years, but also taking into account the current trend of tourist behavior. The question is what is the next direction of global tourism? What are tourists oriented to in the context of current tourism conditions? Following the data analysis, it can be stated that the new trend makes you think of the self-service process, only this time it refers to the online contracting of the desired tourist package, so that it satisfies the tourist's desires at an affordable price. Globalization of tourism leads at the same time to the orientation of tourism towards sharing economy.*

Keywords: *tourism; globalization; historic; experience; authenticity.*

JEL Classification: *O35.*

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1. Introduction

Throughout its history, tourism and tourism activities have been the subject of various approaches. Thus, over time it experienced various forms of manifestation. If we are to temporarily locate the idea of "tourism", it can be said that it appeared since ancient times, during the Babylonian and Egyptian Empire. Herodotus can be considered the initiator of travel books, being the first to write down experiences from various destinations in the Mediterranean region. Travel during this period (600 BC) meant visits to major cities to admire works of art, especially religious buildings or monuments.

Greek civilization (500 BC) traveled, especially, to places where there were temples dedicated to the gods, to bring them offerings. Athens became an important center for many travelers at that time due to the existing attractions (eg Parthenon). The first inns and port outbuildings were also set up to meet the needs of tourists. This period marks the era of the birth of tourist taxes. At the same time, the first written tourist guides appeared, presenting destinations such as Athens, Sparta or Troy.

The period of the Roman Empire comes to facilitate travel within it, due to the lack of standard borders and the safety of travel. The Romans used to travel to Sicily, Greece, Rhodes, Troy or Egypt. Since 300 AD, the Holy Land has become a popular destination. Romans are the ones who introduce written travel guides, called "itinerary", with lists of hotels and notes on their quality. In the Middle Ages travel becomes dangerous for those traveling for commercial or professional reasons. Europeans are trying to find new routes to make them famous or trying to find new markets for their products.

Tourism at a larger scale makes its presence felt in the first half of the seventeenth century, being a direct consequence of the Renaissance principles. During the reign of Queen Elizabeth I, young students at the court of Great Britain are encouraged to study in different cities of the country or even in other countries to have a rich experience. Later this tradition becomes a common custom, the educated people being initiated to travel longer periods, together with a tutor and completing a Grand Tour. Pleasure trips also begin to take shape with those for educational purposes. Today's SPAs have a correspondent since ancient times. Roman baths or English therapies were, as today, associated with a state of relaxation and health. The introduction of steamships in the 19th century meant the expansion of the tourist horizon.

The First World War brings new information about lesser known territories, causing curiosity to potential tourists. Mass emigration to the United States is the beginning of constant tourism. In Europe, the advent of cars allows the travel distance to be longer in a shorter period of time. The seaside resorts are becoming popular destinations. The twentieth century brings with it the advent of cruise planes and ships that complete the tourist product. The emergence of new business opportunities, the development of new tourist areas, such as the islands of the Pacific Ocean, Asia, Patagonia or Alaska are the novelties of the twentieth century. Tourism

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is a field that is constantly developing and diversifying, hasa reached its current form with the help of modern technology and international collaboration.

The tourist market is very attractive, which determines the existence of different types of tourists.

2. Profiling and characterization of tourism as an economic and social activity

Tourism is a topic of global interest in all its forms, and the definition of this notion is given by different researchers or by different organizations. Is a sector full of opportunities and access to this market is relatively easy due to the low entry barriers (Badulescu and Badulescu, 2012).

Burkart and Medlik (Burkart and Medlik, 1974) argue that it is necessary to clearly define this notion for the different purposes for which this notion can be used. First of all, in order to study this notion, a systematic analysis of the phenomenon and a clear definition of what it contains is necessary. Secondly, this activity requires the performance of various statistics, so a definition of what needs to be measured is imminent. Thirdly, it is necessary to individualize the concept for legislative and administrative purposes, respectively: it is necessary to know for which activities it can be applied and for which it cannot. Another goal would be the industrial one, some economic activities can give rise to market studies and can provide the channels for the formation of industrial organizations (Burkart and Medlik, 1974). Thus, the World Tourism Organization defines tourism as a social, cultural and economic phenomenon that involves people moving to countries or places outside their usual environment for personal or business / professional purposes. These people are called visitors (who can be tourists or hikers; residents or non-residents), and tourism is related to their activities, some involving tourist expenses (World Tourism Organization). Fuster (1971) states that, The Shorter Oxford English Dictionary first published the word "tourist" and was defined as: "Person taking a tour or tours. Person who does this for recreation; another who travels for pleasure or culture, visiting a number of places for their objectives of interest, landscape or the like ". (The Shorter Oxford English Dictionary).

The definition developed by the UNWTO is a technical one, which mainly addresses political, trade and certain normative principles and does not address conceptual issues. This definition of tourism is appropriated by several countries and organizations and is considered to some extent the "official" definition of tourism.

The first academic definition, according to Wahab (1977), was made in 1911 by Herman von Schullern in his work "Fremdenverkehr und Volkswirkschaft" and defines tourism as: "the sum of operations, mainly economic ones that are directly related to entry, the permanence and movement of foreigners in a country, city or region" (Wahab, 1977).

If we were to analyze the anatomy of the tourist phenomenon, it would be composed of three elements: man (as the main element of the tourist act), space (an element necessary for the tourist act to take place) and time (temporal element) (Wahab, 1977).

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In order to be able to characterize the tourist activity, it is essential to know which are the principles that underlie tourism as an economic and social activity.

According to Tribe (2009), the principles fall into two categories: fundamental principles and desirable principles.

A. Fundamental principles

1. The subject

For tourism to exist, the subject must be present. In addition to the tourist as an actor of the tourist act, there is also the host (service provider at the destination or the person who receives the tourist).

2. Travel

It can be done inside the tourist's country of origin or outside the country's borders.

3. The principle of return

The tourist action also involves returning to the residence or place of life before the trip.

4. The principle of motivation

There will always be a reason why the tourist will travel, whether it is explicit or not.

5. The principle of hospitality

Hospitality is a socio-cultural phenomenon that includes food, drink and accommodation offered to the guest. At the same time, it represents an important element for the development of tourism, being related to the act of receiving the tourist.

6. The principle of experience

Besides the tangible side, tourism is composed of a series of intangible services, as a result of the sensory and psychological experience, making experience the main marker of a tourist trip. In addition, nowadays people travel out of the desire to live new experiences.

7. The principle of communication

Tourism is the act of communicating. Tourists relate to and interact with other people as well as other cultures. It is impossible to travel without communicating with others.

8. Technology

In the age of technology, any type of tourism will use it, even tourism that happens in natural or uninhabited areas. Communication and transport technologies are the most important in this principle.

B. Desirable principles

1. Durability

Sustainable tourism refers to the use of tourism resources in a way that allows their continued use in a way that does not affect society. We can talk about social, cultural, economic and environmental sustainability.

2. The principle of equality

Human beings, regardless of their social or financial level, religion, colour and race are equally in accordance with the laws of tourism and must be treated as such in human and professional relations, as well as in space and place.

3. The principle of public and private supremacy

The will of the public power should prevail. If the desire of a tourist would adversely affect the order and the desire of a social group, it should not be allowed.

4. The principle of otherness
Otherness means respecting the difference. It should exist in the tourist relations regarding the host, among the tourists and among the hosts.
5. The principle of ethics
It refers to a correct way to act in the tourist activity. This principle involves four topics:
- the tourism profession;
- the tourist;
- the host community;
- public authorities.
Of course, there are other principles that underlie tourism, but those mentioned above are the ones that best explain the meaning of the term tourism. Defining, characterizing and stating the principles of tourism is a complex theory.
The tourist market is very tender, which determines the existence of different types of tourists.

3. International tourism in the context of globalization

The tourist market is very offering, which determines the existence of different types of tourists.
Europe remains the most visited region in the world and continues to grow in absolute terms. However, the growth rate of tourism in many emerging economies is faster than the growth of advanced economies. In the long term, this trend will continue to exist, being present mainly in the Asia-Pacific region. WTO forecasts indicate that arrivals in emerging economies will outpace those in advanced economies by 2020. This changes tourism globally, changes the nature of tourism flows, resettlement inflows and outflows, changes the balance of market share and the relative size of tourism economies and also changes the competitive environment for advanced tourism economies.
In order to see how the tourist activity has evolved in different regions, we will evaluate the tourist arrivals. Thus, international tourist arrivals increased by + 4% compared to last year in the first half of 2019, reaching 671 million, according to the latest tourism barometer of the United Nations Tourism Organization (UNWTO, 2020).
According to UNWTO, revenue growth is returning to its historical trend and is in line with the organization's forecast of a + 3-4% increase in international tourist arrivals for the entire year 2019 (UNWTO, 2019).
So far, the factors that have determined these results have been a strong economy, affordable air travel, increased air connectivity and improved visa facilitation, according to UNWTO. However, weaker economic indicators, prolonged uncertainty about Brexit, trade and technological tensions and rising geopolitical challenges have begun to affect business and consumer confidence, as reflected in a more cautious UNWTO Confidence Index.
- Statistical data on regions of the globe

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International tourist arrivals in Europe increased + 4% in the first six months of 2019, with a positive first quarter followed by an above average secondary quarter (April increased by + 8% and June + 6%) (UNWTO, 2020). The increase in a higher percentage of the second quarter compared to the first months of the year was due to the Easter holidays, but also reflects the beginning of the summer season.
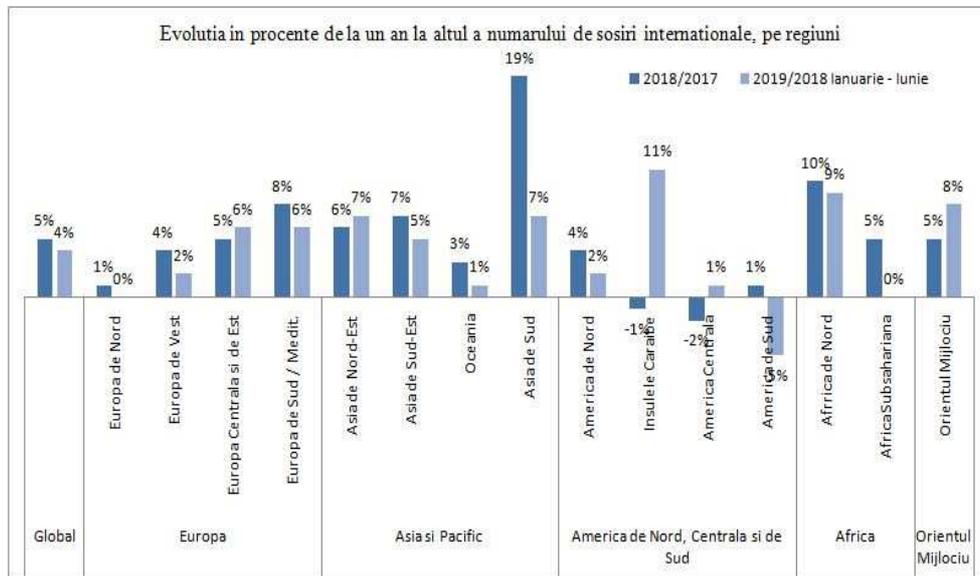
Figure 1: Evolution in percentage from one year to another of the number of international arrivals

Source: Adapted by the author based on data available on UNWTO site

Intraregional demand had an important contribution to the increase in the number of tourists arriving, although the performance between the main European source markets has been uneven, amid weakening economies. Demand from markets in countries such as the USA, China, Japan and the Gulf Cooperation Council (GCC) countries also contributed to the positive results.

The + 6% increase in the number of tourists from Asia and the Pacific was above the world average in the first half and was largely generated by outbound trips from China. The growth was driven by South Asia and Northeast Asia (both + 7%), followed by Southeast Asia (+ 5%), with arrivals in Oceania by + 1%.

In America (+ 2%), results improved in the second quarter after a poor start to the year. The Caribbean (+ 11%) benefited from strong US demand and "continued to rise strongly from the impact of Hurricanes Irma and Maria at the end of 2017, a challenge that the region is unfortunately facing again" (UNWTO, 2020).

North America increased by + 2%, while Central America (+ 1%) showed mixed results. In South America, arrivals fell by -5% in part due to declining outbound travel from Argentina, which affected neighboring destinations.

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In Africa, UNWTO noted that, although there were limited data available, they indicated a + 3% increase in international arrivals. North Africa (+ 9%) continued to show solid results after two years of double-digit growth, while growth in sub-Saharan Africa was flat.

The Middle East (+ 8%) recorded two strong quarters, reflecting a positive winter season, as well as an increase in demand during Ramadan in May and Eid Al-Fitr in June (UNWTO, 2019).

The performances were uneven on the major tourism output markets, according to WTO data (WTO, 2019). Departures of Chinese tourists (+ 14% on trips abroad) continued to lead arrivals to many destinations in the region in the first half of the year. Expenditure on international travel was 4% lower in real terms in the first quarter. WTO noted that trade tensions with the US, as well as the slight depreciation of the yuan, could influence the choice of destination by Chinese travelers in the short term.

Travel out of the US, the second largest spender in the world, remained solid at + 7%. This was backed by a strong dollar. In Europe, spending on international tourism by France (+ 8%) and Italy (+ 7%) was solid, although the United Kingdom (+ 3%) and Germany (+ 2%) reported more moderate figures.
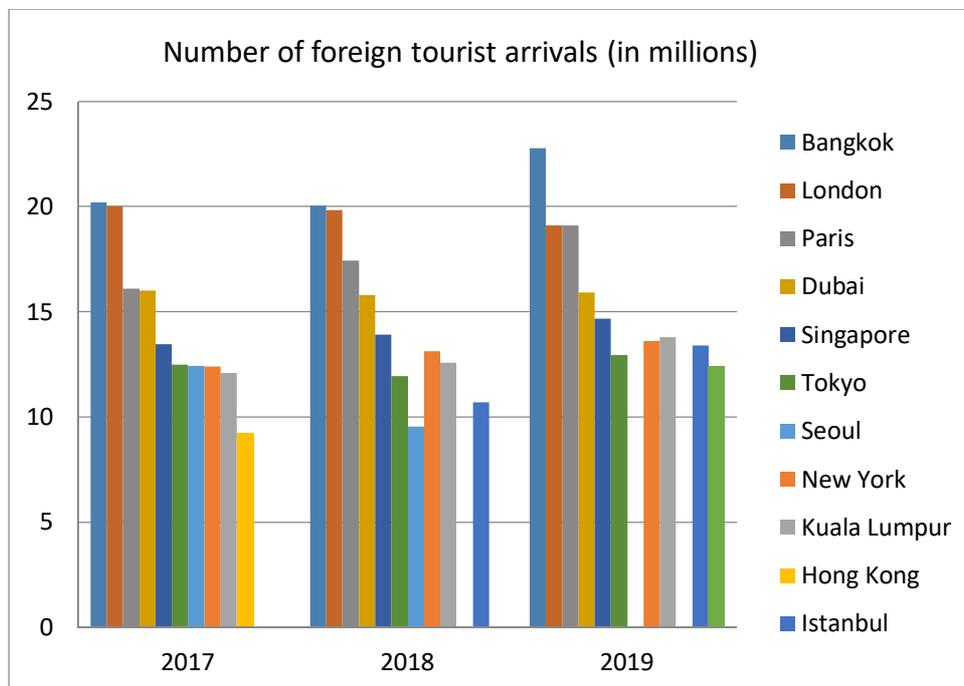
Figure 2: The 10 most visited cities around the world in 2017, 2018, 2019
Source: Adapted by the author based on data available on UNWTO site

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Which are the new trends in tourist behavior? From the chart above we can see that in the top of the most popular tourist destinations remain the "classic" countries in Europe, but also tourism in developing countries has significantly increased, as evidenced by the fact that Bangkok, the capital of a developing country, is the most visited tourist destination in the last three years.

The competitive position of a destination could be explained, through:
• the factor conditions;
• the quality and structure of suppliers forming the destination, as well as the operating network alliances and the related experiences;
• the market and organizational structures, the distribution channels, the strategies and targets; as well as the demand conditions (Porter, 1990).

With the rise of tourism worldwide, the behavior of tourists has changed significantly. If until recently they were oriented according to geographical criteria, today more and more tourists are looking for personalized, unique and experience-based vacations. The tourists have through the modern means of technology countless possibilities regarding the tourist services. Thus, they are better documented which leads to increased demand for quality tourism products, as well as a much wider range of tourist destinations and activities. If in the past tourists wanted the chosen holiday to offer them rest, now their desires are directed towards entertainment, the accumulation of as much information as possible about the place visited, the active participation in what the local culture means. Of course, rest is also an important factor, which is why destinations capable of providing a balance between these elements will attract most tourists. In other words, the focus will shift from passive fun to active learning, and the quality and authenticity of the visitor experience will be crucial to future success in a competitive market (Martin and Mason, 1993).

Thus, more and more tourists are turning their attention to global tourist destinations and not just regional or intra-continental ones. The easier access and at a permissive cost make it possible for migrants to migrate between different parts of the world, without having to have fabulous amounts in their account.

The question is which is the next direction of global tourism. It can be said that the dynamism and authenticity, the novelty, as well as the experience gained after the trip are the following trends. Five factors are considered essential in the new orientation of tourism (Hall and Page, 2000).
1. Political pressure towards a high standard of living
2. Improving macroeconomic policies
3. Increasing trade and investment
4. Technology and internet development

One of the most visible recent developments in this industry has been the growth of international tourism in East Asia. As Page pointed out some time ago (Page, 2001), the old West-East air travel alignment between Southeast Asia and Europe had already been replaced by a North-South axis, due to the growing number of intra-regional tourists from Japan, Korea, Taiwan and, more recently, China, who have transformed the region's tourist landscape. This reality has been recognized in the changing priorities of promotion among many national tourism organizations in the area. While in the past Europe and the United States were the main targets of

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tourists, many of them are now targeting destinations such as Japan, Australia, New Zealand, South Korea, China, Hong Kong and Taiwan.

4. Conclusions

We conclude with the idea that the large-scale development of the Internet determines the intertwining of globalization with localization. Everything that is local becomes global through this process, and this is possible due to new technologies and the accessibility of means of transport. The constant transformation of the local environment is part of the process of globalization.

It cannot be disputed that tourism is a global source of income and employment, so tourism revenue is $ 5800 billion in 2019, accounting for 6.7% of the world's total GDP. However, tourism must be seen not only from an economic point of view, but also as an expression of the local culture.

The complex process of tourism globalization must be understood through in-depth research. This includes analyzing how the global tourism market interacts with state policies, with certain social forms, with the cultural values of states, as well as with the orientations of tourists. However, it can be said that the orientation of tourists determines to a certain extent the trend on which the tourist scene is formed.

The development of technologies and the current orientation of tourists lead to the process of collaboration in tourism.

Tourists are more and more open to new and exotic trips that offer them authenticity and uniqueness. People's behavior has changed a lot lately, and this causes the tourism industry to find new alternatives to classic tourism.

Tourism offers new opportunities for in-depth study of tourist behavior, but more grounded research is needed.

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THE MANDATE AND THE TRUST

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Abstract: *The imperatives of legislative uniformity within the European Union have led states with a tradition of continental civil law to adopt regulations inspired by English legal institutions. Among them, the Anglo-Saxon "trust" was taken over in the form of the so-called "fiducia". This represents a modern technique of patrimony administration, which was widely developed in the Common-Law legal system, and afterwards it spread among the countries which used the European continental law (Italy, the Netherlands, Luxembourg, Spain, France, Russia etc.), in the Middle East (Lebanon), South Africa, Latin America (Colombia) or Japan. In the Romanian civil law, the institution finds its own regulation in art. 773-791 of the new Civil Code, these provisions being elaborated under the obvious influence of the corresponding regulations of the Civil Code of Quebec (art. 1260-1370), respectively the French Civil Code (art. 2011-2030). However, the regulation of the trust by the provisions of the new Civil Code does not stand for an absolute novelty of our legal system, as it had been previously mentioned in the Law no. 51/1995 regarding the organization and exercising of the legal profession, which, in art. 3, mentioned among the attributions of lawyers the accomplishment of "trust activities, developed under the conditions of the Civil Code".The regulation of the trust aligns the Romanian Civil Law with a necessary modernization tendency, the utility of this institution being undeniable especially in the business environment, as well as in the family relations. In order to achieve the necessary dissociation between trust and mandate, one must try to understand the purpose of these legal institutions and the mechanism by which one is sought to achieve it. Thus, the trust, as it was enshrined by the Common Law system, has the following specificity: apparently, there are two holders of the ownership of the same good simultaneously, without being a co-ownership. The trustee holds the "legal title" (he appears as the owner in relation to third parties), whereas the beneficiary holds the "equity title", that is the right of ownership in relation to the trustee. Therefore, the trustee has the status of an "owner for another party's benefit".The problem generated by the specifics of the trust consists in doubling the ownership, which contradicts the principle of indivisibility of the real rights in the civil law. Therefore, the trust was inapplicable as such in the continental legal system, so an attempt was made to adjust this institution in order to be able to integrate it into the civil law system, the result being the trust. Continental law also has a specific character that makes it impossible for the trust to be implemented as such, namely the formalism of the real rights advertising system. In the Anglo-Saxon law, the trust does not need to be disclosed to third parties, in some cases this is even prohibited. In the continental system, especially in France, which was adopted by the Romanian legislator as well, the publicity of the fiduciary relationship is mandatory.*

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Keywords: *trust; mandate; agent; principal; trustee; constituent.*

JEL Classification: *K11; K12; K15; K22.*

The comparison of the trust to the mandate has been made repeatedly, even by legislative provisions. Even the new Romanian Civil Code makes an association of the status of the trustee with that of the agent. For example, 782 paragraph (1) establishes the obligation of the trustee to communicate in relation to third parties the position from which they act, in the same way as the agent usually works on behalf of the principal. Also, to the relations between the trustee and the constitutor, the rules of the administration of the goods of another one are being applied, according to art. 794 of the Civil Code, which operates according to principles close to the mandate (as it results from the interpretation of the art. 802 and 814 of the new Civil Code). Some authors (Howard, 2006: 356-357) have even stated that the mandate is a way of dividing ownership according to the trust model, but with less efficiency and certainty.

We consider that the feature that characterizes these institutions equally is the intuitu personae character: the relations between the parties are based essentialy on trust. However, although they present some common features, there are also obvious differences between the trust and the mandate, which set apart the two legal institutions.

Art. 773 of the Civil Code defines the trust as "the legal operation by which one or more constituents transfer real rights, rights of claim, guarantees or other patrimonial rights or a set of such rights, present or future, to one or more trustees who administrate them for a specific purpose, for the benefit of one or more beneficiaries."

The trust is a way of administrating a mass of goods ("the fiduciary mass") for the benefit of the constituent, of the trustee or of a third beneficiary of the trust. Therefore, the trust is a way of organizing the patrimony, by the effect of which a distinct fiduciary patrimonial mass is being created within the fiduciary patrimony, which the trustee manages in order to achieve the purpose determined by the trust contract. Thus, the trustee will perform the acts of conservation, administration and disposition of the fiduciary mass in the interest of another, within the limits and for the duration established in the trust contract.

The object of the trust is the transfer of certain rights. Therefore, we can distinguish a clear distinction between the mandate and the trust: the mandate gives to the agent a simple power of representation of the principal at the conclusion of the entrusted legal operations, whereas the trustee acquires his own right over the assets of the trust. The trustee is not an agent of either the constituent or the beneficiary, he has his own rights over the assets of the trust. The mandate does not have a translational effect of rights, it does not confer the agent his own rights over the goods that he manages, but on the contrary, he is obliged to give to the principal the goods received under his power of attorney, and, until the moment of remission, to conserve them (art. 2019 of the Civil Code). The trust, as it gives the effect of the transfer of rights to a distinct patrimonial mass, thus presents, in relation

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to the mandate, the disadvantage that it implies the assumption by the constituent of some risks related to the abusive exercise of the prerogatives by the trustee.

In order to approximate the effects of the trust, the mandate should be doubled by a stipulation for another, in order to have the interest of a third party. The trust has the specific character of benefiting a third party, and not the trustee, therefore it resembles the mandate concluded in the interest of a third party. Thus, the role of the principal would be ensured by the constituent, that of the agent by the trustee and the third party would be the beneficiary.

Professional trustees often use the services of specialized agents, with whom they conclude mandate contracts, so that the trust and mandate will coexist within the same complex legal operation (the trustee has his own right, which allows him to give the trustee the power to represent him in the exercise of that right).

The purpose of the trust and the extent of the administrative and dispositional powers of the trustee must be explicitly mentioned in the provisions of the trust contract, under the sanction of its absolute nullity (art. 779 of the Civil Code). From the interpretation of the art. 779 of the Civil Code, which regulates the minimum mandatory content of the trust contract, we understand that the parties enjoy great contractual freedom, which is precisely the attraction of this legal institution. Thus, the purpose of the trust may be freely determined by the contracting parties, and may be used for the management of an asset or patrimony, for the guarantee of a debt or for the transfer of rights.

The legislator however imposes a single limitation on the purpose of the trust, namely that the trust will not achieve an indirect gratification in favour of the beneficiary. This prohibition even represents a condition of validity which is specific to the trust contract, art. 775 of the Civil Code sanctioning its violation with absolute nullity. From the interpretation of this legal regulation, which requires that the trust be onerous not only between the parties, but also in relation to the beneficiary, we deduce that the purpose of this operation can only be to extinguish a present or future debt of the constituent towards the beneficiary, or to create an obligation of the beneficiary, whose creditor will be the constituent. The doctrine (Nemes, 2011:520) expressed the opinion, which we find correct, that future legislation should allow the exploitation of the trust for the benefit of the beneficiary free of charge, especially given that the trust is entrusted, with the exception of notaries and lawyers, to trade professionals, who will exploit it for speculative purposes, thus achieving an administration as efficient and profitable as possible for the beneficiary.

In order to protect the rights of succession, the cited author proposes the solution of the reduction of liberalities, which is preferable to the absolute nullity of the trust contract, especially since the beneficiary collects only the fruits produced by the trust mass, without becoming the holder of the rights that form it.

Regarding the source of this operation, it can be the law or a contract concluded in authentic form (art. 774 paragraph 1 of the Civil Code). Therefore, the trust can be either conventional, deriving from the trust agreement concluded by the constituent and the trustee, or legal; in the latter case, the special provisions of the law establishing the trust will be supplemented by the general regulations of the Civil Code, which is the common law in the matter.

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The incidental regulations regarding the trust are: the trust contract or the special legal provisions from which this operations derives, the general provisions contained in the Civil Code regarding this legal institution (art. 773-791), and, according to art. 794 of the Civil Code, the provisions regarding the administration of another person's property also apply, which represent the common law applicable in all cases of administration of another's property, insofar as the special legal provisions do not contradict.

Trust is a three-party operation, in which the constituent, the trustee (parties of the trust contract) and the beneficiary participate; the latter may not only be one of the contracting parties, but also a third party, in which care they will acquire the due rights as an effect of the stipulation for another that the trust contains.

Any individual or legal person may have the status of constituent of the trust; the trustee, on the other hand, must be a qualified subject for this purpose, namely a credit institution, an investment management company, a financial investment company, an insurance company, a public notary or a lawyer (according to paragraphs 2-3 of the article 776 of the Civil Code).

The trust contract has an onerous character, the trustee being remunerated according to the agreement made with the constituent, or in its absence, according to the rules that govern the administration of another's assets (art. 784 paragraph 2 of the Civil Code).

From a formal point of view, the trust agreement is a solemn contract, the authentic and express form being mandatory. We consider that this solemnity imposed on trust operations represent an important impediment to its practical use, as it involves significant costs, through notary fees whose amount is related to the value of the assets included in the trust patrimony. The legislator also establishes a mandatory content of the trust contract, under the sanction of nullity.

The trust is burdened by an excessive formalism, all the more unnecessary in commercial life, which is meant to remove the possibility of its use for tax evasion purposes. Thus, the contract must be registered (under the sanction of absolute nullity) with the competent fiscal institution (art. 780 paragraph 1 of the Civil Code) and it must be also registered (under the sanction of non-enforceability) in a special register and in the real estate advertising registers for cases when the patrimonial mass contains real estate rights (art. 781 of the Civil Code).

With regard to the effects of the trust, it accomplishes a transfer of rights from the patrimony of the constituent to that of the trustee. Thus, according to art. 773 of the Civil Code, the constituent transfers "real rights, rights of claim, guarantees or other patrimonial rights or a set of such rights, present or future, to one or more trustees."

The main question raised by the trust is related to the nature of the right transferred to the trustee: is this a right of ownership or not?

Art. 773 of the Civil Code provides that the trust transfers the right from the constituent to the trustee, whereas art. 779 stipulates that the parties will determine the extent of the trustee's powers; therefore, the trustee would become owner only within the limits of the prerogatives of administration and disposition established by the constituent and in addition only for a definite period of time. More so, the trustee administrates the fiduciary mass not for his own benefit, but for the accomplishment

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of a purpose which was set by the trust agreement, so he is obliged to give account to the constituent or the beneficiary about the way in which he fulfills his attributions, and these being entitled to request the court the replacement of the trustee, should he not comply with the achievement of the contractual purpose. Therefore, the trustee does not appear as a true owner, as defined by art. 555 paragraph 1 of the Civil Code: " Private property is the right of the holder to own, use and dispose of an asset exclusively, absolutely and perpetually, within the limits established by the law." However, paragraphs 2-3 of art. 556 of the Civil Code show that the exercise of the attributes of the property right may be limited by law or by convention. We consider that the possibility of replacing the trustee cannot in any case be compatible with the quality of owner of the trustee over the goods that are objects of the trust.

The legal doctrine (Rizoiu, 2009: 180-234) even raises the question if the trust does not somehow create a new legal right with a specific legal regime, since the right of the trustee cannot be qualified as a property right in the sense in which it is defined by the Civil Code. As far as we are concerned, we do not consider that a new right arises in the person of the trustee, but that the constituent transfers his own right to him, together with a series of specific obligations, which the cited author describes as "exorbitant".

Correlatively, the question arises as to the legal nature of the beneficiary's right over the goods of the trust mass. The legislator does not establish explicit provisions in this regard. From the interpretation of those regulations concerning the obligations of the trustee, we can deduce that, in relation to the latter, the beneficiary is the holder of correlative rights of claim: he will be able to request the trustee to give an account of the manner in which he fulfills his duties (art. 783 of the Civil Code) and, at the moment of termination of the trust contract, he has the right to acquire the net asset resulting, after the payment of debts, from the patrimonial mass that was the object of the trust (art. 791 paragraph 1 of the Civil Code).

Like an agent, the trustee is obliged to perform the duties entrusted to him by the constituent; he is also required to give an account to the constituent regarding the manner of execution of the trust. The conditions under which the trustee will perform this obligation are provided by the trust agreement. Furthermore, he may also be held accountable periodically to the beneficiary and to the representative of the constituent, at their request. The legislator does not specify exactly what this report will consist of, but it is mainly aimed at informing the entitled persons about the management of the fiduciary patrimony. Therefore, we find that in correlation with the obligation to transfer the rights and to remunerate the trustee, the constituent, as well as the beneficiary, will have the right to verify the way in which the trustee manages the fiduciary patrimony. As a consequence, art. 788 paragraph 1 of the Civil Code states that "if the trustee does not fulfill his obligations or he jeopardizes the interests entrusted to him, the constituent, his representative or the beneficiary may request in court for the replacement of the trustee and the appointment of a temporary administrator of the trust."

The trustee is empowered to manage the trust fund and for the accomplishment of this purpose, he will conclude operations of conservation, administration and the act

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of disposition that are expressly named by the law or the trust contract. He will also carry out material operations which are necessary for the fulfillment of the purpose of the trust.In fulfilling his duties, the trustee, like the remunerated agent, must demonstrate the diligence of a good owner, as he is a paid professional in the performance of his duties.

As to the possibility of the trustee to choose another person to replace him in performing his duties, even though the law does not expressly provides in this matter, we consider that such a possibility exists only if it is expressly conferred by the trust contract, as it is, like the mandate, an intuitu personae agreement.

The trustee will be liable for any damage he may cause in the performance of his duties. Thus, art. 787 of the Civil Code stipulates that " for the damages caused by acts of conservation or administration of the fiduciary patrimonial mass, the trustee is liable only with his other patrimonial rights." Therefore, the fiduciary mass does not identify as the trustee's own patrimony, the legislator explicitly stipulating this distinction in art. 773 of the Civil Code, namely that the rights transferred to the trustee by the constituent "constitute an autonomous patrimonial mass, distinct from the other rights and obligations of the trustees' patrimonies." From this, we can deduce that the trustee has the obligation to keep the goods thet are objects of the trust separately from his own personal assets or from those which are objects of other trust contracts; such an obligation also falls on the agent under the art. 2019 of the Civil Code, as he must take care not to confuse his property or that of other principals' with that of his principal. However, unlike the agent, the trustee exercises his own right over the assets of the trust fund, which is distinct from the right of the beneficiary. The separation of the patrimonial masses only has the purpose of facilitating the transfer of goods to the beneficiary, in case of termination of the trust.

In carrying out the acts required by the trust, the trustee is obliged, like the agent working on behalf of his principal, to denounce to third parties the quality in which he acts, as he does not acquire the quality of rightful owner of the trust fund, but is obliged to work in the interest of the beneficiaries indicated in the trust agreement.

However, according to art. 784 paragraph 1 of the Civil Code, in relations with third parties, the trustee is considered to have full rights over the fiduciary mass, he acting as the sole holder of the rights that were transferred to him by the constituent, except for those cases in which it can be proven that the third parties were aware of the limitation of these powers. This means that the legal acts concluded by the trustee in the management of the trust fund produce legal effects exclusively between the trustee and the contracting third parties. The provisions regarding the trust do not admit a direct legal complaint of the constituent against the contracting third party, nor of the third party against the constituent. However, art. 786 of the Civil Code provides that the assets of the trust fund may be claimed by the holders of the rights of claim arising in connection with those assets or by the creditors of the constituent who have a real guarantee over his assets, which had been made opposable prior to the establishment of the trust.

The transfer of real rights and rights of claim to the trustee is not final, the duration of the trust being a maximum of 33 years, and at the expiration of its term or when the trustee is replaced, he will be obliged to return the fiduciary patrimonial mass to

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the beneficiary or, in his absence, to the constituent or to the new trustee, in the case of his replacement. The refund of the fiduciary mass is conditioned by the payment of all fiduciary debts. Therefore, the trustee will first have to liquidate the fiduciary liability from the resources lying in the assets and only afterwards he will transfer the remaining assets to the beneficiary or, in his absence, to the constituent. In order to achieve this purpose, he will also have to pursue the claims belonging to the trust fund towards third party debtors.

According to art. 789 of the Civil Code, the trust contract can be terminated unilaterally by the constituent only as long as it has not yet been accepted by the beneficiary. After it has been accepted by the beneficiary, the constituent may terminate the contract only with the consent of the beneficiary or with the authorization of the court. The beneficiary, in turn can renounce the trust, and if all the beneficiaries renounce, the contract will be terminated, if it does not mention the way to continue the trust relations. Therefore, the trust contract being irrevocable from the moment of its acceptance by the beneficiary, according to art. 789 paragraph 2 of the Civil Code, it could take the place of a mandate declared irrevocable by the parties. This function could be performed more successfully by the trust contract, as long as this type of contract is essentially revocable, the insertion of an express irrevocability clause not having the effect of depriving the principal of his right to terminate the contract at any time, as enshrined in art. 2031 paragraph 1 of the Civil Code. Moreover, since the trust may involve not only two, but even three participants in the operation, it could take the place not only of a mandate in common interest, but also that of a mandate in the interest of a third party. An author (Rizoiu, 2009) even states that once the trust has been established, it is no longer necessary to use the mandate in common interest, or the mandate in the interest of a third party, and the whole discussion about its revocability is no longer needed, since the trust is irrevocable and more flexible than the mandate. The main shortcoming of the mandate in relation to the trust is that the mandate, even when declared by the parties "irrevocable", does not transfer to the agent the power to conclude the legal acts for which he was appointed, but only doubles this power, the principal being entitled to conclude these acts himself. The constituent will not be able to do the same, as he has transferred the ownership of the right to the trustee, together with the prerogatives of the right; the constituent allows the trustee to act as the rightful owner of the transferred right (including the conclusion of disposition acts), without having the need of a special mandate for that.

In order for the legal institution of the trust to be successfully applied, we believe that a clearer regulation of the rights of the trustee is needed, since his legal status is uncertain, as it is to some extent dependant on the mandate: he must declare the quality in which he acts towards third party contractors, its managing activity being at the same time regulated as the typical mandate (art. 792 and seq. Of the Civil Code). At the same time, we believe that this institution will truly become useful for the commercial life when, freed from the formalism that characterizes it presently, it will be able to align with the desideratum of efficiency and speed of the business relations. For this purpose, a harmonization of the provisions governing it with other normative acts in force is required, such as the Law no. 31/1990 regarding the

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commercial companies, Law no. 297/2004 of the capital market and Law 85/2014 regarding the procedures to prevent insolvency and of the insolvency.

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FACTOR INFLUENCING MSMES PERFORMANCE MEASUREMENT - A LITERATURE REVIEW

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Abstract: *MSME is a significant determinant of economic growth, has an enormous contribution to national GDP, and help in creating jobs, and also played a critical role in a time of economic crisis. MSMEs is demanded to be able to compete in marketing their business. The writing of this article tries to explain how to measure performance in MSMEs with the size and assessment of existing performance. This study uses a literature research approach with secondary data collected through books, research reports, scientific journals, official agency documentation such as the Indonesian Central Statistics Agency. The empowerment of MSMEs becomes very strategic because of its high potential in driving the economic activities, and at the same time, becoming the source of income for most people in improving their welfare. The creation and development of local business that create jobs and potential economic opportunities are essential for the rural economy. The region can gain competitiveness and, in turn, can increase the local income and employment. The benefits of performance appraisal can be felt by the owner with a measure of business success that can be seen from the increased level of sales, increased capital, increasing the number of workers, increased levels of income and profits, and sales or a wider market. The evaluation of MSME's performance is carried out on the internal and external parties of MSMEs. Thus, the MSME's performance will be known from inside and outside MSME in order to achieve a successful business and be able to compete in national and international markets.*

Keywords: *Internal factors; external factors; MSMEs performance.*

JEL Classification: *F01; M21.*

1. Introduction

Indonesia is a country with abundant natural gifts. Indonesia consists of 17,504 islands with a total land area of 1.9 million km2, which 27 percent (0.54 million km2) is freshwater. Coastlines around 81,000 kilometres and seawater area are 7.9 million km2. The area (1.3 percent of the earth's land area), has biodiversity includes 11 percent of the world's plant species, 10 percent of mammalian species, and 16 percent of bird species. It is the second largest of biological diversity after Brazil. Indonesia has 109.96 million hectares of forest area, classified as the richest in biodiversity in the world. The land suitable and available for agriculture is 100.8 million hectares, but only 68.8 million hectares utilized. Marine fish is around 6.26

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million tons per year, with an allowable catch of 5.01 million tons per year (Indonesian Statistic, 2017). The potential for energy and mineral resources is also huge, makes Indonesia beautiful fantastic blessed with abundant natural wealth.

The large economy makes Indonesia become a member of the G20 countries. According to IMF 2019, Indonesia is the 7th highest-ranking country in terms of GDP. This is one of the reasons why Indonesia is no longer categorized as a developing country by the USA government. United States Trade Representative (USTR) at the World Trade Agency (WTO) since mid-February 2020, eliminating Indonesia as a developing country. However, Indonesia is still far from developed countries in terms of several parameters to measure a developed country. Human development parameters, such as poverty rate, infant mortality, adult literacy, and life expectancy, are still low in Indonesia. Inferring from the Human Development Index (HDI), education in Indonesia is still low, with the majority of the population equivalent to junior high. From the agriculture sector, the majority of farmers in Indonesia still use conventional methods, differ from developed countries, have already used high technology, and even based on Industry 4.0. The World Bank recorded Indonesia's Gross National Income (GNI) in 2018, which is 3,840 USD that far below the minimum limit of 12,235 USD. According to World Bank data, Indonesia is not in the category of high-income countries or developed countries.

On the other hand, the trade war between the US and China made a negative impact on other countries including Indonesia (Kim, 2019; Adekola, 2019; Nwoke, 2020). For instance, in the automotive industry in Indonesia, imported parts from several countries in the world, such as from Costa Rica, Romania, Thailand, and dozens of other countries. Imported parts from those countries, 20% of them are from China. The current global 2020 pandemic has delayed production in China (Ozili and Arun, 2020), resulting in those countries failed to provide to Indonesia. To survive, China will use its USD as a tool against the US. China uses it to invest in Indonesia as Foreign Direct Investment, with one objective is to generate more USD. To encounter this situation, USTR revokes Indonesia from the developing country list, which will get an exemption from the Generalized System of Preferences (GSP) incentives from the US for Indonesia (Nwoke, 2020). Revocation of Indonesia from the list of developing countries, making export products Indonesia to the US will have difficulty competing with other developing countries, such as Vietnam. This situation makes China no longer want to invest in Indonesia, and at the same time, the US prefers to invest in other countries such as Vietnam and India.

To address the various problems above, the Indonesian Government makes every effort to maintain economic growth by cooperating with other countries such as Hungary (Ministry Of Foreign Affairs Of The Republic Of Indonesia, 2020). The cooperation between Indonesia and Hungary that has been implemented is a clean water project that has been implemented in 36 locations in 12 provinces in Indonesia. Another collaboration is a scholarship program provided by the Hungarian Government for 100 Indonesian students. The Hungarian Government is also committed to simplifying the visa process for Indonesian citizens. Hungary and Indonesia also establish agreement related to sports, training of Indonesian soccer players in Hungary. Hungary also offers cooperation in building hospitals that focus

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on cancer therapy and oncology, as well as developing military hospitals and joint investment for infrastructure.

The two countries need to explore cooperation to increase investment in addition to the development of water treatment has been completed. Information technology and start-up are a necessary collaboration between these two countries. The majority of Indonesian products exported to Hungary are office/printing machines, coffee, cocoa, and rubber. According to the Indonesian Trade Ministry (2020) in Sirha Budapest 2020 event, during the January-September 2019 period, the total trade between Indonesia and Hungary reached USD 120.97 million. This value consisted of Indonesian exports to Hungary of USD 57.10 million, up 8.08 percent compared to the previous year, and the value of Indonesia's imports from Hungary at USD 63.87 million. In 2018, Indonesia was Hungary's trading partner in the 47th rank, with a 0.1 percent share. To enhance collaboration in trade and investment, the Indonesian Trade Ministry expects facilities ease of access from the Hungarian Government for Indonesian exporters and Indonesian investors in Hungary. This is very important because Hungary's strategic location to connect Central and Eastern Europe, making Hungary a vital market and entry point for Indonesian products in Europe. Vice versa, Indonesia also has the advantage and potential to become the entrance for western countries in the ASEAN market. During this time, Indonesian and Hungarian Trade is constrained by transportation and logistics because of the geographical conditions between the two countries. There are no direct flights from Indonesia to Hungary. The majority of export-import activities are carried out by the sea.

Furthermore, the Indonesian government also established bilateral relations with objectives that Indonesia can produce dollars in the form of the trade so that it can benefit both parties. In the context of international trade, the comparative advantage play an essential role (Abbas, and Waheed, 2017). Besides the quality and lower-cost production, the exported products have to be unique. This type of product is suitable for small business in Indonesia. The advantage of a small business is a large workforce, local skilled crafts, and abundant natural resources. Local entrepreneurs have special abilities that have been passed down for generations in producing a local handicraft. A local product is created because of the abundant resources in the area used by the people from generation to generation so that it can produce a good quality domestic product and low production costs (Tambunan, 2009).

2. Importance to Measure the MSMEs Performance

Small business is a significant determinant of economic growth (Bello, Jibir, and Ahmed, 2018). It has an enormous contribution to national GDP, and help in creating jobs (Arunagiri, Kalaippiriya, Krishna, Vithya, and Kalaivani, 2015). MSMEs also played a critical role in a time of economic crisis as these enterprises are the ones least affected and can endure even when a national crisis occurred (Trinugroho, Agusman, and Tarazi, 2014). In 2008 when the big companies, especially in the financial services sector across the globe, are struggling to survive. On the other

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hand, the small businesses in Indonesia kept growing in number at 2.37% on average from 2007-2010 (Green, 2004). There is no doubt that small business performance is crucial for the Indonesian economic development, especially when Indonesian facing the ASEAN free trade agreement or ASEAN Economic Community (AEC)

Although there is still high volatility in its performance, small businesses offer a potential source of growth for the economy, especially in the suburban area (Dixit and Pandey, 2011). Most of the small businesses in the suburban area are divided into MSME. Kindangen, Tumiwa, and Sepang (2019) found that MSMEs play a significant role in local Indonesian economic performance, especially in North Sulawesi. The creation and development of local enterprises that create jobs and potential economic opportunities are essential for the rural economy. The region can gain competitiveness and, in turn, can increase the local income and employment. Flora and Johnson (1991) observed that in rural areas, micro and small enterprises are the most rapid segment to grow and as an essential source of new employment opportunities through expansion. Miller (1991) states that, in a suburban area, micro and small enterprises are growing more rapidly, and have better-surviving rate than big enterprises or companies.

3. MSMEs in Rural Area

The empowerment of MSMEs in Indonesia, especially in rural areas, is one of the priorities in national economic development. The development of this UMKM can expand the economic base more broadly and can make a significant contribution to accelerating structural changes and will improve the regional economy and national economic resilience (Westhead, Ucbasaran, and Binks, 2004).

Most of the land in North Sulawesi is the rural area with the potential for natural wealth is quite abundant: the sea is rich, the soil is fertile, and nature is beautiful. Soil fertility is clearly seen in coconut, clove, and nutmeg plants, as a traditional commodity for this area. Rice and pulses also easily grow and fertile. Abundant natural wealth has not been utilized well enough. The number and extent of land that which not cultivated can be seen easily across the province. Old coconut gardens were not rejuvenated, many clove gardens were left unattended - especially since the clove prices plummeted in 1998. Agricultural potential, including livestock and fisheries potential in this area, is far from optimal utilization, even though the need for agricultural products remains high or even higher because of the increasing population (Tumiwa and Nagy, in press).

To emphasize the potential abundant agricultural sources, MSMEs in North Sulawesi need to develop their performance (Al-Bakri and Katsioloudes, 2015). There are several factors influencing MSME performance as follow: political, social, land availability, technological, infrastructural, marketing, financial, management, and entrepreneurship factor (Eze, Olatunji, Chinedu-Eze, and Bello, 2018; Glas, and Eßig, 2018 Kovács & Nábrádi, 2020). Human capital or Individual is the main factor in determining performance. A competent entrepreneur can build a business that can sustain for a long time, as well as the employee (Man, Man, Lau, and Chan, 2002).

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Employees with a higher degree of education or training often represent a competitive advantage for the MSMEs. In the current globalization era, the MSMEs is demanded to be able to compete in marketing their business. The empowerment of MSMEs becomes very strategic because of its high potential in driving the economic activities, and at the same time, becoming the source of income for most people in improving their welfare (Karadag, 2016). MSMEs are obligated to make changes to improve their competitiveness (Man, et al., 2002).

4. Literature review

The specific, accurate measurement of MSME's performance have not existed because generally, previous researchers focus on variables where information is easily obtained. There is no consensus regarding the performance measurement at the MSME level. The Balance scorecard is one of the several methods frequently used to measure business performance (Kaplan & Norton, 2001). Unfortunately, the BSC method is not the best fit for MSMEs, which is their conditions are considerably different from big companies. This opinion is supported by Gumbus & Lussier (2006), stated that the BSC model could not be applied as it is; there should be some adjustments in the dimensions and measurements of this model to apply for MSMEs. Business performance measurement frequently uses the dimensions defined by BSC. However, there is one dimension that is rarely measured, which is from the entrepreneurial performance aspect that is attached to the MSME. The MSME characteristic where the owner is also a manager makes it impossible to separate the business performance from the entrepreneurial performance (Wu, 2009).

Previous researches use performance measures based on manager/owner perceptions to anticipate the unavailability of business performance data (Covin & Slevin, 1989). Research could use subjective measures where the sample consists of a variety of small and medium businesses that have different performance measurement objectives and criteria. Chandler and Hanks (1999) and Dess and Robinson (1994) show a close correlation between subjective and objective performance measures. MSME researches chose subjective measurements of performance for the following reasons:

- Previous researchers identified that subjective measurements are consistent with objective measurements and have a high level of reliability and validity (Dess and Robinson, 1994).
- MSMEs are often very careful, and maintaining business financial data information actively, makes subjective performance information data is much easier to obtain rather than financial statements.
- MSME financial data are often absent or incomplete reported. Even if available, most are difficult to interpret because the purpose of making financial statements is different from general (Covin and Slevin, 1989; Tumiwa and Tuegeh, 2019).

Dess, Lumpkin, and Covin (1997) state that the interaction/relationship between entrepreneurial orientation and strategy has a positive effect on business performance. Miller and Friesen (1984) suggest that companies with entrepreneurial

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orientation are more innovating in product markets, dare to run risky businesses, and start proactive innovations. Lee and Tsang's (2001) research results show that entrepreneurship orientation has a positive effect on business growth and performance.

Several previous studies shown that to measure the performance of MSMEs, there are several related factors, which are internal and external factors(David & Kovács, 2020; Madai, Bittner, David, Kovács, Nagy & Nábrádi, 2020). Initial capital, the availability of credit, product mix, and demand, as well as age, level of education, and ethnicity of the entrepreneur, are related to the growth of the company (in labor changes). In contrast, Crijns and Ooghi (2000) revealed that each stage of company growth is the result of two internal and external environments. Critical external factors that influence company growth are industry and markets, competing companies, and the economic climate, while internal factors that are very important for company growth are: small entrepreneurs as managers, companies as organizations, ownership, or ownership structures.

Zhang (2001) argues that there are two main preconditions for the small businesses' growth, which are the company's ability to maintain long-term survival and the ability of managers to overcome management obstacles. Concerning environmental aspects, Wilkinson (2002) states that MSMEs will grow if the regulatory environment/policy supports, the macroeconomic environment is well managed, stable and predictable, information that can be trusted and easily accessed, and the social environment encourages and appreciates the success of the business.

Manager/owner characteristics, company characteristics, external business environment, and the impact of economic and social policies have a direct, positive, and significant influence on business strategy and business growth. Arieftiara, Utama, Wardhani, and Rahayu (2019) argue that the impact of social and economic policies have a direct negative effect on business strategy. Based on the various literature that has been presented and the existence of previous empirical studies and previous research, it can be concluded that there are factors that can affect the performance of MSMEs, including:

1) Internal factors, consisting of:

- Human resources (HR): Those are the owner of UMKM, labor, intellectual capital (IC), spiritual leadership, the leadership style of the UMKM owner (Na Nan, Pukkeeree, and Chaiprasit, 2020; Iyortsuun, Goyit, and Dakung, 2020; Diaz-Villavicencio, 2020; Raharjo, 2019).
- Natural resources: the advantages possessed as MSME business resources, local knowledge, and skill passed from family generation to generation (Basco and Calabrò, 2016; Raharjo, 2019; Lee, 2008)
- Source of funds (financial): financing, capital or loan funds (credit) (Tumiwa and Tuegeh, 2019; Mahmood and Mohd Rosli,2013; Abe, Troilo, and Batsaikhan, 2015; Anwar, Nidar, Komara, and Layyinaturrobaniyah, 2019)
- Products: the quality of products produced, product innovation (Najib, and Kiminami, 2011)
- Marketing: the marketing strategy (Gilmore, Carson, and Grant, 2001; Al Badi, 2019)

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- Facilities owned (Battistoni et al, 2013; Kuswantoro et al, 2012; Fatimah et al, 2013; Hosseininia and Ramezani, 2016; Kindangen, Tumiwa, and Sepang, 2019)
- Location/place (Battistoni et al, 2013; Kuswantoro et al, 2012; Fatimah et al, 2013; Hosseininia and Ramezani, 2016; Kindangen, Tumiwa, and Sepang, 2019)
- Profit level (Kindangen, Tumiwa, and Sepang, 2019)

2) External factors, consisting of:

- Information Technology (Cimini, Boffelli, Lagorio, Kalchschmidt, and Pinto, 2020; Wang and Wang, 2020; Okundaye, Fan, and Dwyer, 2019; Najib and Kiminami, 2011))
- Global market (Ho, 2019)
- Government through economic policies (Cancino et al, 2015; Hadiyati, 2015; Karanja et al, 2013; Kamaunge et al, 2014; Papzan et al, 2008; Sidek and Mahamad, 2014)
- Customers (Gilmore et al., 2001; Al Badi, 2019., Nábrádi and Kovács, 2020)
- Competitor (Nohong, Sanusi, Nurqamar, and Harun, 2018).
- Supplier (Pablo and London, 2020; Lee, 2008; Nábrádi & Kovács, 2020),
- Social, economic, and cultural conditions (Paruntu and Tumiwa, 2016)
- The influence of other institutions such as the university, non-profit oriented organization, and others (Paruntu and Tumiwa, 2016).

The MSMEs performance can be measured by several indicators of the evaluation of the success of MSME performance, which is reflected in the following (Anton et al, 2015; Barth et al, 2017; Battistoni et al, 2013; Bayaraa, Tarnoczi, and Fenyves, 2019; Beley and Bhatarkar, 2013; Clarke,et al. 2009; Fenyves-Tarnóczi, 2020; Hadiyati, 2015; Karanja et al, 2013; Lans et al, 2013; Sidek and Mahamad, 2014):

- Increased sales growth/sales turnover
- Increased capital / financial growth rates
- High rates of growth in the workforce
- Broad market growth rates
- The rate of profit growth continues to increase

5. Conclusion

From the literature review, it can be seen that internal and external factors can influence the performance of MSMEs. The performance of MSMEs can be measured by the success of MSMEs indicator, which is an increase in sales, an increase in business capital, an increase in income and operating profit, as well as an increase in the labor used, and a market expansion.

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SUSTAINABLE BUSINESS PRACTICES AND CORPORATE PERFORMANCE: EVIDENCE FROM OIL AND GAS INDUSTRY

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Abstract: *Recently more companies focus on developing and implementing socially responsible strategies and policies to reduce the negative impacts on society, economy, and environment. The oil and gas industry is one of the most harmful industry on the environment. Therefore, we decided to study some of the companies operating in this industry in the United Kingdom, where the extraction of petroleum and natural gas is significant for the economy. Lately, more of these companies try to promote their activities as sustainable and as environmentally friendly as possible. Oil and gas companies started to report annually their sustainability performance and their actions in managing climate, environmental, and social impacts as well as the opportunities for undertaking sustainable actions. Moreover, they seem to pay more attention to human resource policies, promoting an inclusive culture, with no differences in gender, ethnicity, or disabilities. Nowadays, based on gender quotas within board members, the corporate performance faced some downturns, as companies seem to appoint the wrong board members to conform to the countries regulations or recommendations: increase the number of women in the board for quota-setting for women in leadership roles. Our analysis is focused on financial data (ROA, profit margin, taxes paid) as well as on information available in the annual reports and sustainability reports (Greenhouse Gas Emissions - CO2 Equivalent, number of male and female board members) of six companies. The database overviews the period 2006-2014. The descriptive analysis highlights a decreased trend of corporate performance along with the compositions of the board in oil and gas companies operating in the UK and a reduced level of gas emissions. Based on the regression models employed we underlined the importance that variables related to sustainable practices have on profitability. According to the main results, in terms of governance, oil and gas companies register higher performance when their boards have fewer members. In terms of gas emissions, lower levels would increase performance, although in our case the companies still impact the environment with high levels of GHC emissions. Finally, in terms of taxation, these companies have the potential to develop a country, as these taxes can cover important public expenditures.*

Keywords: *performance; gas emissions; sustainability; UK; oil and gas industry.*

JEL Classification: *Q5; L25.*

1. Introduction

The global oil and gas industry association for advancing environmental and social performance (IPIECA) with the American Petroleum Institute (API) and the International Association of Oil and Gas Producers (IOGP) introduced in 2005 "The Guidance" to help companies from oil and gas industry, to report on sustainability performance, referring to the economic, social, and environmental challenges (ESG). Over time, more oil and gas companies started to publish their sustainability reports to evidence the sustainability aspects addressed by their activities. Based on The Guidance (IPIECA, 2020), there are six topics developed to achieve sustainability: (1) Reporting Process, (2) Governance and Business Ethics, (3) Climate Change and Energy, (4) Environment, (5) Safety, Health and Security, and (6) Social. By 2020, four editions of the "Sustainability reporting guidance for the oil and gas industry" (or The Guidance report) were realised by IPIECA, in partnership with API and IOGP, and they are focused on helping companies to report sustainability performance and their actions in managing climate, environmental and social impacts as well as the opportunities for undertaking sustainable actions.

According to the information available on the IPIECA website, the key benefits for sustainability reporting are related to increasing the environmental and social performance of operations by enhancing for companies which activities can be improved and those that are successful, increasing the stakeholders' confidence in business performance, and adding business value by managing potential risks and taking advantage of business opportunities. Overall, the main scope of the Guidance is to encourage oil and gas companies to declare their solutions on reducing carbon emissions and protect the environment as an example of good practices.

The relationship between sustainability and performance has been frequently studied over the last decade. Therefore, sustainability reporting carries an increasing significance in this context, with relevance for the economic, societal, and political point of view. This paper aims to investigate how important sustainability policies and sustainability reporting are and the extent to which they impact the performance of the oil and gas companies. The paper also tries to demonstrate whether or not sustainability should be viewed as a compulsory criterion for oil and gas companies, turning sustainability reporting into a mandatory aspect in all countries.

2. Sustainability challenges in oil and gas industry

According to British Petroleum (2019) the energy demand will increase by 30% by 2040, and the need for oil and gas will continue its increase over the next decade. Even though the focus is currently on green energy and renewables, oil and gas will still count for half of the market in 2040. Therefore, regardless of global warming and environmental problems, the oil and gas industry is far from its downturn. The current situation and previous periods with low oil prices bring a major pressure on

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oil and gas companies which have to minimise their costs mainly by reducing production and their human resource. For countries with a developed oil and gas industry, a decrease in oil price affects the economy due to increased unemployment, a limit in supplying access to energy, and a deficit in public revenues as long as the substantial taxes paid by the companies are affected by low profits. Nowadays, the debate over climate change is one of the main problems in society. Being under government pressure or under the pressure of international laws and regulations, oil and gas companies face a series of challenges in their activities due to environmental concerns and crises. As a consequence, the companies in the oil and gas industry now focus on reducing the costs of production of hydrocarbon resources, complying with environmental laws and social responsibilities. In the process of implementing sustainable policies, companies must change the conventional ways of extraction. Normally, the production of crude oil, refining, and transportation is associated with high temperatures from the resources reservoirs, production of hydrocarbon, and pollution (Mojarad et al., 2018). Significant gas emissions are due to flaring, venting and drills management activities realised by the oil and gas companies, but these companies also produce a large waste of water and sometimes cause spills that immediately endanger the environment.

3. Data and methodology

To test the impact of sustainable practices on corporate performance, we approach the three factors of sustainability, i.e. environmental, economic, and social. We will further discuss the importance of each one and present the data collected to capture these three factors in terms of oil and gas companies.

The environmental aspect of sustainability regards the fact that companies and citizens should be more aware of the consumption of natural resources, considering the material scarcity, and the damage produced by the extraction of these materials. Production activities in the oil and gas industry produce a large volume of greenhouse gas emissions. These may be evaluated through CO_2 equivalent and methane emissions. In our analysis we employ the Total Greenhouse Gas (GHG) Emissions - CO2 Equivalent (noted "GasEmiss") declared by oil and gas companies in their Sustainability reports.

The economic concept of sustainability refers to countries and businesses and how responsibly they operate and how sustainable their profits or development are. In terms of business, our analysis is focused on the profits oil and gas companies register and also on how effective their operational activities are, employing return on assets (ROA) and profit margin (PrMg) as response variables. The analysis also contains taxes paid by the oil and gas companies (Tax), illustrating on one side the profits registered through the income tax paid, while for the countries in which businesses operate, it reflects public revenues which should be spent on economic development.

For the third factor, the social aspect of sustainability, we consider the number of male and female members in the board of directors (noted "NoMaleBoD" and "NoFemaleBoD"). As the social concept of sustainability observes the ability to

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obtain good social wellbeing which can be maintained over the long term, we refer in our analysis to the corporate governance policy which promotes gender equality for board diversity.

Our database is consisting of six companies operating in the oil and gas industry in the United Kingdom, namely: Royal Dutch Shell, Conocophillips, Esso Exploration and Production, Suncor Energy, and Premier Oil. The period analysed is 2006-2014, and the indicators were collected from the Amadeus database and the Sustainability reports published by the companies on their websites.

The analysis will start with a description of the evolution of the variables considered, observing their trends over the 2006-2014 period. Then, several regression models will be exploited to observe whether or not there is a statistically significant impact from the sustainability factors (GHC emissions, taxes, male board members, and female board members) towards the performance of the companies (ROA, profit margin).

We start our regression analysis by observing the sustainability impact on performance indicators. Sustainability will be considered from the three aspects, environmental, economic, and social, and then the models will be changed to observe whether or not the influences or their statistical significance change. Depending on the dependent variable observed (ROA or profit margin), the basic regression models considered are the following:

$$ROA_{it} / PrMg_{it} = \alpha_i + \beta_1 \, GasEmiss_{it} + \beta_2 \, Tax_{it} + \beta_3 \, NoMaleBoD_{it} + \varepsilon_{it}, \qquad (1)$$

$$ROA_{it} / PrMg_{it} = \alpha_i + \beta_1 \, GasEmiss_{it} + \beta_2 \, Tax_{it} + \beta_3 \, NoFemaleBoD_{it} + \varepsilon_{it}, \qquad (2)$$

where α_i represents the unknown intercept of every company (i is one of the six companies operating in the extraction of petroleum and natural gas industry, i=1..6), t (t=2006..2014) is the year analysed, the βs are the coefficients for every independent variable, and ε_{it} is the error term.

Based on the trends observed between the dependent and independent variables, we will also employ non-linear regression models, mainly quadratic regressions where we consider the squared values of the independent variables in order to evidence the statistical significance of the non-linear relationship with the performance indicators. More specifically, the new models will have the following form:

$$ROA_{it} / PrMg_{it} = \alpha_i + \beta_1 \, GasEmiss_{it} + \beta_2 \, GasEmiss_{it}^2 + \beta_3 \, Tax_{it} + \beta_4 \, Tax_{it}^2 + + \beta_5 \, NoMaleBoD_{it} + \varepsilon_{it}, \qquad (3)$$

$$ROA_{it} / PrMg_{it} = \alpha_i + \beta_1 \, GasEmiss_{it} + \beta_2 \, GasEmiss_{it}^2 + \beta_3 \, Tax_{it} + \beta_4 \, Tax_{it}^2 + + \beta_5 \, NoFemaleBoD_{it} + \varepsilon_{it}, \qquad (4)$$

Ultimately, we apply two non-linear regression models considering only the level of gas emissions (with the simple and squared variables) and the taxes paid (with the simple and squared variables) as independent variables in order to check the results robustness:

$$ROA_{it} / PrMg_{it} = \alpha_i + \beta_1 \, GasEmiss_{it} + \beta_2 \, GasEmiss_{it}^2 + \varepsilon_{it}, \qquad (5)$$

$$ROA_{it} / PrMg_{it} = \alpha_i + \beta_1 \, Tax_{it} + \beta_2 \, Tax_{it}^2 + \varepsilon_{it}, \qquad (6)$$

We mention that the models consider either the number of male board members or the number of female board members because these two are complementary and therefore the variables NoMaleBoD and NoFemaleBoD are strongly correlated.

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4. Results

This section will start by describing the evolution of the analysed variables by observing their trend over the nine years. Then, a correlation matrix between each pair of variables will be presented followed by the regression results exemplified in a comparison between the linear and non-linear models applied.

4.1. Descriptive analysis
From the first figure, we can observe that over the period analysed, the economic performance of the oil and gas companies was quite volatile. Besides, overall, it decreased for all the companies except for Suncor Energy.
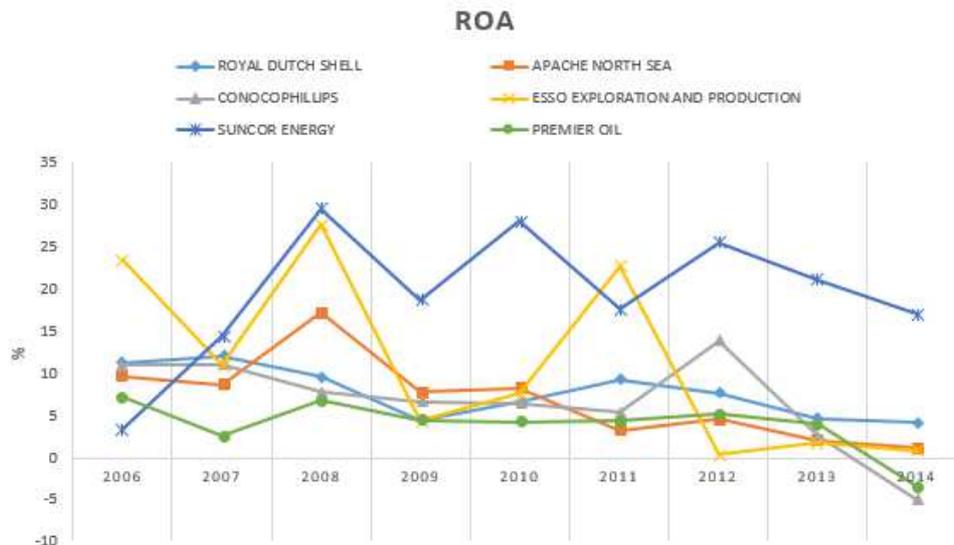
Figure 1: The evolution of ROA registered by oil and gas companies in 2006-2014

In terms of the profit margin presented in figure 2, which presents a similar trend to ROA, Suncor Energy is once again the only company with an increase in the profitability indicator from 2006 until 2014. From the companies analysed, Conocophillips, Premier Oil, and Esso Exploration and Production faced a loss over the last year analysed; from these companies, Esso Exploration and Production registered a profit from operational activities, with a positive return on assets.

The trend of the taxes paid is presented in the third figure, based on the variable calculated as the natural logarithm of the amount of taxes in euro. We chose to illustrate them like this to reduce the differences in their levels: some companies (e.g. Royal Dutch Shell) pay millions of euros as tax, while others pay several dozen thousand of euros (e.g. Premier Oil). Overall, we observe again a decrease in the

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taxes paid by the oil and gas companies, which may also be reflected by the decrease in profits.
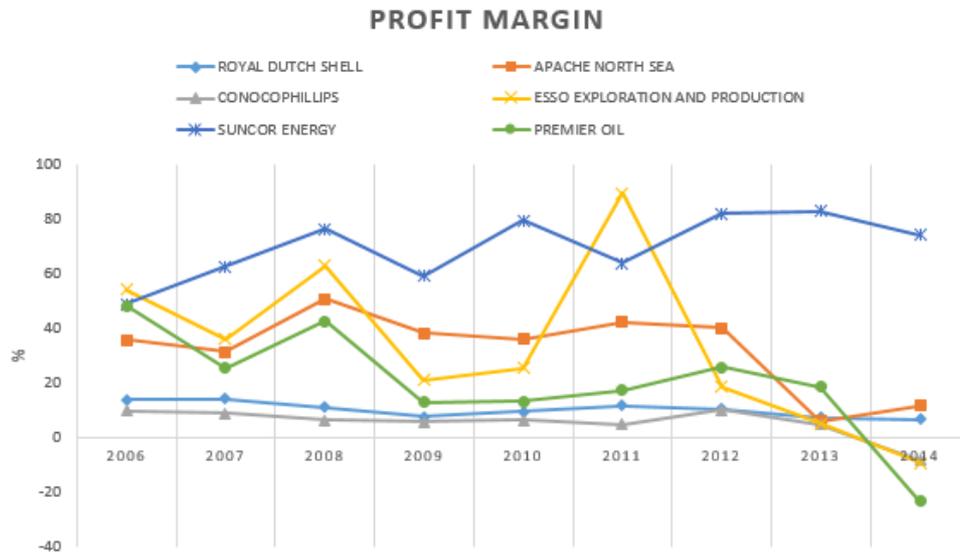
Figure 2: The evolution of Profit margin registered by oil and gas companies in 2006-2014
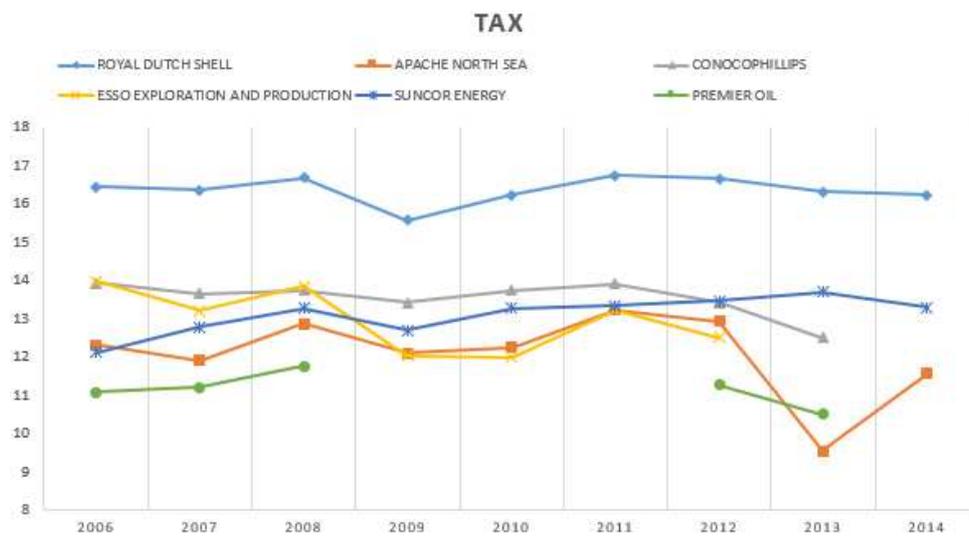
Figure 3: The evolution of taxes paid by oil and gas companies in 2006-2014

From the graph illustrating taxes we observe that some of the trend lines are interrupted. This is the case for companies that registered negative taxes and

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therefore we could not obtain a natural logarithm for these values. Considering that oil and gas companies are usually group companies, they can register positive income at the end of a fiscal year, but at the same time zero tax or tax refunds, by taking advantage of tax breaks in the tax system of the country where the mother company is established.

In figure 4 we observe the least volatile variable from this analysis.
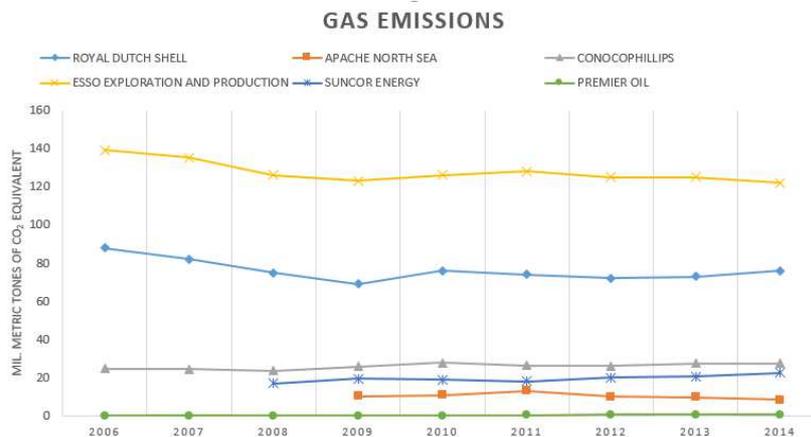
Figure 4: The evolution of GHG Emissions - CO2 equivalent produced by oil and gas companies in 2006-2014

The highest level of gas emissions is realised by Esso Exploration and Production (an average of 127 million metric tons of CO_2) and Royal Dutch Shell (an average of 76 million metric tons of CO_2), while the lowest level of gas emissions was achieved by Premier Oil, which is the smallest companies from all these six (with less than 1000 employees, compared to 94000 or 75000 employees in Royal Dutch Shell and Esso Exploration and Production respectively). All these numbers underline that the level of gas emissions for Esso Exploration and Production is a lot higher than that from Royal Dutch Shell, although its human resource employed is a lot lower.

4.2. Regression analysis
We expect linear and non-linear relationships as we realised plots between the independent variables and performance indicators (ROA and PrMg) evidencing the parabolas through the quadratic best fit line option in Stata. In figure 5 we observe the non-linear relationship between ROA (left side of the figure) and profit margin (right side of the figure) and gas emissions and taxes. The statistical significance of these relationships will be tested through regression analysis.
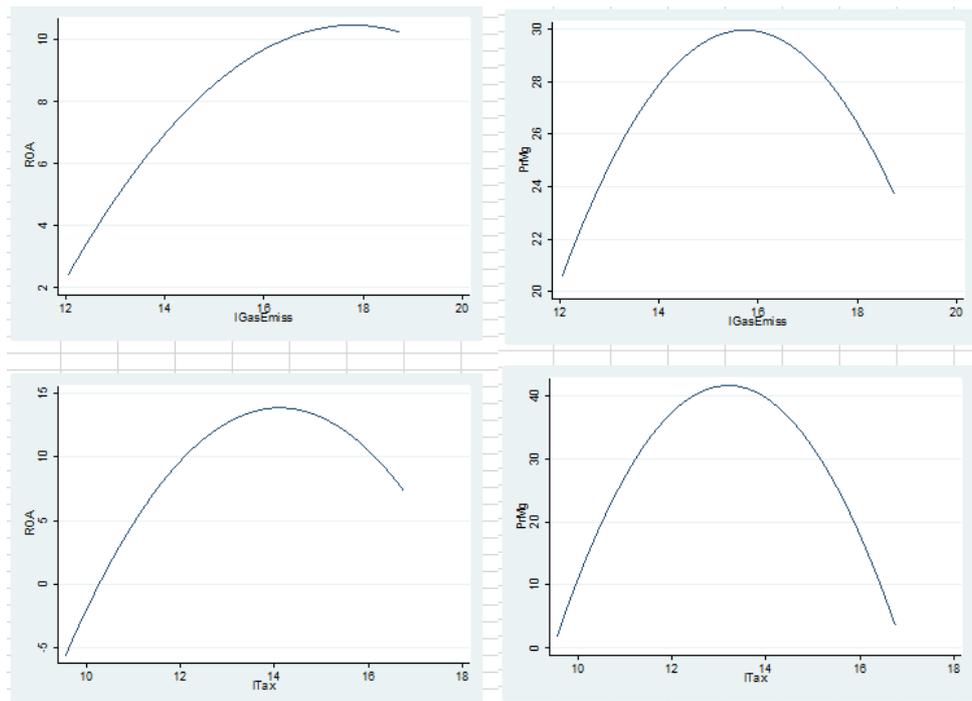
Figure 5: Expected relationships between the dependent variables and gas emissions and taxes

Results from the regression models observing the variance of return on assets are included in the first table. All these models evidence a negative influence from the number of board members, but the number of women seems to influence ROA to a greater extent, as the regression coefficient is higher than the coefficient associated with men in boards. All regression coefficients for the number of men and women board members are statistically significant.

The level of gas emissions has an indirect impact on economic performance but a low statistical significance. The non-linear regressions (models 3-6) also evidence a negative effect on ROA and a positive one from the squared variable of gas emissions. Based on the statistics in our database, three companies (Royal Dutch Shell, Conocophillips, Esso Exploration and Production) which are part of the Supermajors or Big Oil companies, produce gas emissions with values higher than 17. According to the non-linear graph, the economic performance of these big companies is affected by the large values of CO_2 emissions. However, for smaller oil and gas companies, with lower levels of gas emissions, the asset performance might not be affected. However, the relevance of the fifth model considering only the variables GasEmiss and GasEmmiss^2 for explaining ROA was not confirmed as the F-test was not statistically significant and the R-squared is below 1%.

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In terms of statistical significance, taxes have more influence on ROA. They have a positive impact on ROA up to value 14 (which is approximately 1.2 million euros). From the companies observed, only Royal Dutch Shell paid annual taxes higher than this over the period 2006-2014 (an average annual tax of 13 million euros). Therefore, for most companies observed, taxes have a direct relationship with economic performance.

Table 1: Results of regression models with ROA as dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)
lGasEmiss	-2.239**	-0.915	-6.202	-9.274	-8.707	
	(0.940)	(0.961)	(8.621)	(9.403)	(9.995)	
lGasEmiss^2			0.130	0.256	0.245	
			(0.272)	(0.296)	(0.320)	
lTax	4.554***	2.183**	11.802	21.651***		26.430***
	(1.102)	(0.978)	(8.025)	(7.851)		(7.543)
lTax^2			-0.275	-0.705**		-0.936***
			(0.302)	(0.283)		(0.273)
MaleBofD	-0.542***		-0.495***			
	(0.103)		(0.122)			
FemaleBofD		-0.885***		-0.809***		
		(0.242)		(0.243)		
Constant	-3.014	2.494	-21.240	-62.705	-66.997	-172.65***
	(9.490)	(11.043)	(81.054)	(82.959)	(76.817)	(51.546)
F test	10.61***	5.48***	6.38***	4.97***	1.98	6.47***
R-squared	0.456	0.302	0.47	0.408	0.079	0.227

*** $p<0.01$, ** $p<0.05$, * $p<0.1$; standard errors in parentheses
Source: author's calculations in Stata

The second table includes the results from the regression models observing the variance of profit margin. Linear models indicate that gas emissions have a negative influence on profit margin. Results from the non-linear regressions (models 3-6) also evidence the negative influence on ROA and a positive one from the squared variable of gas emissions. Compared to the analysis of ROA, in the models explaining the variance in profit margin, all GasEmiss coefficients are statistically significant, except for those from the model considering only two explanatory variables: GasEmiss and GasEmmiss^2. In this case, the F-test is not statistically significant and the R-squared is lower than 1%.
Taxes have more influence on profit margin than on ROA, as regression coefficients are higher. Taxes also have a direct impact on the profit margin for companies that pay up to 1 million euros as annual taxes.
The models explaining the variance in profit margin also indicate a statistically significant negative impact from the number of board members. Once again, coefficients are higher for women in boards (double compared to the coefficients for

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the men in boards), indicating a higher influence on profit margin than on ROA, as their values are higher than in the previous models explaining ROA.

Table 2: Results of regression models with Profit margin as dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)
lGasEmiss	-13.30***	-8.76***	-50.12**	-70.71***	-21.76	
	(2.19)	(2.44)	(19.39)	(21.24)	(34.41)	
lGasEmiss^2			1.17*	1.93***	0.69	
			(0.61)	(0.67)	(1.10)	
lTax	16.02***	7.06***	21.60	67.61***		79.45***
	(2.57)	(2.48)	(18.05)	(17.74)		(24.89)
lTax^2			-0.20	-2.18***		-3.01***
			(0.68)	(0.64)		(0.90)
MaleBofD	-2.35***		-2.40***			
	(0.24)		(0.27)			
FemaleBofD		-4.36***		-4.40***		
		(0.61)		(0.55)		
Constant	83.15***	112.92***	330.23*	189.41	-141.28	-482.44***
	(22.11)	(28.02)	(182.27)	(187.40)	(264.44)	(170.09)
F test	34.74***	18.48***	22.49***	19.16***	1.98	6.47***
R-squared	0.73	0.59	0.76	0.73	0.079	0.227

*** $p<0.01$, ** $p<0.05$, * $p<0.1$; standard errors in parentheses
Source: author's calculations in Stata

5. Conclusions

Our analysis evidences a few ideas for increasing corporate performance based on the environmental, economic and social aspects of sustainability. First of all, gas emissions should be reduced worldwide, especially by big oil and gas companies. Considering that in 2016 the petroleum and natural gas industry was responsible for approximately 56% of the CO_2 emissions worldwide (U.S. Energy Information Administration in Lu et al., 2019), GHG reduction measures became a target for all the companies operating in this industry and extremely important in terms of corporate sustainability. For example, the Royal Dutch Shell, which from the six companies analysed has extremely high levels of gas emissions, is currently targeting a 2%-3% drop in GHG emissions per year to achieve a reduction of 20% by 2035 (Bloomberg, 2020).

Our results emphasise that the level of taxes paid by oil and gas companies is directly linked to both the financial and economic performance of the companies. Besides, some companies, such as Conocophillips (2020), are lobbying for a carbon pricing mechanism implemented by the governments which gradually increases carbon fees. This way, GHG emissions would form the basis of taxation, constraining companies to reduce their emissions. Overall, taxes paid by oil and gas

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companies increase the public revenues of a country sustaining its economic development, which strengthens the idea that taxation of profits but also taxes related to environmental protection can bring sustainable economic development in countries with a developed oil industry.

Finally, related to the social aspect of sustainability, more countries tend to adopt gender quotas in corporate governance by promoting women as board members. However, for the companies analysed, all results indicate that boards should be kept at minimum members and more women in board tend to decrease even more the performance of oil and gas companies.

Future research should extend the database and consider several countries, analysing the sustainability policies implemented by companies in different industries, and their operational activities according to national regulations.

6. Acknowledgements

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SECTION: *FINANCE, BANKING, ACCOUNTING AND AUDIT*

STOCK MARKET PERFORMANCE ANALYSIS OF PHARMACEUTICAL, IT AND AUTOMOTIVE COMPANIES FROM POLAND

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Abstract: *The pharmaceutical, IT and automotive sectors were chosen for the analysis based on their continuous growth and intense development in the Polish regions during the recent years. Performance represent the key element to stay on the market, therefore, evaluating performance is of high importance for the management, shareholders and trading partners. The study focuses on analyzing the financial statements and the evolution between years 2009 and 2018 of the companies from the mentioned sector listed on the Warsaw Stock Exchange (WSE). Performance was analyzed using the main stock market indicators such as Return on Assets, Return on Equity and Price to Earnings Ratio, considered significant for the study in order to generate conclusions for the decision makers. The study has reached its objectives by providing significant information regarding the performance, evolution and ranking of the analyzed companies, facilitating future investment decisions.*

Keywords: *Warsaw Stock Exchange; stock market performance; pharmaceutical; IT; automotive; stock market indicators.*

JEL Classification: *L10; L62; L65; L86.*

1. Introduction

The Warsaw Stock Exchange (WSE) is the largest stock exchange of financial instruments in Central and Eastern Europe (CEE) and one of the most recognized Polish financial institutions. Located in Warsaw, Poland, the WSE began trading on April 16, 1991. It operates markets in stocks and bonds of nearly five hundred domestic and international issuers. It also trades in derivatives (futures, options, index units) and structured instruments and operates a commodity market including one of the most liquid electricity markets in Europe.

On September 22, 2018, the FTSE Russell and STOXX index agencies reclassified the Polish capital market to Developed Market status. Poland was the first country in the last decade to be promoted from the Emerging Market status, joining the 25 advanced global economies, a list which includes the US, UK, Germany, France, Japan and Australia, obtaining the enviable title of the fastest growing in the group.

The upgrade of Poland to developed market status represents an acknowledgement of the progress of the Polish economy and capital markets. Poland has all the features of a developed market, including secure trading and post-trade services, as well as advanced infrastructure.

Poland is currently the 6th largest economy in the European Union and is a modern diversified economy. It has been assigned a stable and favorable outlook by S&P

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(Standard & Poor's Global Rating) for this reason as well as its highly educated workforce, manageable levels of public/private debt and continuous increase in tax collection efficiency. Ranked 38th in the annual IMD World Competitiveness Rankings in 2019, Poland has positioned itself as a fast growing and secure investment market.

According to the reports published on the Warsaw Stock Exchange website, the capitalization for 2019 was 259 million euros, and according to the statistical data published by the Federation of European Securities Exchanges (FESE), the turnover for 2019 was 44,9 billion euros.

2. Literature review

Profitability represents the economic justification of the existence and sustainability of any company. Finance specialists agree that capital maximization, represented by the equity value, is the main objective for which the management must strive to achieve. (Besley, Brigham, 2008).

The authors M. Achim and S. Borlea (2012), define the concept of performance from the point of view of the existing links between the company and the stakeholders. Therefore, these two authors consider performance as the ability of the company to create added value for stakeholders, to meet the demands of consumers and employees, and more recently the concern for protecting the environment.

Managers have a decisive influence on the development and performance of companies, but their actions should serve the interests of shareholders. (Ardeleanu Popa Carmen, Cârmaciu Diana, 2009). The financing option, meaning the choice between internal and external sources, is considered one of the most important decisions, with a direct impact on the performance. (Zeitun & Tian, 2007).

The companies' performance and the complex activity of the stock market are expressed through a system of indicators which quantify quantitatively and qualitatively the number of transactions and the impact of the supply and demand of the financial instruments. These indicators serve an important role to the investors, their evolution being taken into account in the investment process. (Sabău-Popa C. D., Zăpodeanu D., 2008).

The profit and performance of the company wins customers' trust (Neacşu, 2015).

Company performance can be measured by profitability rates, such as ROA and ROE. (Delcea, Cotfas Bradea, Scarlat, Mărăcine, 2013).

Deari and Dincă (2015) have analyzed the financial performance of 40 selected Romanian companies for the 2009-2013 period. They found that the companies with higher current to total assets ratio have higher assets turnover and return on assets.

Jatoi (2014) analyzed the relationship between earnings per share and the evolution of share prices for 13 cement companies listed on the Karachi Stock Exchange for the period 2009-2013. The study included the market price of shares as a dependent variable, and earnings per share and return on assets as independent variables. The results led to the following conclusion: earnings per share has a significant impact on the market value of the shares for the companies analyzed.

The correlations between the opportunities of making investments, the source of financing and the dividend distribution policy are analyzed by Abor and Bokpin

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(2010). Authors note the major influence of investments over the results sharing policy. Companies with a high potential for investment will distribute dividends in a small proportion, motivating the retention of resources for further development.

3. Study objectives and methodology

The study's objective is to analyze performance achieved by the companies listed on the Warsaw Stock Exchange (WSE) in the pharmaceutical, IT and automotive sector, in order to establish the correlation between the financial performance and the stock market performance of these companies.

The efficient functioning of capital markets represents the foundation for the development of modern economy. Stock markets play a crucial role in the allocation of capital and its transformation from savings to financing of new investment initiatives, thus creating added value.

Based on the annual reports published for the period 2009-2018, the performance of the companies was analyzed by calculating a series of indicators. The results were compiled and compared in order to determine the evolution of each company.

4. Data analysis and discussion of results

For listed companies on the capital market, besides the traditional and modern performance indicators, there are also stock market indicators. Their role is to define the position of the company on the capital market.

I have chosen to analyze the companies from the pharmaceutical, IT and automotive sectors due to their intense development in recent years. According to articles published on the website of the Ministry of Entrepreneurship and Technology of Poland, major car manufacturers such as GM, Ford and Volkswagen are active in the automotive sector together with manufacturers of components or subassemblies. The analyzed companies from the automotive sector are: AC, British Automotive Holding, Debica, Intercars and Sanok Rubber Company.

As for the IT sector, ICT companies in western and northern Europe have ranked Poland as the "number one" destination in the CEE region, in terms of research and development projects mainly run by international software companies. The analyzed companies from the IT sector are: Ailleron, Asseco Business Solutions, Asseco Poland, Asseco South Eastern Europe, Atende, Betacom, Comarch and Comp.

Regarding the pharmaceutical sector, innovative companies are constantly extending their operations in Poland, by transferring or setting up medicine-producing branches. Also, the domestic companies are continuously developing their industrial operations, the key factors being the competitive manufacturing costs. The analyzed companies from the pharmaceutical sector are: Bioton, Celon Pharma, KRKA, Master Pharm, Pharmena, Cormay and Sopharma.

4.1. The turnover and the rate of financial stabilty

An indicator that measures the performance of companies, used as a criterion for ranking them in terms of their economic importance is the turnover. The turnover represents the value of sales made over a period of time by an entity.

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Despite the large differences in value, the turnover showed an upward trend for all the pharmaceutical companies analyzed, which indicates an increasing demand on the market for the offered products. The highest values were registered by KRKA (1.010 mil € for 2018), followed by Sopharma (605 mil € for 2018), then by Bioton which showed big differences in turnover value over the years, continuously rising and dropping (92,1 mil € in 2017, 56 mil € in 2018). A major factor was the dissolution of the contract for the production and distribution of insulin on the Chinese market.
The turnover for the IT sector has shown an upward trend for all companies, which denotes a growing demand on the market for the products and services offered. Biggest values were registered by Asseco Poland (2.173 mil € in 2018), Comarch (319 mil € in 2018), Comp (158 mil € in 2018) and Asseco SEE (156 mil € in 2018). For the automotive sector, the turnover has also shown an upward trend for all companies. The highest values were registered by Intercars (1.850 mil € for 2018), Debica (450 mil € for 2018) and Sanok Rubber Company (238 mil € for 2018).
Regarding the financial stability ratio, almost all the companies in the pharmaceutical field have registered values over the recommended 50%. Bioton registered 39% in 2018 and Pharmena recorded values below the 50% limit starting with the year 2016. For the IT sector, the company with values below the recommended minimum is Atende, registering 39% in 2018. In the automotive field, British is the only one with values below the 50% limit, registering 40% in 2018.

4.2. The WIG index

For the following indicators, I will also take into account the evolution of the representative index for the Polish stock market, the WIG index. The index tracks the performance of all domestic companies (investment funds are excluded) listed on the main market of the WSE. The evolution of the index for the analyzed period is presented in the following figure:
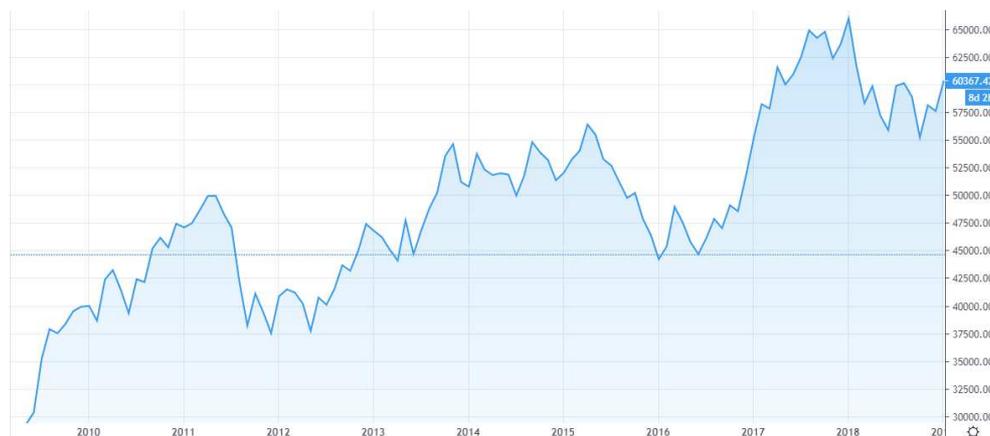
Figure 1: *WIG index between the years 2009-2018 (in PLN currency)*
Source: https://www.tradingview.com/symbols/GPW-WIG/

The WIG stock market index has shown an upward trend during the presented years. However, decreases can be seen in 2011, 2016 and 2018. According to an article published on the Polish financial site strefainwestorow.pl (16.09.2019), the decrease occurred in 2011 was due to the PIIGS crisis (Portugal, Italy, Ireland, Greece and Spain) and the one in 2015 was caused by the annexation of Crimea to Russia. The reasons for the 2018 drop were mainly internal issues related to the crisis of confidence around the private IFIs caused by Getback.

4.3. Return on assets (ROA)

ROA is an indicator that shows how profitable a company is in relation to its total assets. ROA gives an manager, investor or analyst an idea of how efficient a company management is when using its assets to generate profit. Higher ROA indicates greater asset efficiency.

For the pharmaceutical companies, the evolution of the return on assets is presented in comparison with the evolution of the WIG index in the following figure:
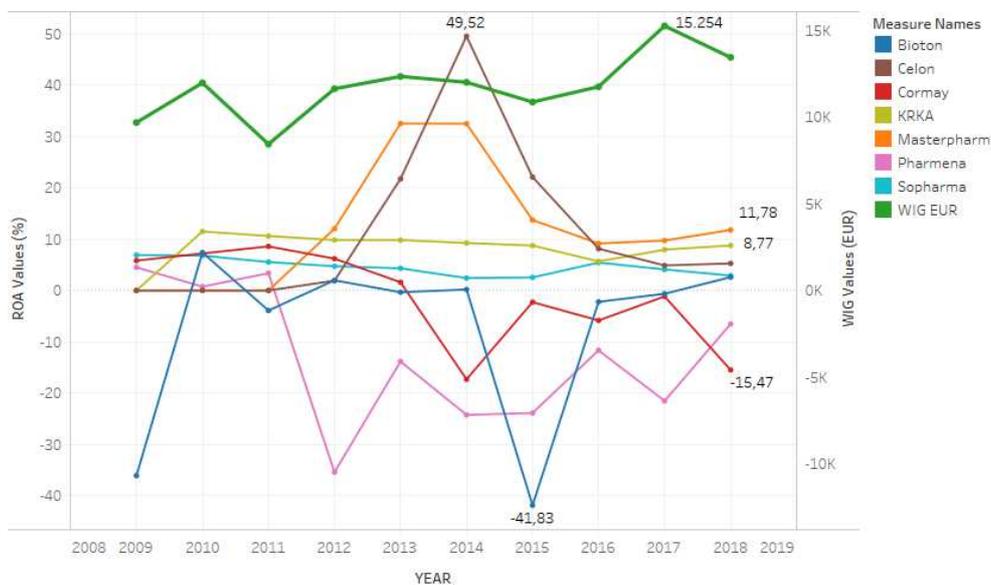
Figure 2: *The ROA of the producers of pharmaceutical products listed on WSE (%)*
Source*:* Authors' elaboration based on data from the WSE website

For the companies that registered profit, ROA's trend was close to the WIG indicator's trend. The large companies such as KRKA and Sopharma had a steady trend with values close from year to year. The peak from 2014 for Celon Pharma is due to the sale of a package of shares which generated and additional and generous profit. According to the yearly reports, the incresed profit from 2014 for Master Pharm comes from the sale of product licenses. In the case of Cormay, the negative result for 2018 comes from the reevaluation of the development expenses. Pharmena

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mentions in its report from 2017 that the losses come from the increased competition in the dermatocosmetic market but also by the launch of new products.

For the companies in the IT sector, the evolution of ROA is presented in figure number 3 below. In this case, the trend of ROA does follow the trend of the WIG index for companies such as Ailleron, Betacom and Comp. The highest values were registered by Asseco Business Solutions followd by Asseco South Eastern Europe. Out of the 3 Asseco companies, Business Solutions had the lowest turnover but the bigget ROA. Ailleron could have ranked on second place but due to investments in the construction of the international infrastructure in order to consolidate a global position, it registered a lower profit in 2018. Both Asseco SEE and Asseco Poland have had a relatively constant trend, with values close from year to year.

The lowest ROA value in 2018 was registered by Comarch, which although made a smaller profit in 2018 due to significant investments in new and existing IT products, has consolidated its position as one of the fastest growing employers in the IT sector.
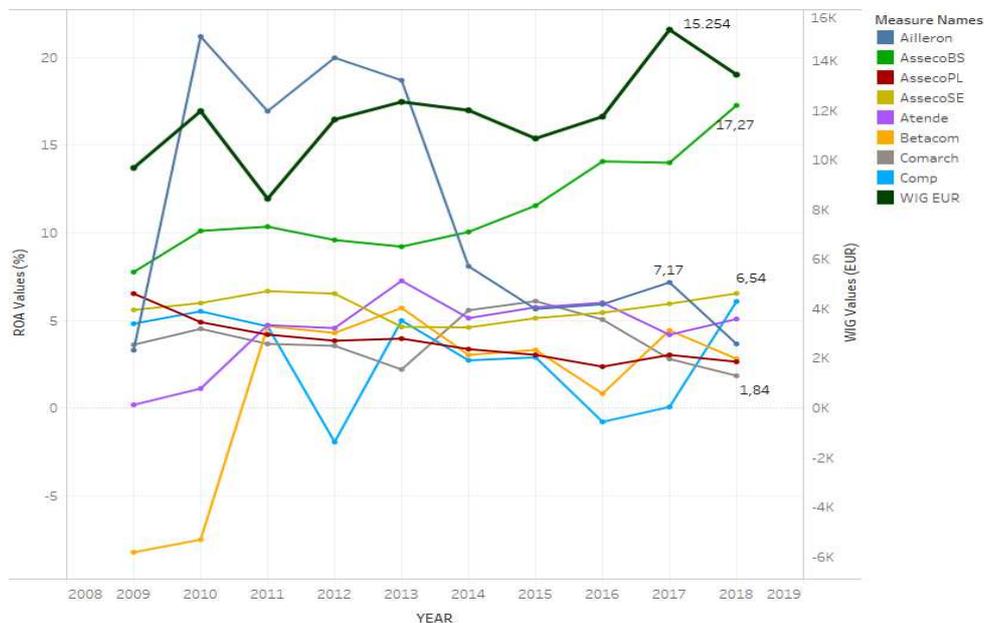
Figure 3: *The return on assets of the IT companies listed on WSE (%)*
Source*: Authors' elaboration based on data from the WSE website*

In the case of the automotive field, the trend of the return on assets closely follows the trend of the WIG index for most of the analyzed companies. The highest values were registered by AC each year, specialized in the sale of gas installations for cars. For 2018 it is specified in the reports that sales grew from exporting, but also domestically because of the record growth of imported used vehicles in Poland.

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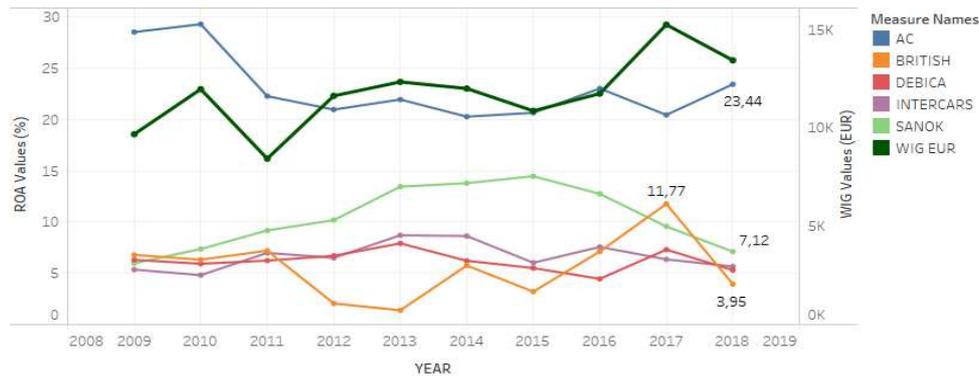
Figure 4: *The return on assets of the automotive companies listed on WSE (%)*
Source*:* Authors' elaboration based on data from the WSE website

On second place we have Sanok Rubber Company, which specifies in the reports that the reduced profit is due to the increase in costs with raw material and also costs with salaries. For British Automotive Holding, the key event of 2018 was the dissolution of the import agreement with the manufacturer, Jaguar Land Rover, British being the general importer of the group in Poland. The large companies like Inter Cars, being the largest distributor of spare parts for cars and Debica, being a manufacturer of tires had similar trends with no big oscillations during the years.

4.4. Return on equity (ROE)
Another indicator that expresses the ability of an economic entity to generate profit is the return on equity (ROE*).* ROE is a measure of financial performance calculated by dividing net income by shareholders' equity. The higher the return on equity is, the more financial resources the company has at its disposal (Vasilache, 2009).
For the pharmaceutical companies, the evolution of the return on equity is presented in comparison with the evolution of the WIG index in the following figure:

Comparing ROA's evolution to ROE's evolution, we can see that all the companies have had the same trends in both cases, obviously with different values because of the equity difference. In this case, ROE's trends differs even more from the WIG index trend, implicitly it did not have a direct influence on the evolution of the results of the companies.
For the IT companies, the evolution of ROE is presented in figure number 6 below. The only major difference regarding the ROE is in the case of Atende, which ranked on second place since 2014, showing an upward trend. In 2018 the decrease of profit comes from lower sales in the telecommunications and media sectors. In this sector aswell, ROE's trends differs even more from the WIG index trend.

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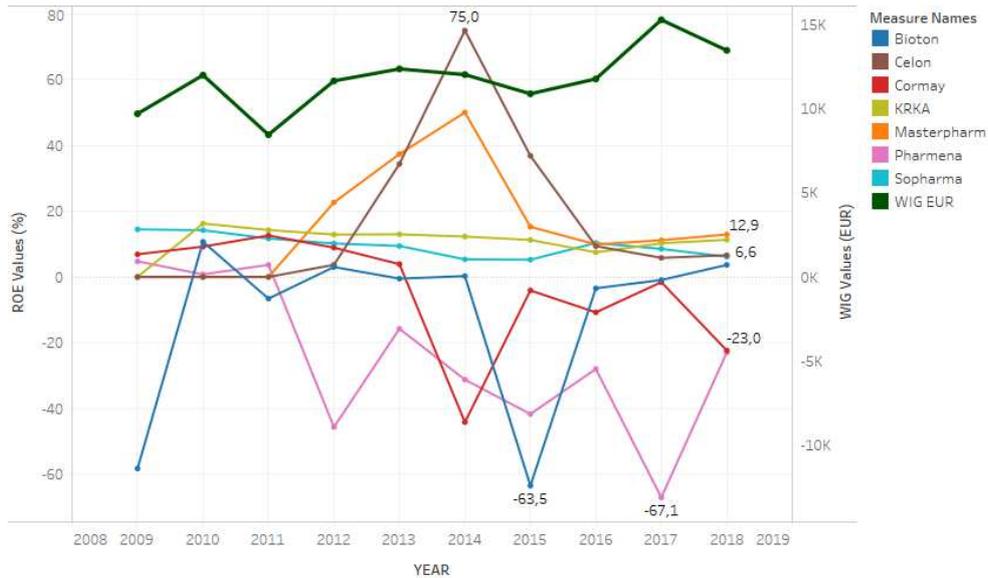
Figure 5: *The ROE of the producers of pharmaceutical products listed on WSE (%)*
Source*:* Authors' elaboration based on data from the WSE website
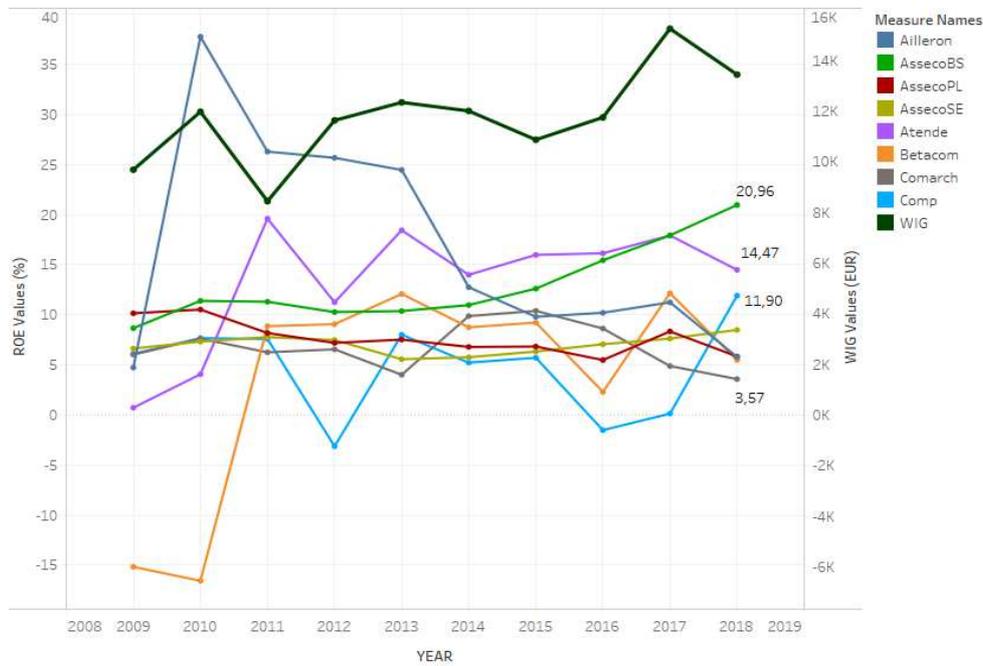
Figure 6: *The return on equity of the IT companies listed on WSE (%)*
Source*:* Authors' elaboration based on data from the WSE website

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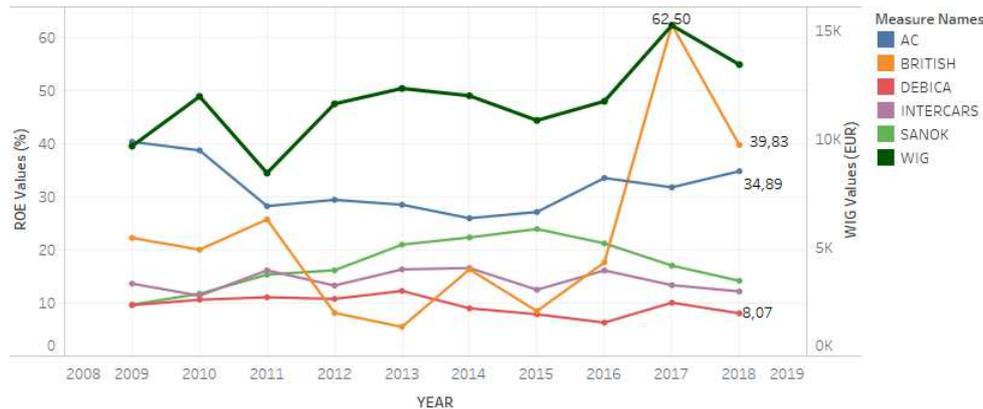
Figure 7: *The return on equity of the automotive companies listed on WSE (%)*
Source*:* Authors' elaboration based on data from the WSE website

Companies from the automotive sector had a trend of ROE very similar to the ROA evolution, except for British Automotive Holding, which registered much higher values. The spike from 2017, according to the report from that year, comes from the increase by 20% in the volume of car sales in the importer segment, result somewhat in vain due to the dissolution of the import agreement with the manufacturer. All analyzed companies show a downward trend for 2018, except for AC which has registered an increase.

4.5. Price to Earnings ratio (PER)
Price-to-Earnings Ratio (PER) is the ratio for valuing a company that measures its current share price relative to its EPS (earnings per share). A high PER could mean that a company's stock is over-valued, or the investors are expecting high growth rates. A low PER can indicate either that a company may currently be undervalued or that the company is doing exceptionally well relative to its past trends.

For the pharma sector, I decided to exclude Cormay and Pharmena because they registered losses in the last 5 years. Biomed and Bioton registered a loss in some years, then in the following year PER had big values which denotes that the companies are overvalued. KRKA and Sopharma are definitely doing well taking into account the turnover and the profit. Celon and Masterpharm had close values.

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Figure 8: *The PER of the producers of pharmaceutical products listed on WSE*
Source*:* Authors' elaboration based on data from the WSE website
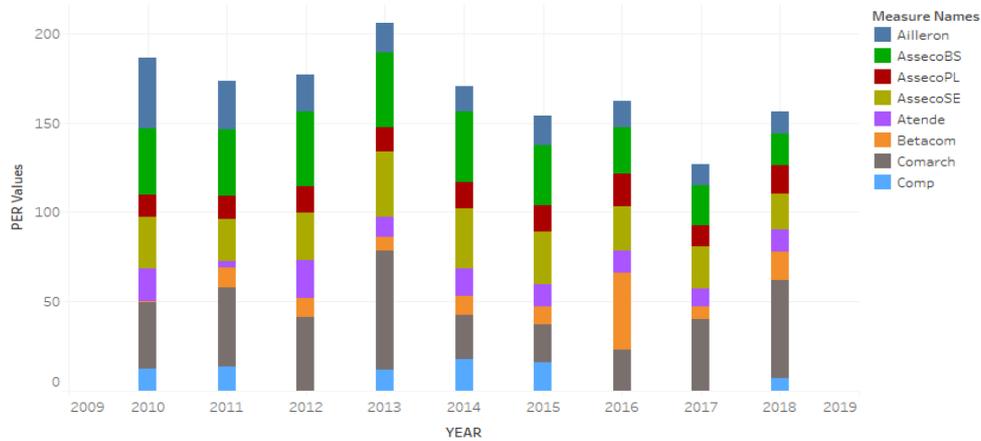
Figure 9: *The price to earnings ratio of the IT companies listed on WSE*
Source*:* Authors' elaboration based on data from the WSE website

The year 2009 is not presented because almost all companies have registered high PER values, not being relevant for the analysis. In the case of the IT companies, the values registered have been close from year to year, showing a linear evolution. Comarch has recorded higher values in some years and Comp has recorded losses.

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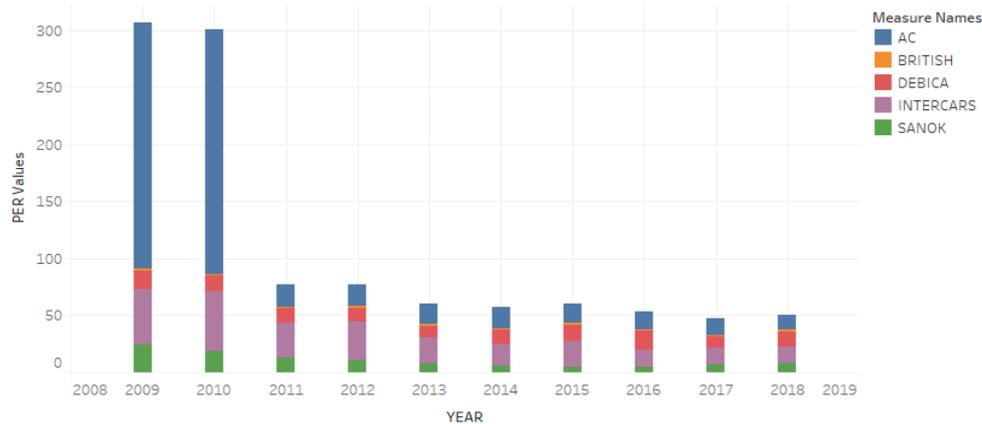
Figure 10: *The price to earnings ratio of the automotive companies listed on WSE*
Source*:* Authors' elaboration based on data from the WSE website

The PER values registered by the automotive companies were close in the years of the analysis, except for the first two years in which AC recorded higher values.

5. Conclusions

Following the analysis of the indicators we can conclude that the following companies have had a steady increase and showed a stable financial situation with no major fluctuations of results. For the pharmaceutical sector, KRKA has had the biggest increase in turnover, a steady evolution of ROA and ROE, but also a rising PER which I consider it represent a future growth expected by investors. For the IT sector, I consider the Asseco Group as being the most stable, showing a great evolution in the case of Asseco Business Solution and Asseco South Eastern Europe. For the automotive sector, I would say that AC showed a constant growth during the years, registered good values for ROA and ROE, and a constat PER value. The bigger companies like Debica and Intercars also showed a stable financial situation, with constant values, but as a smaller company, AC managed well.
The study has reached its objectives by providing significant information regarding the performance and evolution of the analyzed companies, facilitating future investments for the decision makers. As limits of the research, it is important to mention the existence of many other indicators that were not covered in the analysis, which together would form a more detailed picture regarding the performance of the analyzed companies.

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THE RISK MANAGEMENT PROCESS IN CORPORATE GUVERNANCE

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Abstract: *In this paper I want to present the place and role of risk management within an organization in corporate governance. Thus, the risk management of an organization consists of defining the risk, identifying and evaluating the impact and probability of materialization and, subsequently, establishing appropriate ways to manage the significant risks. According to some authors, the risk management of an organization is among the newcomers in the context of the concept of corporate governance, which brings a holistic perspective, as an integrating factor of the parts of a whole, which is the organization. At the same time, it can be emphasized that, according to the standards regarding strategic risk management, risk management should become an integrated part of the way any organization works; and in other ideas, being the basis of management approaches, it should not be separated from the daily activities of any organization. In corporate governance, in any entity, risk management is necessary because both in the company and in the environment in which it operates, there are uncertainties about the nature of the threats in achieving the objectives, or the nature of the opportunities. Any manager must pose the problem of managing the threats, because, otherwise, not reaching their objectives, they would be disqualified, or to take advantage of the opportunities for the benefit of the organization, proving their efficiency. If uncertainty is an everyday reality, then the reaction to uncertainty must become a permanent concern.*

Keywords: *risk; risk management; corporate governance; organization; uncertainties.*

JEL Classification: *G30; M40; M41; M42.*

1. Generally Introduction

Each public entity is obliged to systematically overview, at least once a year, the risks related to the conduct of its activities, to draw up appropriate plans in the direction of limiting the possible consequences of these risks and to appoint responsible persons for the application of those plans.

Under corporate governance, under any entity, risk management is necessary because both in the company and in the field in which it acts, there are uncertainties of the nature of threats in the achievement of objectives, or the nature of opportunities. Any manager must consider the way of managing the threats, because otherwise, not touching its objectives, it would disprove itself, or to use the opportunities for the benefit of the organization, proving its effectiveness. If uncertainty it is a daily reality, then the reaction to uncertainty must become a permanent concern.

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The risk-based decision has always been important in business. Enterprise risk management is the latest approach to risk management faced by an organization from the view of a system (Wu et al., 2015), probably becoming the main objective of the strategic management of organizations, mainly due to multiple factors - the aversion of representative personnel to uncertainty, the volatility of the current market and the mandates of compliance, as the authors said Arnold et al. (2015).

The risk management of an organization is to define the risk, identification and assessment of the impact and likelihood of materialization and subsequently laying down appropriate ways of managing significant risks (Ghiţă, 2008: 239)

As the author said, the risk management of an organization is among new arrived in the context of the concept of corporate governance, which brings a holistic perspective, as the integral factor of the parts of a whole, which is the organization. So was Oliva (2016) mentioning, that the enterprises risk management was a recurring theme on the organizations daily issues and as Fraser and Simkins (2016) said, was generally recognized as an expectation of good management and good corporate governance. Moreover, as the authors of Bromiley et al. (2015) said, risk management suggests integrated management of all the risks faced by an organization and which inherently require alignment of risk management with corporate governance and strategy, which can lead, as the authors claim, to the conclusion that a critical review of risk management research allows us to identify certain limitations and shortcomings that management specialists are more entitled to solve them.

With regard to the above authors Gordon et al. (2009) come up with a very plausible point of view when a paradigm shift has occurred in recent years in terms of how organizations consider risk management; the tendency being a holistic view of risk management, which implies, we may add– in general terms, an "idealistic metaphysical conception that supports the principle of the whole of the parties and its irreducible ness to the sum of the component elements (<fr. holisme)". As the authors argue this holistic approach to managing an organizations risk is commonly referred to as enterprises risk management (ERM). Indeed, the authors argue, there is growing support for the general argument that organizations will improve their performance by using the concept of risk management. The main argument being that the correspondence between risk management and the performance of organizations depends on the appropriate match between risk management and the following five factors affecting an organization, namely: environmental uncertainty, competition in industry, organization expansion, organization complexity and management board monitoring. In conclusion, the authors mention that organizations should consider implementing a risk management system together with contextual variables around the organization; and in addition, as Brossman (2016) claims, a proactive risk strategy should be managed at the same level throughout the organization.

The risk management of an organisation is to define the risk, identification and assessment of the impact and likelihood of materialisation and subsequently laying down appropriate ways of managing significant risks (Ghiţă, 2008: 239)

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As the author said, the risk management of an organization is among new arrived in the context of the concept of corporate governance, which brings a holistic perspective, as the integral factor of the parts of a whole, which is the organization. In the same way, quoting Treasury, Ghiţă (2008: 242) underlines that, according to standards on strategic risk management, risk management should become an integral part of how any management approaches should not be separated from the organization's daily activities.

Enterprise Risk Management focuses on developing, placing risk management at the centre of an organization's strategic activities, and risks are treated both as exposures to be managed, as well as opportunities to exploit. (Farrell and Gallagher, 2019)

In Romania each public entity is obliged to systematically overview, at least once a year, the risks related to the conduct of its activities, to draw up appropriate plans in the direction of limiting the possible consequences of these risks and to appoint responsible persons for the application of those plans.

Moreover, understanding the making of knowledge in state-owned enterprises (SOEs) is an ever-growing problem in academic debate and on the political agenda; but, as Landoni (2020) says, there is still a comprehensive theory missing, despite the large number of research published so far. Thus, as the author states, there is a lack of a new theoretical framework for creating knowledge in state-owned enterprises, by studying innovation and from the perspective of entrepreneurial company theory and knowledge management theory, which together provides new perspectives explaining the factors enabling innovation in state-owned enterprises and public entities. These factors are managerial autonomy and government coordination. In this respect, as the author considers, theoretical development is important, as it considers state-owned enterprises as public firms and entities, a dual nature that combines the advantages of state ownership and corporate governance.

In the context of the performance of an entity's activity is indicated by a technique for measuring the added value, i.e. economic value added (EVA), the authors of Shad et al. (2019) states that a effective implementation of risk management has a significant positive impact on the overall performance of enterprises. But as the authors say, however, there are limited studies carried out on the implementation of risk management and how sustainability reporting could influence the performance of organisations through risk. Thus, many world-level organisations do not incorporate sustainability initiatives into their corporate strategy, while they should be an essential contribution to strategic management and corporate planning.

At the same time, the authors Arnold et al. (2015) mention in the elaborate article, that a strategic approach based on risk management in an organization improves flexibility and strengthens the coordination between flexibility and performance. The authors also argue that there is clear evidence that improved IT integration is the mechanism by which risk management strengthens both flexibility and performance in an organisation.

As Callahan and Soileau (2017), including The Committee of Sponsoring Organizations of the Treadway Commission (COSO), the Entity Risk Management Framework (ERM) - (COSO-ERM) states, that the development of a risk

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assessment and management process at the level of the entire entity is designed to "provide reasonable assurance as to the achievement of the entity's objectives." In this respect, the authors conclude that entities with more developed risk management processes with higher levels of maturity of processes must achieve higher operational performance than those with less developed risks, i.e. with lower levels of process maturity.

So does Florio and Leoni (2017) show that entities with advanced levels of risk management implementation are performing higher, both in financial performance and in terms of market assessment; and, as the authors claim, the authors here expect, on the one hand, that more efficient risk management systems lead to greater performance by reducing risk exposure, and on the other hand, the authors argue that the reverse causality between risk management and performance is not present in the short term.

We also believe that it is appropriate to state that in corporate governance, in any entity and in any type of entity, risk management is necessary because both in the company and in the environment in which it acts, there are uncertainties of the nature of threats in achieving objectives, or the nature of opportunities. Any manager needs to question how to manage threats, because otherwise by not achieving his goals, would disqualify, or capitalize on opportunities for the benefit of the organization, proving its effectiveness. If uncertainty is a daily reality, then the reaction to uncertainty must also become a permanent concern.

The above general motivation could justify the need to implement risk management by itself, but there are also some specific motivations, such as:

a) Risk management requires modification of management methods:

The managers of an organization shall not be confined to treating, every time, the consequences of events that have occurred. Handling the consequences does not improve the causes and therefore the already materialized risks will occur in the future also, as a rule, with a higher frequency and an increased impact on the objectives. Managers must adopt a reactive management method, which means that it is necessary to devise and implement measures that are likely to mitigate the risks. The future-oriented reaction enables the organization to control, within acceptable limits, the risks that have passed, that is the same as increasing chances of achieving its objectives. In conclusion, risk management excludes expectative and promotes action and foresight.

b) Risk management facilitates efficient implementation of the organization's objectives:

Clearly knowing the threats allows a ranking of them depending on the situation of their materialization, the extent of the impact on the objectives and the costs of measures aimed at reducing the chances of developing or limit unwanted effects. Setting the positions constitutes the support of introducing a number of priorities in the allocation of resources, in most limited cases, following a "cost-benefit„ analysis or, more generally, "effort-effect". It is essential that the organization focus its efforts towards what is really important, not to disperse its resources in non-critical areas for its purposes. At the same time, periodic risk review, as set out in standards, leads to reallocations of resources, in line with the modification of positions and, implicitly, the priorities. In other words, risk management involves concentrating

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resources in areas of current interest. In other words, risk management involves disposing resources in areas of current interest, and as the authors Caron et al. (2013) manage the risks of enterprises are aimed at minimising the negative effects of uncertainty over objectives, while promoting the potential positive effects.

c) Risk management ensures the basic conditions for solid internal control: If internal control is all the measures established by the management in order to obtain reasonable assurances that the objectives will be achieved, it follows that risk management is one of the important means to achieve this, because risk management is precisely pursuing the threat management that could negatively impact the objectives. From other point of view, if the strengthening of internal control is pursued, it is indispensable to implement the risk management. The action plan (activities to be carried out in order to achieve the objectives) must be seconded by the plan encompassing measures that mitigate the risk manifestation and by the plan of handling difficult situations (materialized risks).

However, in risk management, not the examples and techniques are the most important, but the attitude towards risk and this is, first of all, an aspect of the organizational culture that is formed over time, and not a result of imperative rules.

In another context, as Chen et al. (2019) states, adopting risk management in a company significantly helps the company improve its revenue and cost efficiency; and the analysis taken by authors in the financial industry subsector shows that banks and insurers adopting risk management generate more advantages in cost savings and the efficiency of their incomes.

So do the authors Eckles et al. (2014), testing the hypothesis that the implementation and development of enterprise risk management (ERM) reduces the costs of businesses related to risk reduction, considers that the adoption and risk management represents a radical change in the paradigm from the traditional method of individual risk management to collective risk management, allowing entities that adopt risk management to prioritise coverage activities to the risks most contributing to the entity's total risk and optimise the assessment and selection of available hedging instruments. At the same time, the authors discover that entities that adopt risk management have a reduction in the volatility of stock return; it becomes stronger over time. In addition, the authors finally note that operational profits per unit of risk may increase after the adoption of the risk management by an entity.

Theorists in the field of risk recommend that it is very important to understand the culture of an entity Thus, as Griffiths said (2005: 21-22) there are several benefits of incorporating risk management into the culture of the organization, such us:

-greater attention to issues that really matter;
-reducing the time lost by the entity's leadership with disputes;
-fewer surprises;
-more satisfied customers;
-protecting the reputation;
-more attention to do the right things in a correct manner;
-greater possibility of achieving the entity's objectives;
-fewer complaints;

-increased possibility of changing initiatives and achieve project benefits/drafted;

-risk-taking and more informed approach of decisions;

-support for innovation;

-lower insurance costs.

The objectives of approaching the risk management of any entity are to ensure that:

-risk management is a key part of the strategic management of the entity;

-there is a positive approach for taking the risk

-the risks are taken into account when taking any decision;

-opportunities are maximised by actively managing risks and threats that can hinder the emergence of success.

According to Ghiţă (2008: 219), in order to achieve these objectives, entities must consider the following approaches:

-clear liabilities will be set up and maintained, within all positions and departments, roles and reporting lines for risk management;

-introducing training programmes and opportunities for learning to ensure managers acquire and develop the skills and expertise necessary for risk management;

-risk analyses will be incorporated and considered part of decision-making, business planning and entity process revisions;

-the measures undertaken to manage individual risks will be appropriate to the potential occurrence and impact of these risks on the achievement of the entity's objectives;

-an updated register that can be easily accessible to all those who may need it will identify all strategic and operational risks, provide an estimate/retention/appreciation and registration of ongoing measures whose role is to manage these risks;

-performance of risk management activities will be measured in relation to company goals and objectives;

-an understanding of the risk and its management at all levels of the entity, with the majority partners and shareholders, combined with risk handling within the organisation, will be tried.

As the author said, for the management of an entity it is very important to identify risks, assess them and establish acceptable risk tolerance, in order of probability of occurrence and imminent impact that they may produce, by applying the appropriate control tools and analysis for their reporting.

In the same way, and in our view, given that from the point of view of an internal auditor, for example, the risk can be considered as the pulse of the entity, which may be perceived as a number of challenges, we believe that for any entity it is important that, before risk identification, it, the entity, has the objectives well established according to the actual and possible risks.

In corporate governance, the possible or inherent risks are identified on the objectives and within them on activities or operations, and, as the author said, by exercising various forms of internal control limiting/diminishing risks, entities remain to manage only potential or residual risks.

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We consider it important to emphasize here the idea expressed by the authors Wang et al. (2018) that in organizations where the risk management systems implemented are less performing, they can signal certain insufficient control mechanisms which, as the author said, may attract additional control by investors, thereby causing managers to resort to handling revenues, which may result in damage to the value of company in the long term.

Finally, in corporate governance, we are also of the opinion that the implementation of a risk management system contributes or should contribute to improving the performance of the entity, the company, but, in this respect, the management of the company is the identify risks, organise the risk management system and at the same time follow their progress.

With regard to the risk management process, it can be defined as the systematic application of management policies, procedures and practices for establishing the context, identification, analysis, evaluation, solution, monitoring and communication of risk. (Ghiţă, 2008: 239)

The risk management process is a systematic approach to risk analysis and solution. Thus, as Zoicaş-Ienciu says (2013: 197) there is a logical scheme in the process of risk management and which in our opinion and corporate governance presupposes the following steps:

Risk identification: consists of a systematic analysis of the entire entity's activity and identification of all relevant risk exposures. This stage involves the analysis of the entity's economic and financial-tax documents and records, the flow of operations and that of information, the division of risk questionnaires to employees, the verification of the existence of risks based on check-in lists as detailed as possible, more comprehensive etc. Here we consider it to be noted that in most cases the relevant exposures are evident, but a specialised analysis can reveal both important omissions and false exposures at risk.

Risk assessment and measurement: it is necessary to be able to appreciate the potential impact on the entity's financial situation. As a rule, in the case of each risk are considered several steps of materialization, but, as the author says, for each of these steps, two variables should be estimated, i.e. the probability of realization and the costs of loss involved. We are also of the opinion that it would ideally be that the probability is numerically quantified but most of the time, management uses a qualitative assessment based on categories such as: quasi-null probability, low, medium, or quasi-safe probability. Following assessment the risks can also be classified according to the potential impact in critical risks (threatening the entity's survival), important (requires attracting funding) or negligible (minor losses that can be absorbed by the entity).

Selection of risk management techniques: is mainly a problem of managerial decision influenced by the entity's objectives and strategy, as well as the risk aversion of management; the criteria envisaged is the overall objective of maximising the value of the entity. As the author says there are four major categories of risk management techniques: avoidance (risk-generating situations are avoided; but the manoeuvre space for managers is reduced), prevention and control (preventive behaviour, conduct of investments and training courses to avoid eventual losses), retention (risk is assumed and damage is covered by own

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resources accumulated in this respect in the form of reserves) and transfer (insurance, coverage, diversification).

Implementation: requires technical details related to the practical implementation of the selected management technique: development of prevention procedures, specific investments, accumulation of reserves, selection of insurer or stock market, contracts negotiation, hedging strategies formation etc.

Monitoring: consists of periodic verification and review of previously implemented risk decisions, identification of new exposures, change in probability of occurrence and character of risks, emergence of new techniques for cheaper coverage. At the same time, at this stage, we also believe that internal audit and control activities should also be considered to avoid fraud that may arise when employees responsible for the implementation of risk-covering techniques exceeds the transaction duties and limits.

But from the point of view of the system's functioning, in the same terms, also Ghiţă (2008: 239) states that risk management is a dynamic process, which in order to function involves the completion of a risk management cycle that incorporates several steps as follows:

-identification of risks, process involving all parts of expertise and responsibility, which must contribute to the detection of all existing and possible risks, as well as their registration,

-assessment of the importance of the risks identified from the two elements, i.e. probability and impact,

-risk management, which implies knowledges regarding the importance of risks and the development of a strategy for their management. Moreover, the purpose of this activity should be to ensure that all key risks are under control,

-the risk assessment requires a supervision of the entire risk management process and the outcome of this activity should contribute to updating the risk management strategy applied throughout the organisation.

2. In conclusion

Over time, risk management should be incorporated into the organisation's operations and procedures and become a component of its culture but also its decision-making processes and structures, with substantial possibilities for performance monitoring. (Ghiţă, 2008: 240)

Also in corporate governance when carrying out the risk management implementation process a special role lies with the audit committee which rigorously needs to assess the contribution of risk management to streamlining operations and increasing the values of the organization.

In another context, according to authors, as, Pérez-Cornejo et al. (2019), corporate reputation research has generally claimed that the reputational risk or risk of loss of a company's reputation stem from all company's risks. As companies use business risk management systems (ERM) to manage all their risks, after analysing the quality effect of the risk management system on corporate reputation, the authors concluded that the risk management system is a useful tool for managing the corporate reputation.

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CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE. A STUDY ON REAL ESTATE SECTOR IN ROMANIA

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Abstract: *Like in other countries, the real estate sector of Romania have been hit hard by the 2008-2009 financial crisis. The resumption of lending activity was the main factor that contributed to the relaunch of the real estate sector. The possibility of choosing from internal and external sources of financing, plays an important role in maximizing the value of the company, with a direct impact on company's performance. In this context, this research contributes to the ongoing discussion on the relationship between capital structure and performance of the companies. For this research were tested 20 companies listed on Bucharest Stock Exchange, in the field of real estate transactions, using panel data regression technique over the period of 2009-2018, with fixed and random effects models. The resulting model was the one with random effects, being a better representation of the data used. Capital structure, the independent variable is measured by the Overall Debt Rate and the Financial Stability Rate, while the performance, the dependent variable, is measured by the company's Return on Equity (ROE) and Return on Assets (ROA). The results showed a positive impact from the Financial Stability Rate on ROA and ROE, while the Overall Debt Rate has a negative one, suggesting that an increase in the firm's debt level would negatively affect its shareholders return. Most of the companies analysed present a low level of Overall Debt Rate which reflects the financial autonomy. At the same time, they have a high level of Financial Stability Rate. We interpreted this results as a strong point, because these companies faces a low risk of insolvency and, perhaps, therefore are preferred by investors who have an aversion to risk. However, whether capital structure of companies will influence their performance or not, is a topic that remains unexplored. Even so, results from past studies seemed to be varying and contradicting in some cases.*

Keywords: *ROA; ROE; Overall Debt Rate; Financial Stability Rate; real estate.*

JEL Classification: *C50, D21, G31.*

1. Introduction

The purpose of this research is to identify the impact of capital structure on the performance of 20 companies listed on the Bucharest Stock Exchange, in the real estate transactions sector, based on available of 2009 to 2018 annual report.
The performance of the company has acquired, over time, a special importance among the concerns of company's managers. It depends on the type of management applied within a company, but, to a large extent, it also depends on certain external factors, specific to the environment in which the entity operates.

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Capital structure is the mixture of debt and equity capital of a company. The capital structure of a company is very important since it is related to the ability of the company to fulfil the needs of its stakeholders. (Yildirim, Masih, Bacha, 2018).

One challenge that company needs to deal with, is making a good financing decision by achieving an optimal set of capital structure; one that minimizes a company's cost of capital, maximizes market value, and increasing shareholder's wealth. Conversely, an incorrect financial decision could potentially cause financial distress and eventual bankruptcy (Varian Foo et al., 2015).

The financial crisis of 2008-2009 seriously affected the real estate sector in Romania. Many construction companies have been forced to close overnight due to the dramatic drop in house prices and only the strongest developers have survived in this field. Prices before the crisis were at a level almost similar to today, but have begun to recover in the last five years. After ten years, the real estate market reached the same values before the crisis, even managing to surpass them in certain areas of the country. The resumption of lending activity was the main factor that contributed to the relaunch of the real estate sector. The possibility of choosing from internal and external sources of financing, plays an important role in maximizing the value of the company, with a direct impact on company's performance.

2. Literature review

Theories of capital structure seek to provide a framework for understanding how financing decisions are made. Since the seminal work of Modigliani and Miller (1958, 1963) a large number of academic works emerged and developed several competing theories in an attempt to arrive at one that is able to explain the financing behaviour of companies (e.g. Myers, 1984; Myers and Majluf, 1984; Shyam-Sunder and Myers, 1999; Baker and Wurgler, 2002). Despite the large number of academic studies, there is still no agreement among scholars on which determinants are reliably important. Firms generally differ in terms of profitability, growth opportunities, asset structure, operational risk, competitiveness, country's legal and tax frameworks, etc. It is, therefore, important that firms consider all these factors in order to remain operative in the current competitive environment. Consequently, firms' capital structure ratio is expected to be dynamic and vary between countries, industries and the firm sizes. (Yildirim, Masih, Bacha, 2018).

An important underlying theory in capital structure literature is the Modigliani & Miller (M&M) Theorem in which they argued that capital structure is irrelevant in determining a company's value provided that certain restrictive and perfect market assumptions hold true. However, in reality where market imperfections exist, choices of capital structure made by companies seem to deviate from the M&M's Theorem. This led to many researchers to introduce additional rationalization to M&M's proposition to demonstrate that capital structure affects company's value and performance (Varian Foo et al., 2015). Varian Foo et al. analysed in 2015 the relationship between the capital structure and the corporate performance of 12 public oil and gas companies listed on the Malaysian stock exchange, in the period 2003-2013. The results of the study show that the capital structure negatively influences ROE, and compared to ROA it has no impact or seems insignificant.

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The US economist S. Myers (Myers, 1984), the initiator of The Pecking Order Theory, shows that the profitable companies have a low level of debt, and the information asymmetry affects the businesses financing. (Sabău-Popa, Boloș, Bradea, 2016). In 2016, Sabău-Popa et al. analysed the influence of the capital structure on the performance of 10 companies in the energy sector, in the period 2011-2014. The results of the study shows different correlations for the analysed companies: either a significant negative correlation between the leverage effect and performance, or it does not show any correlation between them.

Jawad, S. et al. (2015) analysed the impact of financial leverage on the corporate financial performance of the Pakistani textile sector in the period 1999-2012, using panel data, paying particular attention to the crisis period of 2007-2008. The results of the study indicate that financial leverage has a negative impact on corporate's performance when assessed with ROA, and the financial crisis has had a negative impact on corporate's performance and also affects the relationship between leverage and performance.

Nwaolisa and Chijindu (2016) determined the influence of financial structure on profitability, with special reference to oil and gas companies in Nigeria. 10 of the 14 oil and gas companies listed on the Nigerian Stock Exchange from 1993-2013 were selected. The results showed that the financial structure has a negative influence on the profitability of oil and gas companies, measured by ROA, ROE, profit before tax and earnings per share.

Abdullah, H., Tursoy, T. (2019) empirically examined the relationship between firm performance and capital structure. The study sample consisted of non-financial firms listed in Germany during 1993-2016. The authors found that over 60% of the total assets of German non-financial firms are financed by debt, which means that they are very low compared to similar countries. The results of the study show a positive relationship between the company's performance and the capital structure.

3. Data, methodology and results

In order to analyse the connection between the variables, the information provided by Bucharest Stock Exchange, Ministry of Public Finance and public financial data from the companies' own websites was used, more precisely, 20 commercial companies from all areas of the country, meeting the following criteria: are listed on the Bucharest Stock Exchange, financial instrument type: shares, status: tradeable, field of activity: real estate activities, and all of them have positive equity in 2018. Considering the whole listing company group in the Bucharest Stock Exchange, the sample size might be pretty small, but that is the most appropriate sample with competitive data published publicly that it could find as yet.

In this paper is used both qualitative and quantitative research methods. Among the qualitative research methods used it can be mentioned: observation, comparison and analysis of data. The econometric analysis is based on the estimation of a regression on panel data in Eviews, based on 200 observations. All variables are measured in percentages.

Measuring the capital structure is made in the literature by various rates, including *The Overall Debt Rate* and *The Financial Stability Rate*.

The Overall Debt Rate highlights the company's total debt proportion in its total liabilities, and also, the dependence of the company's financial resources from the external ones. A reduction of this indicator reflects an increase in self-financing capacity. The optimal level of this ratio is below 66%. The higher this ratio is, the less is the financial autonomy of the company and the higher is the exposure to insolvency risk.

The Financial Stability Rate reflects the share of funding sources that remain available for more than a year in total funding sources. The optimal level of this ratio is in the range of (0.5-0.6) because it highlights the permanence status and offers safety for the company.

The performance of companies is measured in literature through a variety of rates, the most relevant being *Return on equity* and *Return on assets*. Return on equity reflects the return of investments made by shareholders, by purchasing shares of the company. If this rate is higher than the limit value of 5%, the company's activity has been efficient. ROA measures the total asset performance, and the overall efficiency of the company's management to generate profits using the assets. A ROA higher than the inflation rate ensures assets renewal and growth in a short period (Sabău-Popa, Boloș, Bradea, 2016).

Table 1: Independent and Dependent Variable formulas

The Overall Debt Rate	Total Debt / Total Liabilities*100	Independent Variable
The Financial Stability Rate	(Long-term Debts+Equity) / Total Liabilities *100	Independent Variable
ROE	Net income / Equity * 100	Dependent Variable
ROA	Net income / Total Assets * 100	Dependent Variable

Source: Sabău-Popa, Boloș, Bradea, 2016

In the literature, either the fixed or random effects methods are used to estimate a panel data model. The fixed-effects model shows the relationship between the exogenous variable and the endogenous variable in which each individual component has a significant role in predicting the result in the system. While, in the case of the random effects model, the variance between entities is assumed to be random and uncorrelated with the exogenous variables included in the model. A first step in analysing panel data involves whether the differences between the fixed effects parameter estimator and the random effects parameter estimators are significant or not, and choosing a single method, that is, the most appropriate one. To determine which model is more appropriate for the data series, we used the Hausman test (1978). According to the Hausman test, if the null hypothesis is true, the estimator of random effects is efficient and the difference between the estimators must be close to zero. If the null hypothesis is rejected, the fixed effects is tested. (Bădulescu, Simuț, Morutan, 2018).

According to the results presented in Table 2 and Table 3, the random effects model is accepted, because the null hypothesis of the Hausman test is accepted both for

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the capital structure rates and for the performance indicators of the companies, and the value of p> 0.05.

Table 2: Results of panel data analysis using the independent variable: the *Overall Debt Rate (ODR)*

	Model 1		Model 2	
	Dependent variable ROA		Dependent variable ROE	
	Coefficient	P-value	Coefficient	P-value
Hausman Test	1.145803	0.2844	0.019972	0.8876
Intercept	1.364025	0.1958	12.23708	0.2272
ODR	-0.054368	0.0695	-0.876523	0.0064
R-squared	0.016538	-	0.039947	-
F-statistic	3.329497	0.069555	8.238542	0.004547

Source: Processed data using Eviews program

The results show that *Overall Debt Rate (ODR)* have a negative impact in relation to ROA and ROE. In the graphs below we can observe the negative correlation.
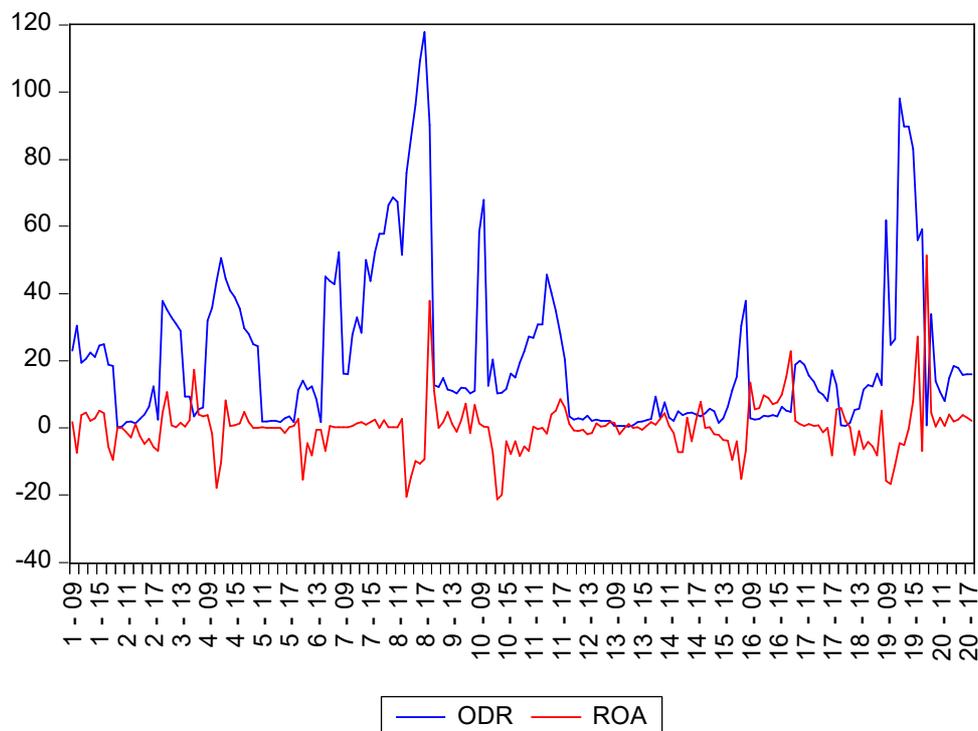
Figure 1: Evolution of the *Overall Debt Rate (ODR)* in relation to ROA
Source: Graph processed using Eviews program

From the Figure 1, we note that, in the period 2009-2018, the *Overall Debt Rate (ODR)* stood in the range [0,2399 – 117,9890], with an average of 21,2858. The optimal level of this ratio is below 66%. The higher this ratio is, the less is the financial autonomy of the company and the higher is the exposure to insolvency risk. 18 companies of the 20 analysed, were below the optimal level.

Return on Asset (ROA) stood in the range [-21,2363 – 51,3237], with an average of 0,2067. Higher ROA indicates more asset efficiency. Of the 20 companies analysed, only one had values above the inflation rate, the rest of the companies had either at the beginning of the period in 2009, but most at the end of the period, in 2018.
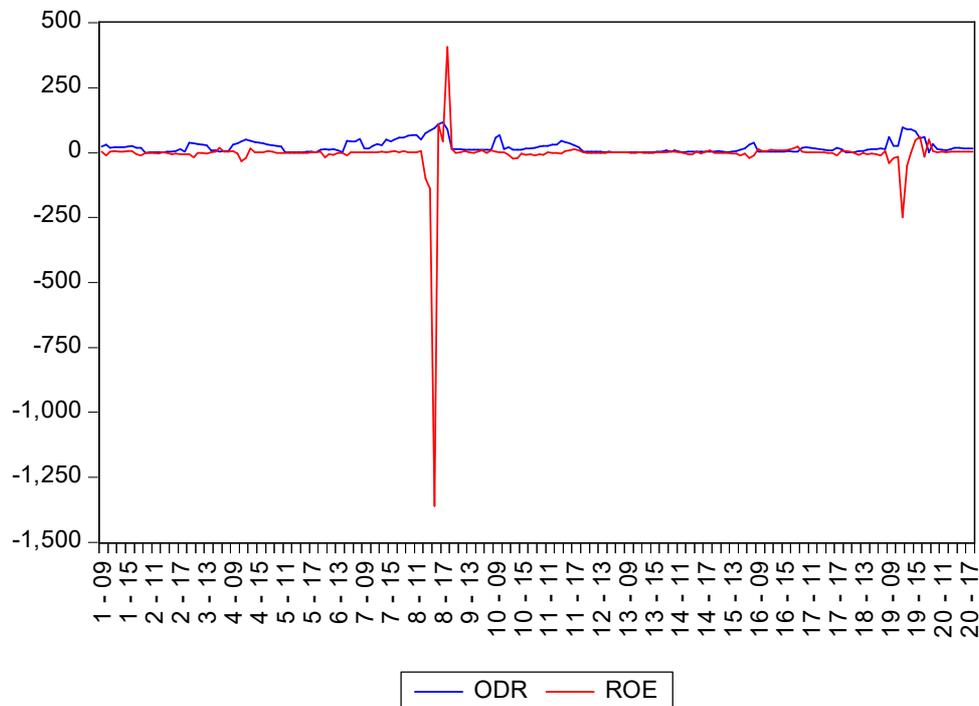
Figure 2: Evolution of the *Overall Debt Rate (ODR)* in relation to ROE
Source: Graph processed using Eviews program

From the Figure 2, we note that, in the period 2009-2018, the *Return on Equity (ROE)* stood in the range [-1361,1881 – 406,2108], with an average of -6,4204. If this rate is higher than the limit value of 5%, the company's activity has been efficient. Like ROA, only one company had values above 5%, the rest of the companies had either at the beginning of the period in 2009, but most at the end of the period in 2017, 2018.

The results show that *Financial Stability Rate (FSR)* have a positive impact in relation to ROA and ROE. In the graphs below we can observe the positive correlation.

Table 3: Panel data analysis using the independent variable: the *Financial Stability Rate (FSR)*

	Model 1		Model 2	
	Dependent variable ROA		Dependent variable ROE	
	Coefficient	P-value	Coefficient	P-value
Hausman Test	1.141050	0.2854	1.674112	0.1957
Intercept	-1.482812	0.4490	-27.43319	0.2152
FSR	0.021144	0.3393	0.262966	0.3121
R-squared	0.004609	-	0.005449	-
F-statistic	0.916820	0.339479	1.084855	0.298884

Source: Processed data using Eviews program
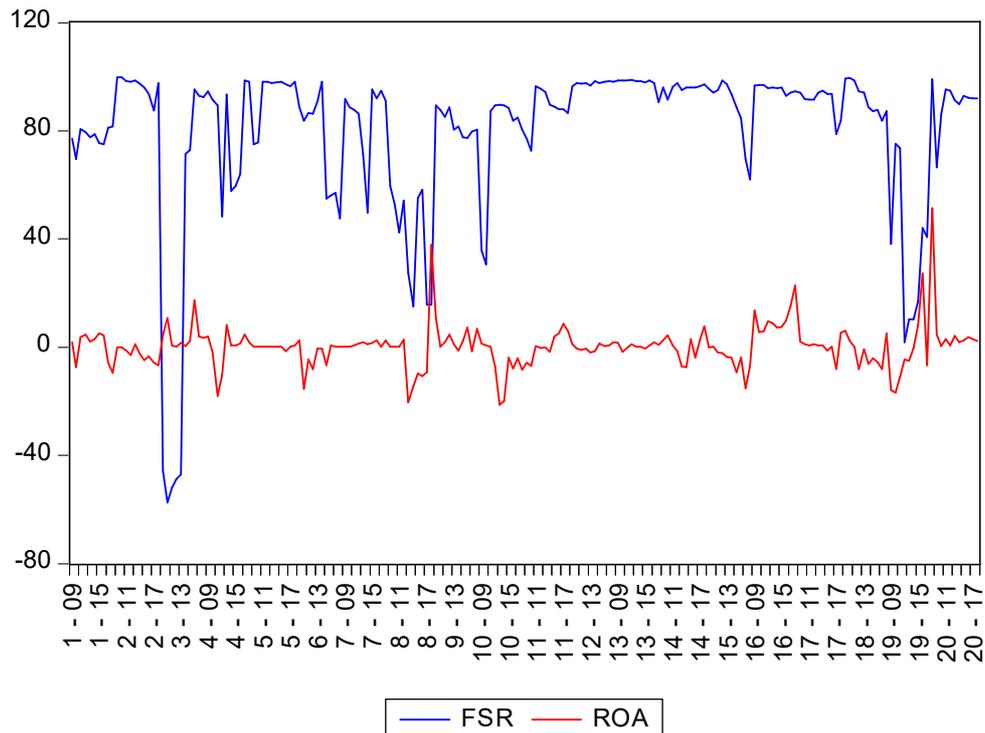
Figure 3: Evolution of the *Financial Stability Rate (FSR)* in relation to ROA
Source: Graph processed using Eviews program

From the Figure 3, we note that, in the period 2009-2018, the *Financial Stability Rate (FSR)* stood in the range [-57,3600– 99,7601], with an average of 79,9067. The optimal level of this ratio is in the range of 50%-60% because it highlights the permanence status and offers safety for the company. Only 2 companies of the 20 analysed, were in the range, most were below 50%.

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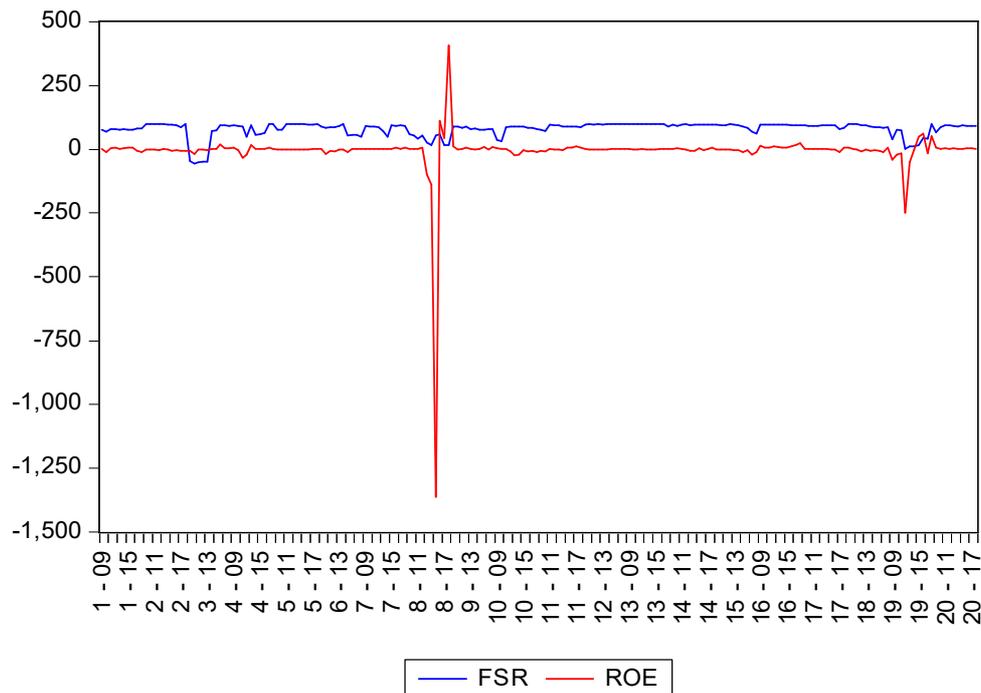
Figure 4: Evolution of the **Financial Stability Rate (FSR)** in relation to ROE
Source: Graph processed using Eviews program

Thus, taking into account the coefficients estimated by the random effects model, the following results were obtained: if the overall debt rate increased by 1%, the ROA would decrease by 0,054%. In the case of ROE, an increase in the overall debt rate by 1%, ROE would decrease by 0,87%.
Regarding the effect of the financial stability rate, it is positive: if the financial stability rate increased by 1%, the ROA would also increase, but only by 0,02%. The impact of ROE is also positive, but higher in intensity than the ROA. If the financial stability rate increased by 1%, the ROE would increase by 0,26%.

4. Conclusions

Romanian real estate developers have been hit hard by the 2008-2009 financial crisis. Many construction companies have been forced to close overnight due to the dramatic drop in house prices and only the strongest developers have survived in this field. The resumption of lending activity was the main factor that contributed to the relaunch of the real estate sector. The possibility of accessing external sources of financing is considered one of the most important decisions in maximizing the value of the company, with a direct impact on company performance.
The present paper analysed the relationship between capital structure rates and performance indicators, using data on 20 companies in the field of real estate transactions, listed on the Bucharest Stock Exchange. The period for which the

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analysis was performed is 2009-2018. A panel type model was used, the decision between the random effects model and the fixed effects model based on the Hausman test. In the end, the resulting model was the one with random effects, this being a good representation of the data used. The results obtained from estimating the random effects model showed a positive effect from the financial stability rate and performance indicators of the analysed companies, and a negative one exerted by the overall debt rate.

Most of the companies analysed present a low level of debt which reflects the financial autonomy. At the same time they have a high level of financial stability rate. We interpreted this result as a strong point, because these companies faces a low risk of insolvency and, perhaps, therefore are preferred by investors who have an aversion to risk.

However, whether capital structure of companies will influence their performance or not, is a topic that remains unexplored. Even so, results from past studies seemed to be varying and contradicting in some cases, but most of the researchers in this area concluded that there is a negative relationship between capital structure and performance of companies.

This research has many limitations, firstly because of the focus on real estate sector and the results cannot represent overall industry in Romania. Secondly, this research is only using 20 company and 10 year data, for future research is recommended using long time series data and large sample size to obtain a more accurate result.

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COMPARATIVE ANALYSIS OF INVESTMENTS MADE IN ROMANIA FROM EUROPEAN FUNDS BETWEEN 2007 - 2013 AND 2014 – 2020

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Abstract: *One of the main topics of debate in the specialized literature is the analysis of the efficiency of public and private investments and the impact of investments related to economic development, especially at the level of the European Union. The research methodology used in this paper involves data analysis, observation, modeling and interpretation of sensitivity analysis results. I will present the performance of the operational programs in Romania from the two 7-year multiannual budgeting periods of the European Union, 2007 - 2013 and 2014 - 2020. The purpose of this paper is represented by the analysis of investments made through European funds in Romania as well as the way in which the efficiency of these investments can be increased so that European money can lead to an increase in the quality of life in our country. In this paper I want to contribute to the development of literature by analyzing the limits of the use of European funds in Romania in the field of infrastructure and in a future paper I want to extend this analysis to other countries in the European Union. The absorption rate in the period 2007 - 2013 at the level of Romania was about 90%, Romania losing about 2 billion euro, enough money to achieve 400 kilometers of the highway at an average cost of 5 million euros per kilometer. From my point of view, the money received from the European Union has changed Romania for the last 14 years since the accession of 2007. Regarding the financial allocation for the period 2014 - 2020, there is a 72% increase for the Regional Operational Programme, so that for the regional development the beneficiaries have available 6.86 billion euros compared with 3.96 billion euros as they were allocated per funding periods 2007 - 2013. The North East Region, which is one of the least developed region in the European Union, has a lower allocation than the West Region, one of the most developed regions in Romania. This aspect is paradoxical and does not support the balanced territorial development and the reduction of the gaps between the regions.*

Keywords: *EU funds; public investments; investment analysis; development.*

JEL Classification: *H72; H83; Q56; R53.*

1. Introduction

In this paper I will analyze the effects of public investments in Romania and I will realize a comparison between the former financing period 2007 - 2013 and the actual financing period 2014 - 2020 in terms of allocations and absorption within the operational programs. At the same time, it should be mentioned that the institutional architecture has changed slightly between the two periods of multiannual budgeting

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at European level. I will perform an analysis of the allocation by regions correlated with the population of each region and with the regional allocation per capita.

The purpose of this paper is represented by the analysis of investments made through European funds in Romania as well as the way in which the efficiency of these investments can be increased so that European money can lead to an increase in the quality of life in our country. This paper aims to develop specialized literature in the field of European funds. At the same time, I want to make a comparative analysis and present the aspects that have positively and negatively influenced the absorption of European funds in Romania.

The main cause that led to the reduced absorption of European funds in Romania in the period 2007 - 2013 was represented by the excessive bureaucracy. It is encouraging that for the period 2014-2020 the bureaucracy has been reduced so that project beneficiaries no longer have to submit so many supporting documents, no longer need to be signed and stamped on each page and the MySMIS system was created to load scanned documents for submission of the financing request, for signing the financing contract but also the reimbursement requests and the notifications made during the implementation period of the projects.

The main infrastructure investments made from structural funds at national level are represented by sections of the highway between Bucharest and Constanta and between Sibiu and Nadlac as well as the rehabilitation of some railway sections. It is noted that after the accession to the European Union, more than 600 kilometers of motorway were made in Romania, many kilometers in relation to how much was achieved until accession but few kilometers in relation to the performances achieved by other central European member states such as Hungary, Poland or the Czech Republic. At local level, in Oradea investments were made in various fields such as: development of an Industrial Park, construction of overpasses, Unirii Square - the main public square of the city, rehabilitation of Oradea Fortress, construction of an Aquapark or investments in schools, hospitals, bicycle lanes or thermal rehabilitation of apartment buildings. Oradea is an example of good practices regarding the exponential development of a city using European funds. Thus, with its own contribution of 2 million euros, a city can make investments of 100 million euros for projects that have a non-reimbursable aid rate of 98%. These European investments are much more efficient than investments from the local budget or bank loans.

There is a problem of allocating money through the Regional Operational Program in Romania. The North East Region, which is one of the least developed region in the European Union, has a lower allocation than the West Region, one of the most developed regions in Romania. This aspect is paradoxical and does not support the balanced territorial development and the reduction of the gaps between the regions.

2. Literature review

The analysis of the impact of the use of European funds on the member countries is a topic intensely analyzed in the literature and below I will present the main ideas from specialized articles that are current.

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Papaioannou (2016) shows in his paper that the efficiency of the public sector because of the European influences the way in which public investment is taken care of contributes to the creation of the economy at European level. Thus, in Romania there is a limitation on the efficiency of the public assistance sector and it leads to the efficient reduction of public investments.

Panayiotou and Medda (2013) mentions that investments in infrastructure play an important role for economic development. The authors claim that OECD member states need 50 trillion dollars of investments in transport infrastructure, utilities and social infrastructure. At the same time, these investments are expected to be financed mainly by the private sector. I consider that in Romania most investments in infrastructure must be made by the state and the public investments will attract private investments.

De Jong, Ferdinandusse, Funda and Vetlov (2017) analyzed 12 economies in the European Union between 1960 and 2013 and confirmed the existence of a correlation between the growth of the public capital stock and economic development. This fact shows that investments from structural funds are important in Romania and they can lead to economic development.

De Mare Gianluigi, Granata Maria Fiorella and Nesticò Antonio (2015) presents the fact that there is a problem regarding the sources of financing of public works. The most important sources of financing are sources from European funds as well as from public-private partnerships. Private investors analyze an investment from a monetary point of view, public investors must also analyze from a socio-economic point of view and not just financially. In my opinion, the structural funds are very efficient for public investments because they cover both the financial aspect of the projects and the socio-economic aspect. At the same time, the European Union wants to achieve a convergence process between the Member States.

William Cullison (1993) shows that there is a stronger correlation between investment in human capital and education and the growth of Gross Domestic Product in relation to investments in infrastructure and the growth of Gross Domestic Product. It could correlate with investments from European funds in human capital in Romania that are poorly developed, not having an equally strong impact in terms of economic development.

The result of the research Varblane (2016) mentions that the Baltic states (Estonia, Latvia and Lithuania) have managed to benefit from the use of European funds for development but it is necessary to continue a knowledge-intensive economic policy. Romania must use the model of the Baltic countries because they have managed to reach a more advanced level of European integration and real convergence.

Cocosatu (2016) performs a technical analysis of the programming period 2007 - 2013 as well as the importance of the Partnership Agreement for the period 2014 - 2020 and its observance by the Managing Authorities and the beneficiaries of European projects.

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3. Comparison between the EU budget allocation and performance of operational programmes for Romania in 2007 - 2013 and 2014 – 2020

In this section I will present the performance of the operational programs in Romania from the two 7-year multiannual budgeting periods of the European Union, 2007 - 2013 and 2014 - 2020. Thus, I will present only the programs financed from the European Regional Development Fund, the Cohesion Fund and European Social Fund. The Structural Funds represented Romania's chance to develop and it is the opportunity to achieve a convergence with other Member States of the European Union.

As can be seen in this table, during 2007 - 2013, the smallest absorption was achieved on the operational programmes that financed the large infrastructure, Transport Operational Programme and Environment Operational Programme. This is a negative aspect because Romania needs the development of the infrastructure in order to reduce the disparities with the states of Western Europe. Another problem of the use of European funds in Romania is represented by the European funds for human resources. Thus, these funds were not fully used, although there are very high needs for professional qualification so that the objective of increasing the employment is achieved.

Table 1: The performance of the operational programmes in Romania during the programming period 2007-2013

Romanian Operational Programmes 2007-2013	Financial allocation 2017-2013 (billion euro)	Current Absorption rate (31.03.2017)
Regional Operational Programme	3,966	93,41%
Environment Operational Programme	4,412	84,48%
Transport Operational Programme	4,288	81,07%
Increase of Economic Competitivness Operational Programme	2,537	100,00%
Human Resources Development Operational Programme	3,200	90,81%
Administrative Capacity Development Operational Programme	0,208	100,00%
Technical Assistance Operational Programme	0,170	100,00%
Total	**18,781**	**89,08%**

Source: Ministry of European Funds in Romania Available: https://www.fonduri-ue.ro/images/files/implementare-absorbtie/Anexa_1-Stadiul_absorbtiei_2007_-_2013_martie_2017.pdf [26 Jan 2020]

The absorption rate in the period 2007 - 2013 at the level of Romania was about 90%, Romania losing about 2 billion euro, enough money to achieve 400 kilometers of the highway at an average cost of 5 million euro per kilometer.
There were 3 operational programs that had 100% absorption but unfortunately were the programmes (Increase of Economic Competitivness Operational

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Programme, Administrative Capacity Development Operational Programme and Technical Assistance Operational Programme) with a smaller allocation than the programmes that support the large infrastructure.

During the 2007-2013 programming period, a series of investments were made in Romania. These investments had an important effect in the economic growth and in the increase of the employment, because many projects involved the creation of new jobs. This period was the first multiannual period of 7 years in which Romania was a member state of the European Union, it was a period of accommodation for our country and we hope that it was a sufficient preparation for the programming period 2014 - 2020 and the multiple challenges to be faced by Romania and Europe starting with 2020.

The main causes of low absorption within the 2007 - 2013 Operational Transport Program are represented by excessive bureaucracy and lack of competition between applicants for European funds so that the main beneficiaries (highway company, railway company or Bucharest subway company) are not pressured to improve their administrative capacity and the ability to implement projects. Another cause of low absorption within the Transport Operational Program is the fact that large infrastructure projects are the most difficult and involve a long preparation period of 2-3 years for the feasibility study, a year or two for public procurement and 3 - 5 years for the execution of construction works, so these are projects that last between 6 and 10 years, a duration that exceeds the duration of a European financial cycle of 7 years. Romania did not have projects ready to start the execution of works in 2007 and this fact cost our country the loss of approximately 2 billion euros in the programming period 2007 - 2013, due to the absorption of only 90% of the allocation for our country.

Table 2: The performance of the operational programmes in Romania during the programming period 2014-2020

Romanian Operational Programmes 2014-2020	Financial allocation 2014-2020 (billion euro)	Current Absorption rate (03.04.2020)
Regional Operational Programme	6,860	22.86%
Large Infrastructure Operational Programme	9,219	26.42%
Competitiveness Operational Programme	1,330	28.17%
Human Capital Operational Programme	4,372	27.26%
Administrative Capacity Operational Programme	0,553	23.57%
Technical Assistance Operational Programme	0,253	60.51%
Total	22,586	25.91%

Source: Ministry of European Funds in Romania Available: http://mfe.gov.ro/stadiul-absorbtiei-fondurilor-ue/ and https://www.fonduri-ue.ro/images/files/implementare-absorbtie/Anexa_1-Stadiul_absorbtiei_2007_-_2013_martie_2017.pdf [07 May 2020]

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From my point of view, the money received from the European Union has changed Romania for the last 14 years since the accession of 2007. It should be mentioned that there are certain restrictions of the European Union for the allocation of important amounts of money to areas such as research or combating climate change, areas for which Romania has not been very well prepared.

During the 2014 - 2020 programming period, the operational programs did not undergo major changes. There was a merger of the Environmental and Transport Programmes that form the Large Operational Infrastructure Programme.

Regarding the financial allocation for the period 2014 - 2020, there is a 72% increase for the Regional Operational Programme, so that for the regional development the beneficiaries have available 6.86 billion euros compared with 3.96 billion euros as they were allocated per funding periods 2007 - 2013.

	Regional Operational Programme	Large Infrastructure Operational Programme	Competitiveness Operational Programme	Operational Programme Human Capital	Operational Programme Administrative Capacity	Technical Assistance Operational Programme
■ Serie1	72,97%	5,96%	-47,58%	36,62%	165,96%	48,69%
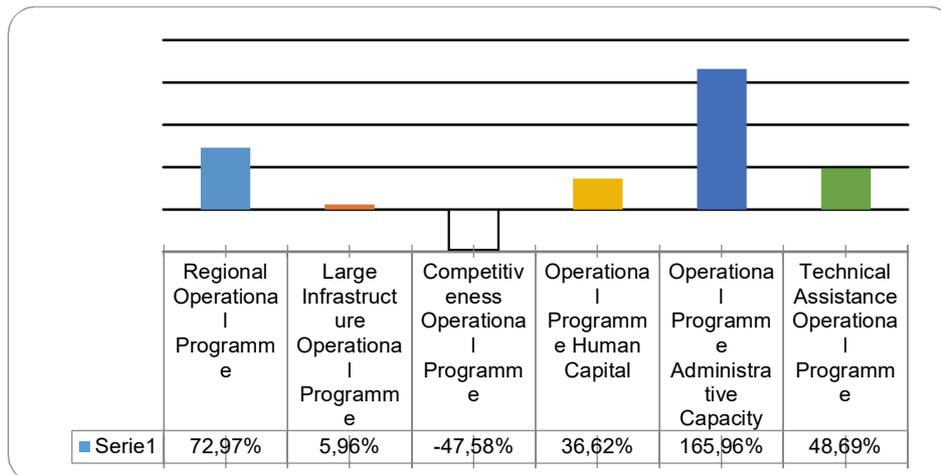
Figure 1: The evolution of the allocation on the operational programs in Romania in the periods 2007 - 2013 and 2014 - 2020
Source: Ministry of European Funds in Romania Available: http://mfe.gov.ro/stadiul-absorbtiei-fondurilor-ue/

All operational programs have benefited from an increase in the financial allocation except the operational program competitiveness. It should be mentioned that some of the areas financed by the old competitiveness program from 2007 to 2013 were transferred to other programs, which is one of the reasons for the decrease of the allocation.

There is a 20% increase in the structural and investment funds allocated to Romania through the regional development policy and the European Social Fund.

The main cause that led to the reduced absorption of European funds in Romania in the period 2007 - 2013 was represented by the excessive bureaucracy. It is encouraging that for the period 2014-2020 the bureaucracy has been reduced so that project beneficiaries no longer have to submit so many supporting documents, no longer need to be signed and stamped on each page and the MySMIS system was created to load scanned documents for submission of the financing request, for

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signing the financing contract but also the reimbursement requests and the notifications made during the implementation period of the projects. At the same time, the applicant's guidelines have remained too complicated and the eligibility conditions are extremely restrictive and limit many potential beneficiaries to apply for European money.

4. The importance of investments from European funds in Romania - analysis by regions

Romania is a net beneficiary of European funds and these have contributed to the development of the Romanian infrastructure and to the increase of the standard of living. Through the Structural Funds, projects were financed, which involved creating jobs, supporting companies and the business environment, improving environmental conditions and developing human resources.

One of the areas where the biggest improvements were seen after Romania's accession to the European Union is represented by the motorways. Thus, at this moment in Romania there are over 300% more kilometers of the highway than before the accession to the European Union. At the same time, it should be mentioned that the rate of investments in highways and expressways is much lower in relation to the investment requirement established by the Romanian Transport Master Plan. One cause of the slow pace of highway construction is the low administrative capacity, the high bureaucracy and the low involvement of CNAIR (Romanian Roads and Highways Company) in order to solve the problems that arise in the implementation of the projects.

Table 3: Highway completed in Romania

Highway completed in Romania (kilometres)		
Perioad	**Number of kilometres**	**Percentage**
1972 - 2006	210	24,73%
2007 - 2013	397	46,76%
2014 - 2019	242	28,50%
Total	849	100,00%

Source: Made by the author using information from the Romanian Master Plan of Transport

At the same time, we notice improvements in terms of airport infrastructure in Romania, and in this area investments are also made from European funds. A negative aspect is represented by the investments in the railway, investments that go very hard in relation to their need.

Through the Regional Operational Programme 2014 - 2020, investments are made in sustainable urban mobility, the Romanian municipalities being eligible. This program funds the purchase of new trams, electric or hybrid buses, the creation of pedestrian and bicycle areas and the creation of dedicated lanes to make public transport more attractive for people. An important part of these investments aims to reduce pollution.

It is noted that after the accession to the European Union, more than 600 kilometers of motorway were made in Romania, many kilometers in relation to how much was

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achieved until accession but few kilometers in relation to the performances achieved by other central European member states such as Hungary, Poland or the Czech Republic.

Table 4: Financial Allocation for the Regional Operational Programme 2014 – 2020

Financial Allocation for the Regional Operational Programme 2014 – 2020	Euro	Population (2019)	Financial allocation per capita
North-West Region	661.501.601	2.552.112	259
Center region	637.958.976	2.318.272	275
North-East Region	808.296.792	3.198.564	253
South-East Region	685.967.466	2.396.171	286
South Muntenia Region	726.590.035	2.929.832	248
Bucharest - Ilfov Region	334.659.131	2.315.173	145
South-West Region	552.559.258	1.926.860	287
West Region	543.326.856	1.777.474	306

Source: http://www.adrse.ro/Documente/Planificare/PDR/2014/Programe/Plan_ financiar.POR.2014_2020_dec.2014.pdf [28 Jan 2020] and National Institute of Statistics from Romania, http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table [28 Jan 2020]

As we can see from the table showing the allocations through the Regional Operational Program 2014 - 2020, the allocation by regions is not very balanced. In the European Union, developed regions receive more money per capita compared to less developed regions. Thus, the capital region that has a GDP per capita comparable to the major European capitals has an allocation of 145 euro per capita and the West Region has the highest per capita allocation of 306 euro, although it is not the poorest region. The North East Region, which is one of the least developed region in the European Union, has a lower allocation than the West Region, one of the most developed regions in Romania. This aspect is paradoxical and does not support the balanced territorial development and the reduction of the gaps between the regions.

5. In conclusion

Romania lost over 2 billion euro in the programming period 2007-2013 and it is important to learn the necessary lessons so that in the period 2014-2020 they will not lose money anymore. It is important to absorb the entire amount of the European funds allocated to reduce the discrepancies with other Member States. From my point of view, the money received from the European Union has changed Romania for the last 14 years since the accession of 2007. One of the areas where the biggest improvements were seen after Romania's accession to the European Union is represented by the motorways. Thus, at this moment in Romania there are over 300% more kilometers of the highway than before the accession to the European Union. The beneficiaries of the European projects and the managing authorities from Romania need to increase their administrative capacity in order to increase the absorption of European funds.

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During the 2007 – 2013 programming period, the smallest absorption was achieved on the operational programmes that financed the large infrastructure, Transport Operational Programme and Environment Operational Programme. This is a negative aspect because Romania needs the development of the infrastructure in order to reduce the disparities with the states of Western Europe.

Regarding the financial allocation for the period 2014 - 2020, there is a 72% increase for the Regional Operational Programme, so that for the regional development the beneficiaries have available 6.86 billion euros compared with 3.96 billion euros as they were allocated per funding periods 2007 - 2013.

The main cause that led to the reduced absorption of European funds in Romania in the period 2007 - 2013 was represented by the excessive bureaucracy. It is encouraging that for the period 2014-2020 the bureaucracy has been reduced so that project beneficiaries no longer have to submit so many supporting documents, no longer need to be signed and stamped on each page and the MySMIS system was created to load scanned documents for submission of the financing request, for signing the financing contract but also the reimbursement requests and the notifications made during the implementation period of the projects.

The main limitation of this article is represented by the fact that it was analyzed the absorption of structural funds only from Romania. In future articles I want to extend this analysis to other former communist states from Central and Eastern Europe as well as to the states in Western Europe so as to compare the results in our country with the results of absorption in other European states.

6. Acknowledgements

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THE IMPORTANCE OF PROFITABILITY INDICATORS IN ASSESSING THE FINANCIAL PERFORMANCE OF ECONOMIC ENTITIES

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Abstract: *Financial performance is a major point of interest for both the internal and external environment of an economic entity. To be prosperous, attractive, efficient and promising development, a company must obtain a profit. In the conditions of a dynamic economic environment, assailed by many changes, maximizing profitability or the ability to make a profit as a measure of performance is the main objective of the activity of an economic entity. Profitability is one of the forms of expressing economic efficiency with summarizing the efforts made to obtain the expected results. Profitability rates measure the results obtained in relation to the activity of companies (commercial profitability) with economic means (economic profitability) or financial means (financial profitability).The main purpose of this research is to highlight the importance of profitability indicators in assessing financial performance. The research also aims to present the current state of knowledge, by calling for specialized bibliographic references, highlighting current concepts on the notion of profitability, outlining the importance of profitability indicators in the activity of measuring financial performance. In order to assess the efficiency of the activity of an economic entity, the research is based on an empirical study at a company in the pharmaceutical industry by determining rates of return based on information from the financial statements of the entity for the period 2009-2018. The research results show us that, in the activity of measuring financial performance, the profitability indicators show us the economic efficiency of the entire economic activity. Being essential in the conditions of a dynamic economic environment, assailed by numerous changes, profitability is the expression of any entity earnings, and obtaining the profit as a measure of profitability (income increase in relation to the reduction of costs) represents the main objective of the activity of an economic entity. Return on assets (ROA), return on equity (ROE) and return on sales (ROS) are some of the key indicators in assessing financial performance, indicators that must be used by stakeholders to substantiate decisions.*

Keywords: *profitability; financial performance; return on assets; return on equity; return on sales.*

JEL Classification: *L25; M41; M42.*

1. Introduction

The economic space in which the entities operate is frequently assailed by numerous changes, both in economic and social, financial, accounting, legislative. In a competitive environment, entities should focus on assessing the extent to which

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strategic objectives have been met, making a profit as a measure of financial performance, and identifying ways to grow and develop the entity's business. Financial performance is a major point of interest for both the internal and external environment of the entity. Thus, the measurement of financial performance must also to a certain extent address the needs or interests of the participants in the economic life of the entity. Profitability is one of the forms of expressing economic efficiency with edifying synthesis power, so that it includes all economic and financial aspects of companies and is a reference indicator for substantiating decisions and guiding their behavior (Burja, 2006). Regarding the measurement of financial performance, it was found that ROA (return on assets) is the most common indicator of performance measurement (Lim, 2019).

The main purpose of this article is to highlight the importance of profitability indicators in assessing financial performance. In order to assess the efficiency of the activity of an economic entity, in order to measure the financial performance, we conducted a case study at a company in the pharmaceutical industry to determine profitability indicators based on information from the financial statements of the entity for the period 2009-2018.The research results show us that, in the activity of measuring financial performance, the profitability indicators show us the economic efficiency of the entire economic activity. Return on assets (ROA), return on equity (ROE) and return on sales (ROS) are some of the key indicators in assessing financial performance, indicators that must be used by decision makers to substantiate opinions.

2. Research Methodology

In the paper, the presentation of the current state of knowledge, by calling for specialized bibliographic references, highlighting current concepts on the notion of profitability, financial performance, profitability indicators was achieved by using as a research method to review the literature. At the same time, the theoretical documentation allowed the presentation of some concepts considered significant in relation to the studied topic, as well as the highlighting of the importance that profitability indicators have in the assessment of financial performance. The study of synthesis documents as a research method was chosen as the basis for the case study on financial performance evaluation. The case study aims to illustrate how to assess the economic performance of a company through profitability indicators. Participatory observation was used for the analysis and interpretation of the results of the case study and last but not least, the substantiation of opinions based on the results obtained and the achievement of the proposed objectives.

3. Literature Review

The analysis of literature review shows that the profitability of an entity is essential in the conditions of a dynamic economic environment, and making a profit as a measure of profitability (increasing revenues versus reducing expenses) is the main objective of an economic entity. The state of profitability represents the first level of ensuring the performance of an economic activity, which can be highlighted both in

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absolute form (by calculating profitability levels) and relative - by calculating profitability rates (Achim MV, Borlea SN, 2017).

Profit was and continues to be considered today the main indicator for measuring the performance of the company. In the literature there are a number of conceptual approaches to the notion of "profit". In the vision of the author Barbuță-Mișu N. (2009), profit is "the best known performance indicator, being a consequence of risk, a reward that the company can receive for risking its capital, and the main sources of profit being: uncertainty and innovation, both having as common denominator the presence of entrepreneurship ".

According to a study, profitability can be defined as the ability of an enterprise to make a profit by using factors of production and capital regardless of their origin, being one of the most synthetic forms of expressing the efficiency of the entire economic and financial activity of the enterprise, respectively of all the production factors, from all the stages of the economic circuit (Gruian, 2010).

The literature review brings to light different visions related to profitability, such an important component that must be analyzed, interpreted, but especially, capitalized.

In a study published by Căruntu C., Lăpăduși M.L, (2012) states that profitability is a form of macroeconomic efficiency that reflects the net effects (results) obtained per unit of effort (expenditure) with factors of production. In other words, the same bibliographic source mentions that the activity of characterizing economic and financial performance requires the use of information provided by rates of return (expressions of dynamic realities), and the quality of decisions and the actual presentation of diagnostic results depends on the quality the information they provide, which must be relevant, reliable and comparable.

Regarding the importance of performance appraisal, specialized studies, Tehrani et al (2012) quoted by Burja V. & Burja C (2017), outline the idea that the content of annual financial reports aims to assess performance based on income and expenditure, these being the elements of necessary basis for determining results and profitability, and performance appraisal is considered by many authors to be a particularly useful method for determining the current financial situation compared to the situation of competitors and their own expectations. The easiest way to reflect the performance of an economic unit is through its earnings, expressed either in absolute values (profit) or relative values (profitability) (Paliu-Popa, 2011)

4. The importance of profitability indicators in assessing the financial performance

Profitability ratios measure the firm's ability to generate profits and central investment to security analysis, shareholders, and investors. Profitability is the primary measure of the overall success of enterprise and the analysis of profitability ratios is important for the shareholders, creditors, prospective investors, bankers and government alike (Nishanthini & Nimalathasan, 2013). Profitability is one of the forms of expressing economic efficiency with edifying synthesis power, so that it includes all economic and financial aspects of companies and is a reference indicator for substantiating decisions and guiding their behavior (Burja, 2006). Much of the academic research on performance appraisal has been focused on

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measurement issues (although we will discuss some recent exceptions), which has not really been helpful to practitioners who must find ways to improve performance (DeNissi, Pritcard, 2006). According to Atkinson et al. (1997) performance measurement should help the economic entity to understand and assess the value received from suppliers and employees, the value provided by the stakeholders and the effectiveness of processes implemented in the economic entity and its strategic properties. Therefore, we can say that performance measurement plays the role of coordination, monitoring and diagnosis of economic entity's activities (Pintea, 2012). Financial statements are a necessary basis for measuring the financial position and performance of a company, and the clearly proven fact is that the view on financial position and performance is influenced by applied accounting and reporting methods (Beranova & al).

In the paper Financial intelligence in predicting the credibility risk of the company: evidence from the approach of vector assistance technology, the authors (Nesrin, IkraM, Amina, Abdelouahid, 2013) seek to explore the usefulness of financial indicators in measuring the financial health of companies and how to use these relevant attributes to design intelligent financial solution provided to investors and financial institutions to predict financial crashes. Such indicators are of the utmost importance since financial risks have significantly increased in the context of the current global financial crisis.

The use of financial indicators as a measure to assess the financial performance also has certain limitations. In the opinion of author Nicu (2012) the financial indicators offer a short-term perspective upon performance, they are indicators of result and not of process; they are the effect of decisions of various origins and, through time reporting, of various durations. Also, financial indicators are often the result of complex and even debatable calculations, requiring complex economic and financial knowledge and, generally, the information provided to the deciding factors must be obtained rapidly and it must be intelligible in order to facilitate quick decision-making.

Information about a company's performance, especially its profitability, is useful for assessing potential changes in economic resources that the company will be able to control in the future and for anticipating the ability to generate cash flows with existing resources. Also based on performance, reasoning is formulated regarding the efficiency with which the enterprise can use new resources (Burja, 2006).

In a modern market economy, maximizing profitability is the fundamental criterion of firms' decisions to employ the costs of organizing production, expanding or restricting it. It should be noted that economic efficiency has a much wider scope than the notion of profitability, as it covers the entire system of indicators that reflect the various specific forms of economic efficiency - a system grouped into subsystems including the subsystem of profitability indicators. However, profitability mirrors the final economic efficiency of the entire economic and financial activity, constituting a true quintessence of all aspects of economic efficiency (Ghic, Grigorescu, 2012).

Recent studies in the field bring into question the perspective of measuring financial performance through market-based or accounting-based methods. In this regard, some authors (Feng, Yunwen & al, 2019) attribute to accounting-based methods

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the use mainly of information in financial statements to build measurement indicators that reflect the organizational capabilities of the enterprise, indicators such as return on assets (ROA) (Muhammad et al. 2016), profitability of sales (ROS) (Iwata and Okada 2011), return on investment (ROI) (Latan et al. 2018) and return on equity (ROE) (Wagner et al. 2012). Market-based methods use information from capital markets and focus on shareholder profitability. Tobin's Q (TBQ) is the ratio of a company's market value to the cost of replacing its assets, an indicator that the company can appreciate not only in accounting, but also from a market perspective. Gruszczynski (2006) presents the most important indicators used to measure the company's performance, indicators such as market value, ROA, ROE, EBIT, Tobin's Q; noting that these variables are sometimes uncorrelated, it they measure the same performance differently. ROA is defined as the difference between net income and total assets, while Tobin's q is the carrying amount of debt and the market value of equity minus total assets (Yilun Shi). The Return on Assets (ROA) indicator expresses the company's ability to generate profit as a consequence of the productive use of resources and of the efficient management, and it's used as a dependent variable in the assessment of economic performance. It is computed as a ratio between Net Income and Total Assets (Burja, 2010).

Profitability rates measure the results obtained in relation to the activity of companies (commercial profitability) with economic means (economic profitability) or financial means (financial profitability).By summarizing the above, we can say that measuring financial performance based on profitability indicators involves the calculation and analysis of so-called rates of return: Return on assets (ROA), return on equity (ROE) and return on sales (ROS).

5. Empirical study on the assessment of financial performance of an entity in the pharmaceutical industry based on profitability indicators

In order to assess the efficiency of the activity of an economic entity, in order to measure the financial performance, we conducted a case study at a company in the pharmaceutical industry to determine profitability indicators based on information from the financial statements of the entity for the period 2009-2018.The table below (Table no. 1) presents the situation of the main elements taken into account in determining the profitability indicators:

Table 1: Indicators of the analyzed company

Year	Turnover	Gross profit	Net Income	Equity	Liability	Total Assets
2009	815.370.111	21.299.293	21.270.626	46.260.685	358.866.343	404.824.026
2010	989.768.497	41.118.208	40.941.647	87.433.972	594.612.161	679.539.189
2011	920.786.955	4.465.039	1.166.452	88.190.537	694.442.894	790.273.981
2012	1.090.217.856	-63.513.725	-63.513.725	24.535.393	836.796.925	858.185.210
2013	1.299.265.379	-38.895.796	-38.895.796	-14.837.450	614.427.456	595.017.573
2014	1.250.586.655	8.053.117	8.053.117	-6.380.347	512.468.837	502.382.109

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Year	Turnover	Gross profit	Net Income	Equity	Liability	Total Assets
2015	1.186.232.851	31.238.425	31.238.425	20.754.448	451.220.385	469.254.398
2016	1.670.039.157	31.934.924	31.864.532	52.618.601	834.418.118	884.015.461
2017	1.652.550.590	21.543.640	17.785.413	68.643.187	846.179.874	911.058.313
2018	1.739.893.747	44.267.709	37.400.628	106.043.815	782.728.623	884.866.879

Source: Data from the financial statements of the company

From the data analysis we can observe a favorable evolution of the turnover which registered a progressive increase throughout the analyzed duration. However, we cannot yet talk about the profitability of the business. There is a drastic decrease in gross and net profit in the period 2012-2013, a period in which the company records a loss, mainly due to the increase in expenses in relation to the revenues obtained. However, one year later, the entity manages to overcome this impasse, recording a significant profit in 2014, and starting this year and until the end of the analyzed period, the entity manages to record a significant increase in profit. Also, the entity records for the period 2013-2014 negative equity due to the entity's support for the losses recorded in previous years.

On the basis of this indicators, from the financial statements, we determinate the return on assets (ROA), return on equity (ROE) and return on sales (ROS) in the period 2009-2018. Research results are presented in table no.2.

Table 2: The profitability indicators of the company

Year	Return on Assets (ROA)	Return on Equity (ROE)	Return on Sales (ROS)
2009	5,26	45,98	2,61
2010	6,05	46,83	4,15
2011	0,56	1,32	0,48
2012	-7,40	-258,87	-5,83
2013	-6,54	262,15	-2,99
2014	1,60	-126,22	0,64
2015	6,66	150,51	2,63
2016	3,61	60,56	1,91
2017	2,36	25,91	1,30
2018	5,00	35,27	2,54

Source: Indicators were calculated using data from the financial of the company

Registering a loss in the period 2012-2013, and negative equity in the period 2013-2014, the rates of return for the period 2012-2014 have a negative value.

In the figure below (Figure no. 1) we find the evolution of the return on equity.
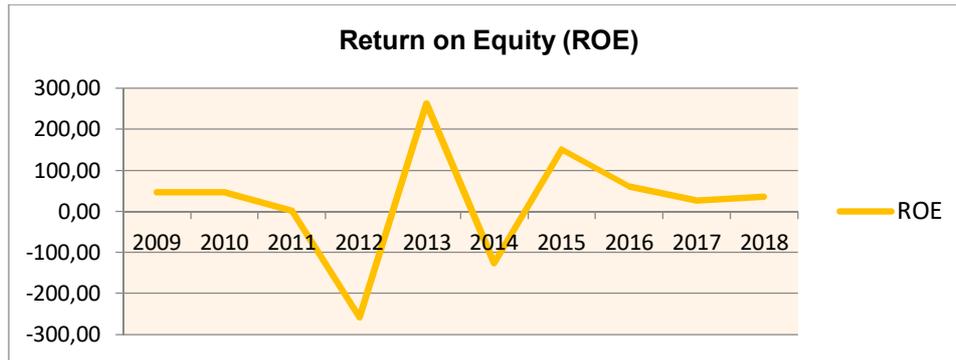
Figure 1: The evolution of the Return on Equity in period 2009-2018
Source: own screening

Return on equity shows us the company's ability to generate net profit. The indicator is followed in the practice of financial analysis because it expresses the net remuneration of shareholders and as such the support for the orientation of their strategic decisions towards the company. In the short term, the shareholders pursue the collection of dividends, and in the long term their interest is to increase the net profit and implicitly the value of the dividends to be collected, this being possible by reinvesting the net profit (Burja, 2006)

We see a significant increase in the return on equity in 2013, but we must take into account that this increase is due to a positive rate calculated as a ratio between a negative gross result and a negative equity. We can say that the entity registers a downward trend in the period 2012-2014 due to its registration of a loss that lasts two years. However, we conclude that the entity manages to recover and generate significant profits and income in the form of dividends for shareholders or associates.

In the figure below (Figure no. 2) we find the evolution of the return on assets.
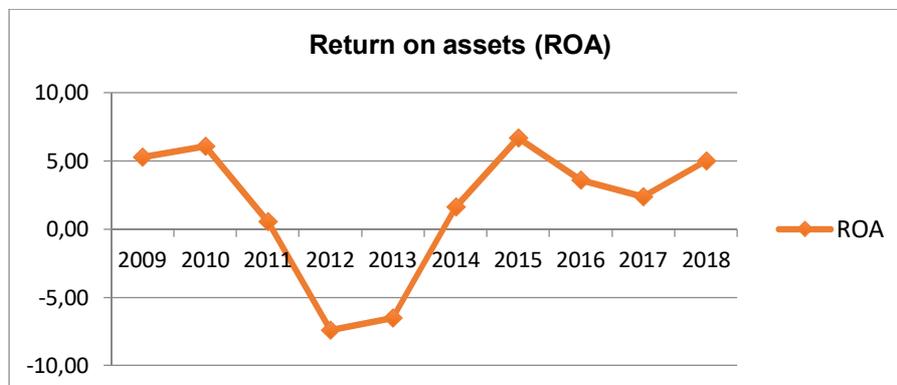
Figure 2: The evolution of the Return on Assets in period 2009-2018
Source: own screening

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The return on assets shows us the correlation between an economic result and the economic means (capital) employed to obtain it.

The return on assets shows us an upward trend, which confirms an efficient use of resources (assets) in relation to the results obtained. The entity manages to overcome the stalemate in the period 2012-2013, thus demonstrating a good organization and of course an increase in productivity and business efficiency.

In the figure below (Figure no. 3) we find the evolution of the return on sales.
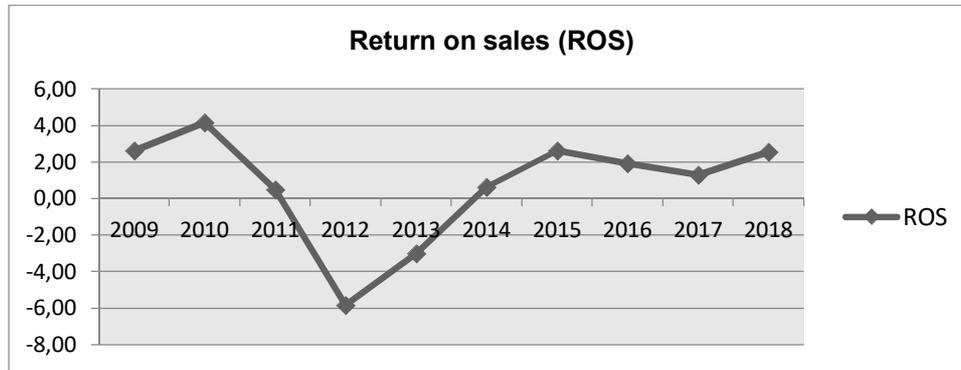
Figure 3: The evolution of the Return on Sales in period 2009-2018
Source: own screening

The return on Sales (ROS) shows us the economic efficiency from the point of view of the final stage of the economic circuit. Taking into account that the turnover (indicator used in determining the return on sales) has a significant increase from one year to another which also means a confirmation of the development of the economic activity of the entity, we note that the return on sales has a downward trend since with 2009 and until 2013, mainly due to the increase in expenditures made in relation to the revenues obtained. However, the entity also demonstrates to us in this case an increase in the efficiency of the activity.

Following the analysis, we conclude that, although an entity has a record turnover, in the activity of measuring financial performance we must also consider profitability indicators, in order to identify the entity's weaknesses or potential risks to which it may be subject.

6. Conclusions

Profitability is one of the forms of expressing economic efficiency with summarizing the efforts made to obtain the expected results. To deal with all challenges, and to be prosperous, attractive, efficient and promising development, an entity must obtain a profit. As a consequence of the risk assumed, the profit represents a reward for the sound management of resources. Being essential in the conditions of a dynamic economic environment, assailed by numerous changes, profitability is the expression of any entity earnings, and obtaining the profit as a measure of

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profitability (income increase in relation to the reduction of costs) represents the main objective of the activity of an economic entity. Profitability has been, is, and will be, a major point of interest for both the internal environment and the external environment of an economic entity.

The research highlights the major importance that profitability indicators have in assessing the financial performance. The research results show us that, in the activity of measuring financial performance, the profitability indicators show us the economic efficiency of the entire economic activity. Return on assets (ROA), return on equity (ROE) and return on sales (ROS) are some of the key indicators in assessing financial performance, indicators that must be used by decision makers to substantiate opinions.

To assess the performance of economic entities it is required that performance evaluation to be done with a balanced multidimensional system, including both financial ratios and non-financial indicators in order to reduce the limits of the two categories of indicators. Performance measurement and management can't be separated; performance management is a philosophy that is supported by performance measurement (Pintea, 2012)

7. Acknowledgement

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ANALYSIS OF THE FINANCIAL SITUATION OF BEVERAGE MANUFACTURER COMPANIES

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Abstract: *Managers of a company are able to make the right decisions in order to improve the business activities of the company concerning the future, if they have the necessary and appropriate information to judge and evaluate the operation of the company. Thus, they require information that provides a reliable and realistic picture about the company. Creating an accurate picture of the company is of great importance not only for the managers but also for those who are related to the company (for example: investors, creditors, etc.). The accounting statement of the company helps obtain sufficient in-depth information to become familiar with the situation. However, the data acquired from it must be interpreted and analysed in order to obtain relevant information about the wealth, financial and income situation of the company. In the present study, the objective is to present the financial situation of three alcoholic beverage manufacturer companies.*

1. Literature review

Making correct decisions is of essential importance for every company in order to operate successfully. In the globalized, accelerated world of the present time, economic competition is intensifying, resulting in reduced reaction time, while the complexity of the problems to be solved is constantly increasing. As a result, fast and high-quality decision-making is very important. In order for the management of a company to be able to make the most appropriate decisions, they need accurate and reliable information about the operations of the company, supported by in-depth economic and financial analysis. Obviously, in addition to all the above, it is necessary for the manager to have the appropriate professional knowledge and experience to recognize the causes of the events, to comprehend the interconnections and to be able to choose the most appropriate proposal from those presented to him.

Economic analysis is an indispensable tool for the managers of the company, with the help of which they are able to obtain information by which the economic operation of the company can be known, evaluated and thus improved (Béhm et al., 2016).

The purpose of economic analysis is to identify and evaluate the circumstances affecting the economic management of the enterprise. Based on the performed analyses, the preparation of management decisions, the efficiency of the measures

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already implemented and the activities performed so far, as well as the increase of economic results can be qualified (Musinszki, 2014).

An appropriately prepared business plan, sustainable economic management, continuous evaluation of business activities and analysis of past performance are of key importance to the success of the enterprise, as these activities reveal the weaknesses and strengths of the business. The most important goals of companies are efficiency, profitability, efficient and competitive operation and increasing the value of the company, which can be achieved primarily by eliminating past problems (Musinszki, 2016).

Assessing a business requires a relatively uniform information system that must be consistent across both the business and its environment. This requirement is primarily met by the accounting system of enterprises, the regulatory framework of which is defined in Hungary by Act C of 2000 on Accounting (hereinafter referred to as the Accounting Act). According to the currently prevailing law, companies are required to keep some type of accounting records of economic events that have occurred in the given financial year and to close them at the end of the financial year. Following the closing of its books, this must be supplemented by the preparation of a report specified by law, which is a report that provides an objective, reliable and realistic overview of the wealth, financial and income situation of the company (Fenyves et al., 2019a).

The report is available to the public (§4, §12 and §153 of the Accounting Act), therefore this accounting compilation is the main source of information not only for internal but also for external stakeholders, which enables a comprehensive analysis. Key players to be considered as external stakeholders: investors, creditors, market partners such as: customers or suppliers. Internal stakeholders include business managers, owners and employees. Information needs of stakeholders differ as they are examine the acquired knowledge from different perspectives and apply it for different decisions (Böcskei, 2015.; Zéman et al, 2016). The most important thing for the owners is to know the financial situation of the company (Szekeres – Orbán, 2019). They are interested in the ability of the company to generate income and what proportion of the generated income can be deducted in the form of dividends. Investors need information to know how much risk they are taking with their investments or how much they can get in return (Fenyves, 2014). Creditors are interested in the security of lending, i.e., whether a company is able to repay instalments and interest on time. Customers and suppliers are concerned about the durability and security of their built relationships. For management and employees, it is important that their jobs are stable and thus their income is secured (Kerezsi-Erdey, 2019).

The purpose of the annual statement is to document the impact of economic events in a given year, to inform stakeholders, and to assist in determining dividends (Fenyves et al., 2019b).

Despite the fact that the mandatorily prepared annual statements are public, companies disclose this fact less, therefore currently the mystique of access to economic data of market participants and interested parties is still largely present (Böcskei - Hágen, 2017).

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The analysis of the report may be important for the specific external or internal stakeholders due to different interests, therefore it is expedient to classify them into three groups:

-Information function: aims to explore connections and facts that cannot be directly established from the statement.

-Monitoring function: supports the evaluation of the business and backs and reviews managerial decisions (and checks their results).

-Planning function: the goal is to contribute to future optimal decisions (Zéman, 2017).

It is possible to prepare annual reports not only in accordance with the Hungarian accounting rules, but also in accordance with the International Financial Reporting Standards (IFRS). The Accounting Act regulates in detail which group of companies may choose to prepare annual financial statements in accordance with IFRS (Orbán – Kiss, 2017, Takács et al., 2017).

2. Material and method of the study

Data from the annual statements of the companies included in the analysis were collected or the last 5 years (2014 to 2018). After collecting the data in a Microsoft Excel spreadsheet software and including it in spreadsheets, the software was used to calculate the indicators for assessing the financial situation.

3. Analysis of the companies by quartiles

Both vertical and horizontal indicators can be used to analyse the financial situation of a company. For the analysis of the financial position, so-called asset structure indicators can be formed from the data on the asset side of the balance sheet, and on the basis of the data on the liability side of the balance sheet, capital structure indicators can be formed for the analysis of the financial situation.

The capital strength indicator is a widely used vertical indicator that shows the ratio of equity to balance sheet total. It shows the extent to which the owners provide the business with their own resources. When assessing the indicator, the capital demand of the business activity must be taken into account. In terms of the development of the indicator over time, growth can typically be considered favourable. The low value of the indicator indicates the need for external funding. The minimum expected value of capital strength is 30%.

The development of the capital strength indicator of Joaner Ltd. for the period from 2014 to 2018 is summarized in Table 1. The value of the indicator approaches the acceptable level of 30% in the first 3 years at the closest. Although equity showed a steady increase in absolute value, the growth rate of equity did not exceed the growth rate of all liabilities to the extent that it could achieve it. From 2015 onwards, the indicator shows a continuously decreasing trend, and continuing the development direction, it hardly reaches 3% by 2017, as a result of which the company is in an increasingly critical position. In 2018, the dependence of the company on external sources improved slightly, but still remained below 5%, which is very unfavourable.

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Table 1: Evaluation of the capital strength of Joaner Ltd. between 2014 and 2018

Name	2014	2015	2016	2017	2018
Equity (thousand HUF)	385 394	386 526	390 809	47 559	90 676
Total liabilities (thousand HUF)	1 531 681	1 425 410	1 602 272	1 628 617	1 995 095
Capital strength	25.16%	27.12%	24.39%	2.92%	4.54%

Source: own editing based on the annual statements of Joaner Ltd

In the case of VÁRDA-DRINK cPlc., the value of the indicator is above 40% in 2014 and 2016, and above 60% in 2015 and 2017, which can be considered favourable. By 2018, the indicator will be reduced to half of the previous year due to a drastic change in current liabilities, to 29.71%, which is just below the minimum threshold.

Table 2: Evaluation of the capital strength of VÁRDA-DRINK cPlc. between 2014 and 2018

Name	2014	2015	2016	2017	2018
Equity (thousand HUF)	964 351	923 421	1 310 477	1 397 614	1 319 382
Total liabilities (thousand HUF)	2 357 581	1 469 613	2 938 964	2 277 922	4 441 031
Capital strength	40.90%	62.83%	44.59%	61.35%	29.71%

Source: own editing based on the annual statements of VÁRDA-DRINK cPlc.

In the case of Győri Likőrgyár cPlc., unlike the previous companies, there are no large fluctuations in the values of the indicator in the analysed period and they are stable above 40%. In 2018, an increase of 30% compared to the base year can be observed, pushing the value of the indicator towards 55%. The level above the minimum threshold and the growth are considered very favourable. Overall, this company is the most balanced in terms of ownership ratio.

Table 3: Evaluation of the capital strength of Győri Likőrgyár cPlc. between 2014 and 2018

Name	2014	2015	2016	2017	2018
Equity (thousand HUF)	996 461	950 617	1 154 505	1 149 683	1 236 138
Total liabilities (thousand HUF)	2 347 145	2 021 497	2 470 726	1 981 014	2 280 580
Capital strength	42.45%	47.03%	46.73%	58.04%	55.47%

Source: own editing based on the annual statements of Győri Likőrgyár cPlc.

The share of liabilities shows the ratio of total liabilities on the liability side. According to the scientific literature, if the value of the indicator reaches or exceeds 70%, it should be considered unfavourable. However, the relative stability or increase in the proportion of liabilities is not necessarily a negative phenomenon, as it may be because the company is expanding its business or is financing its necessary

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resources with credit to expand its existing activities. However, in the event of a sustained increase in the ratio, the burden of foreign debt will increase and dependence on external resources may become stronger.

Figure 1 illustrates the development of the share of the liabilities of Joaner Ltd. over time. The value of the indicator is also the best for this indicator in 2015. However, the value of 72% still does not reach a favourable level. However, the fact that the company took out an investment and development loan worth 9,473 thousand HUF this year changes the assessment of the indicator. Compared to the total value of investments identified in the scope of the analysis on the asset side, the amount of the loan is not significant. As of 2015, the upward tendency in the value of the indicator indicates that the indebtedness of the company has increased. By 2017, the value of the indicator is 97%, which would be risky even if its investment and development loans did not show a continuous declining trend. If a closer look is taken at the development of the indicator values, it can be seen that the share of the capital strength of the company and the share of its liabilities do not move to the same extent, but in the opposite direction, so if the proportion of equity decreases, that of liabilities increases.
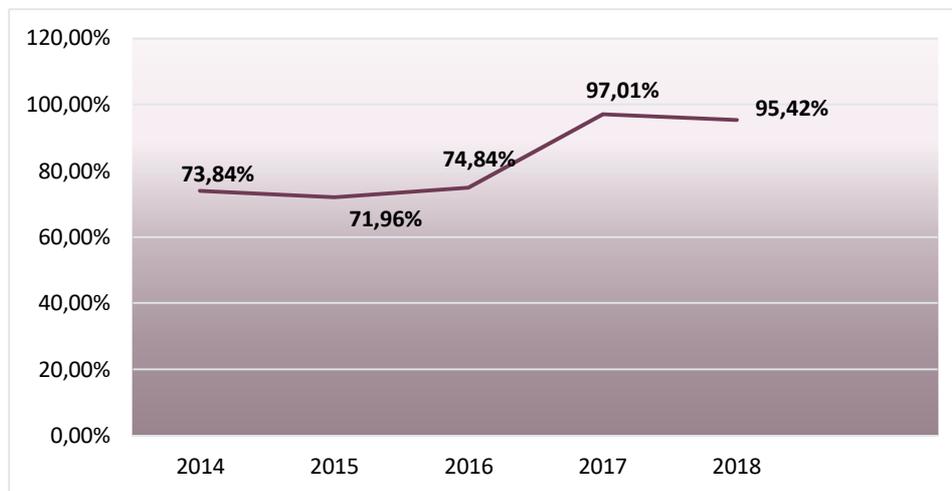
Figure 1: Proportion of the liabilities of Joaner Ltd between 2014 and 2018
Source: own editing based on the annual statements of Joaner Ltd.

Figure 2 shows that the share of liabilities of VÁRDA-DRINK cPlc. has changed significantly every year, but it exceeds the level of 70% only in the last year and even then by only 1 percentage point. Although this value is still moving along the threshold, but it should not be overlooked that it produced a 32% increase over the previous year, largely due to a radical increase in other current liabilities. If the events are considered based on the above, a much more unfavourable picture is revealed in the development of the indicator.

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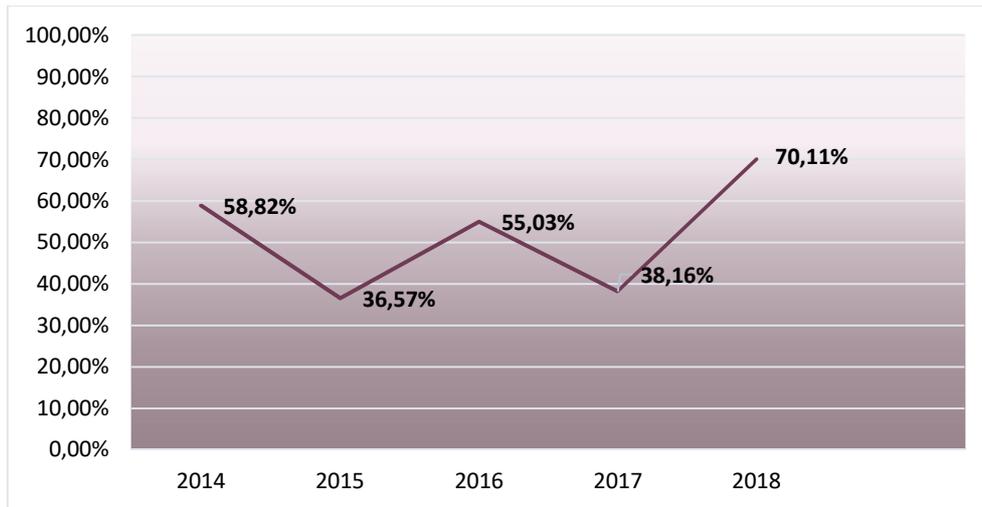
Figure 2: Proportion of the liabilities of VÁRDA-DRINK cPlc. between 2014 and 2018
Source: own editing based on the annual statements of VÁRDA-DRINK cPlc
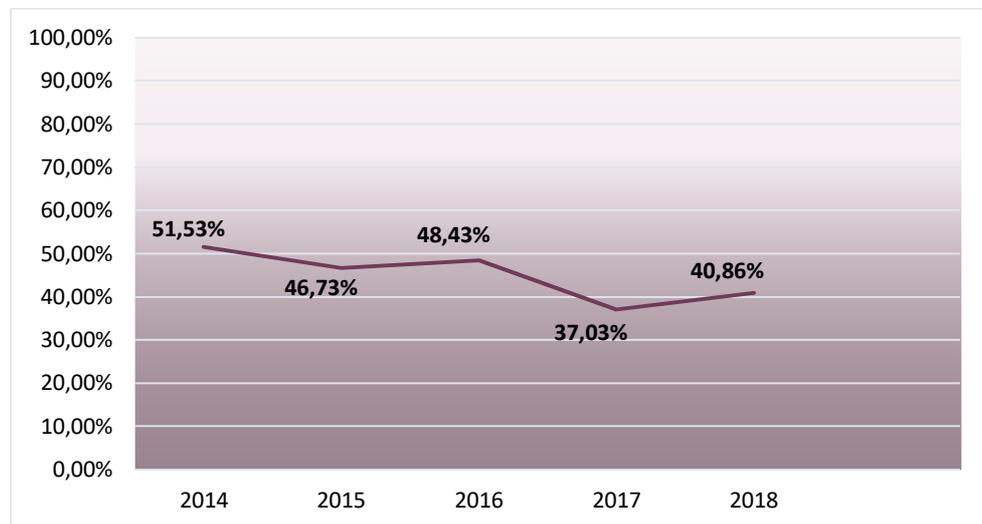
Figure 3: Proportion of the liabilities of Győri Likőrgyár cPlc. between 2014 and 2018
Source: own editing based on the annual statements of Győri Likőrgyár cPlc

The capital ratio of Győri Likőrgyár cPlc. developed favourably during the entire analysed period, as there were no major negative differences in the value of the indicator and it was able to represent a downward trend overall (Chart 3). It was able to produce a decrease of 10.67% for the last year compared to a base rate of around 50% per year. While this is not the best performance of the company, it does not lag far behind that. The company has investment and development loans every year, but their amount is the highest in 2015, despite which it has been able to

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reduce its liabilities compared to the previous year due to a decrease in current liabilities. The best result was recorded in 2017, when both the liabilities side of its balance sheet and its liabilities had the lowest values of the analysed period and the rate of decrease in liabilities exceeded the rate of decrease in total liabilities compared to the previous year.

"The provision is formed each year to cover expected losses, liabilities and other risks at the expense of pre-tax profit. It is characterized by the fact that it has to be reconstituted, but the amount formed in the previous year must be eliminated by accounting for the pre-tax profit, ie it increases the tax base. The increase in the proportion and amount of provisions indicates that an increasing share of the liabilities side is forced to be tied to expected losses and liabilities. At the same time, adequate provisioning reduces the risk to the business. On the other hand, a decrease in the provision indicators may indicate an increase in the security of the company (Trautmann-Papacsek, 1999, p.20). "

Neither Joaner Ltd, nor Győri Likőrgyár cPlc formed a provision, therefore the calculation of the indicator is not relevant in their case. VÁRDA-DRINK cPlc has a provision in three years, so in their case, Figure 4 shows the development of the indicator. In 2015, the company formed a provision of 3,733 thousand HUF, the value of which did not change until 2018, thus the fluctuation of the ratio of the indicator is solely due to the change in liabilities. The company was typically able to keep ratios below 0.3%, which poses no operational risk for the company. However, the lack of provision formation for all companies creates a great deal of uncertainty for the future.
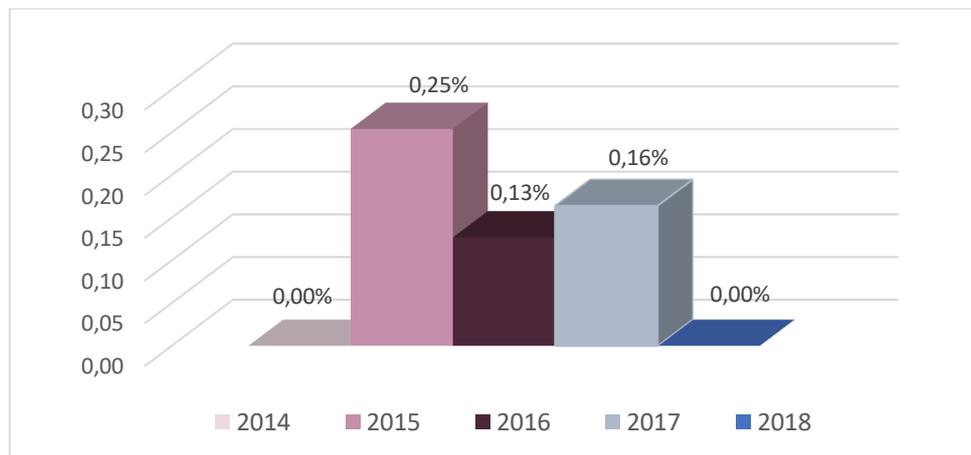
Figure 4: Proportion of the liabilities of VÁRDA-DRINK cPlc. between 2014 and 2018
Source: own editing based on the annual statements of VÁRDA-DRINK cPlc

Businesses can use the after-tax profit in two ways, either by paying dividends to their owners, or by leaving it with the business and spending it on raising equity to achieve longer-term goals. The equity growth indicator expresses the wealth growth

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of the company (Kardos et al., 2007). It shows how efficiently the persons in charge of management have performed and how much they have been able to achieve with the capital invested by the owners in the given business year. Return on equity is of paramount importance to shareholders and analysts, as they are particularly interested in whether the company in which they have invested is able to generate a return commensurate with the risk. This indicator is considered favourable if it shows the highest possible value. A negative value of the indicator indicates a loss of capital, which is very disadvantageous.

Figure 5 shows the ratio of Joaner Ltd's profit for the current year to its equity. The aim is for the indicator to reach at least the central bank base rate. In 2014 and 2015, the company was unable to meet this criterion but in 2016 it managed to exceed it. However, the positive development was followed by a radical downturn in 2017, which it managed to correct in 2018 to such an extent that it achieved by far the best result of the studied period. The value of -557.21% in 2017 is due to the decline in turnover. The company purchased the usual amount of raw materials and started to manufacture its products, however, due to the introduction of NETA, which has already been mentioned several times, its business partners did not buy from them to the usual extent, thus significantly reducing their revenue. However, its expenses did not decrease as expected, which resulted in a negative business result. The result of financial operations also ended in a minus, so its after-tax result also became negative. In 2018, the great breakthrough took place precisely due to these events. Its expenses did not increase as much as its revenues due to the material accumulation and inventory retention of the previous year while its sales increased significantly.
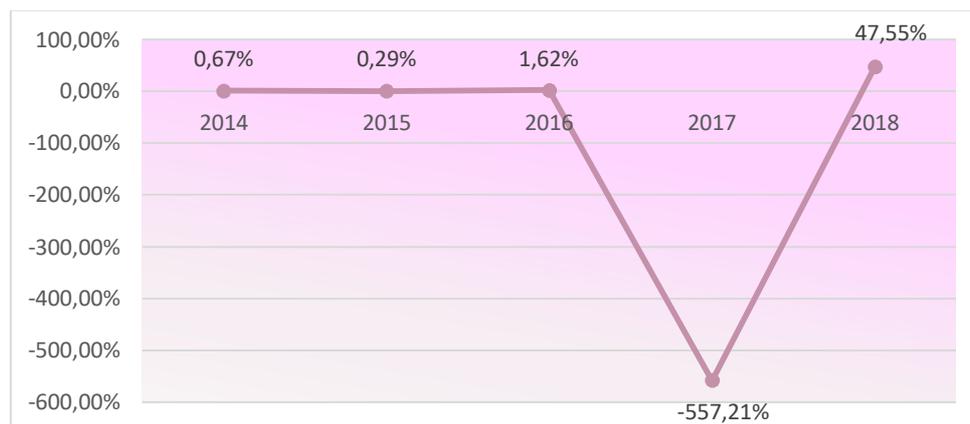
Figure 5: Extent of the equity increase of Joaner Ltd between 2014 and 2018
Source: own editing based on the annual statements of Joaner Ltd

In the case of VÁRDA-DRINK cPlc, the figure clearly shows the growing trend of the indicator at first glance. The rate of increase was significant during the studied period. The company failed to exceed the value of the central bank base rate in the

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first 2 years. It is important to note that this indicator does not provide information on the profitability of the enterprise. The indicator should therefore be assessed with caution, as the development of the balance sheet earnings depends not only on the management of the company in the current year but also on the dividend policy of the owner. In the present case, it can be said that there was no problem with the financial management of the company during the analysed period. However, in the framework of dividend payments, the balance sheet profit was paid in full among the owners, which resulted **in a balance sheet profit of 0. As of 2016, the value of capital accumulation in the current year was high due to the provisions of the new Accounting Act.**
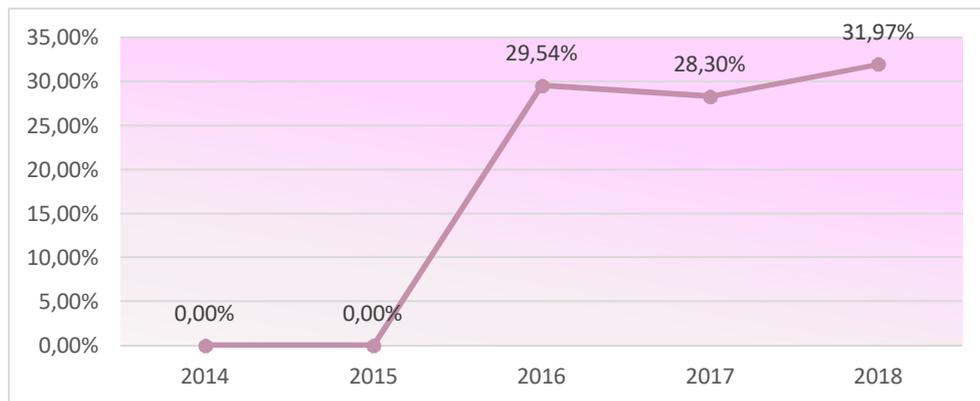
Figure 6: Extent of the equity increase of VÁRDA-DRINK cPlc between 2014 and 2018
Source: own editing based on the annual statements of VÁRDA-DRINK cPlc

In the case of Győri Likőrgyár cPlc, with the exception of 2015, the value of the indicator was well above the central bank base rate every year. In 2015, due to the dividend policy of the company, its balance sheet profit was 0, reducing the ratio to 0. Apart from this, a very favourable picture can be seen due to the constantly growing trend. In 2018, the growth rate of equity increased by 16.58% compared to the first year of the analysed period, thus reaching 29.65%.

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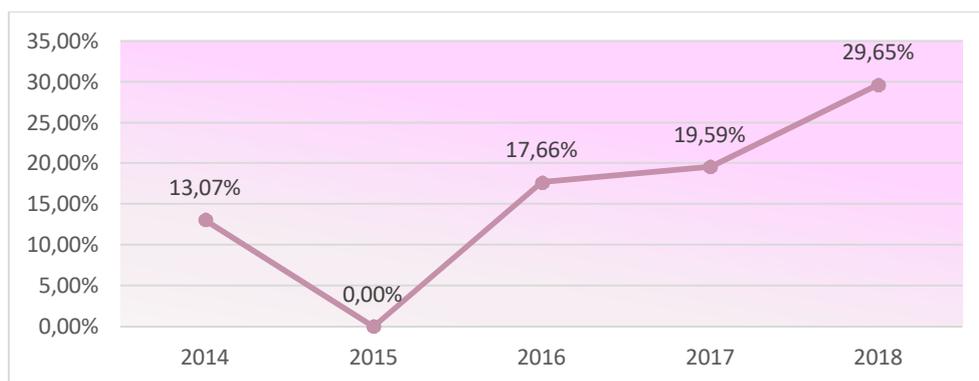
Figure 7: Extent of the equity increase of Győri Likőrgyár cPlc between 2014 and 2018
Source: own editing based on the annual statements of Győri Likőrgyár cPlc

5. In conclusion

The objective was to map the asset situation behind the three alcoholic beverage manufacturer and distributor companies and compare them with each other. By calculating the most important indicators, the aim was to provide as comprehensive a picture as possible of the available knowledge of the chosen topic. For the analysis, the annual reports of Joaner Ltd., VÁRDA-DRINK cPlc. and Győri Likőrgyár cPlc. were utilised. Overall, with the exception of Joaner Ltd., the financial position of the companies can be said to be stable. Based on the examination carried out with the help of the indicators used to present the financial situation, it can be stated that debt capital is present to a large extent in the life of Joaner Ltd. and their presence is not negligible in the case of the other two companies either. According to the debt to equity indicator, in the case of Győri Likőrgyár cPlc, there is more space for equity than for other companies during the analysed period. Joaner Ltd needs to pay more attention to the high debt ratio, including the high percentage of its other current liabilities.

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TO WHAT EXTENT DOES THE INFORMATION DISCLOSURE OF SPORTS AND ICT COMPANIES COMPLY WITH THE LEGAL REQUIREMENTS?

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Abstract: *Organizational decision-making, whether operational or strategic, involves risk because decisions are made in an environment characterised by uncertainty. Sufficient amount and high-quality data and information need to be provided for the preparation and decision-making in order to reduce risk. Accounting is a system for processing such economic and financial operations and value data that provides data and information to enterprises. This system is regulated in Hungary by Act C of 2000 on Accounting. Accounting information on the one hand serves the internal actors of the company as a basis for managerial decision-making, while on the other hand it also serves external actors, as it is important to present a reliable and realistic picture towards investors, credit institutions, partners and the state. Annual statements are required to be published and disclosed by every business entity, which means that they can be obtained quickly and free of charge by any external party, Therefore, the quantity and quality of the data included by the statement is important. The structure of the two parts of the statement, the balance sheet and the profit and loss account, is clearly stipulated by the Accounting Act. However, organizations are given slightly more space in terms of the structure of the third part, the notes to the annual statement. The notes to the annual statement is regulated by the Accounting Act in terms of its content, but the content of the published statements is not audited. For this reason, the present study examines the research question involving the extent to which the informative disclosures within the notes to the annual statement comply with the mandatory requirements of the Accounting Act. To answer this, the informative parts of the notes to the annual statements of companies from two different economic sectors are examined by means of text mining.*

Keywords: *comparative analysis; sports sector; information-technology; notes to the annual statement; informative part; decision-making.*

JEL Classification: *M40; Z23.*

1. Significance of the notes to the annual statement

Accounting can be considered both an internal and external information system, as its task is to provide information to internal (owners, management) and external (credit institutions, state, investors, partners) actors in accordance with legal requirements. Annual statements prepared on the basis of IFRS contain important information primarily for investors, as the investor approach prevails there (Böcskei et al., 2017). An example for such an investor-oriented approach may be fair valuation, which has a vital role in IFRS-based reports and drives the presentation

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of reliable, market-based information for investors about the value of assets and liabilities (Takács and Szücs, 2017, 2018). However, the statements can also be used to inform other stakeholders, including managers, creditors, employees, suppliers, customers, ministries of different nations and their affiliated institutions. The data, analyzes and studies available to these entities serve as the basis for making decisions, therefore it is important that the statements provide a credible picture of the company (Zéman - Bárczi, 2018). It is possible for companies to obtain information from several sources, one of which is the source of accounting information (Fenyves et al., 2018). Act C of 2000 on Accounting sets out the accounting and reporting obligations of the entities covered by it, the principles that must be applied in the scope of bookkeeping and the preparation of statements, the rules based on them, and the publication, disclosure and auditing obligations. (Kerezsi, 2017). The purpose of the accounting statements (balance sheet, income statement, cash flow, notes to the annual statement) is to provide information on the assets, financial position and profitability of the company to the owners, creditors, the state and other stakeholders (Bogáth, 2018). The notes to the annual statement should therefore include information that do not appear in the other two parts of the annual statement, but are relevant for their understanding (Lakatos et al., 2018). The fact that the Accounting Act does not stipulate the composition and structure of the notes to the financial statement to the provision of information may cause problems for stakeholders, as it is up to them to decide how it is structured and what is actually taken into account and published in addition to the mandatory disclosures to ensure a reliable and realistic picture. This can pose problems for both external and internal stakeholders in relation to the provision of information (Kardos-Tóth, 2011). According to Kresalek (2007), it is important for the information published in the notes to the annual statement to take into consideration accounting principles, in particular the principles of authenticity, clarity, consistency, continuity and completeness (Kresalek, 2007). The type of annual statement eport delimits its data content, including the level of detail of the notes to the annual statement, which means that the notes of each statement type have different amounts and quality of information as provisioned by the Accounting Act (Kardos, 2009).

In today's economy, corporate conglomerates are increasingly gaining ground, achieving their business success through subsidiaries, associates and joint organizations operating in multiple countries. These companies prepare their statements separately on the basis of the legal and accounting regulations of their respective countries, but their performance can only be judged comprehensively on the basis of the consolidated annual statements of the companies belonging to the company concern, which reflect their combined wealth, financial and income situation (Dékán Tamásné Orbán I., 2019). This is also supported by the notes published as part of the consolidated annual statement, the informative disclosures of which are as follows (Fridrich et al., 2008):

- presentation of the average statistical number of workforce, wage costs and other personnel payments of the companies fully included in the consolidated annual report in the current year, broken down by stock group,
- the amount of remuneration paid at the parent company to the members of the board of directors, management (business management) and the

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supervisory board for their activities after the business year has to be presented, including salary costs, personal payments, amounts taken over by the company and paid for them, on a consolidated basis by group, including remunerations paid for activities carried out at the subsidiaries,

- the date, amount and maturity of the loans and advances paid by the parent company and its subsidiaries to the members of the parent company's board of directors, management (business management) and supervisory board must be presented, indicating the interest rate, material conditions, amounts repaid in the current year; guarantee obligations undertaken for these entities,

- the fee charged by the auditor for the audit of the consolidated annual statement for the current business year must be presented,

- Presentation of transactions (excluding transactions within the company group) with related parties of the parent company or other entities included in the consolidation, the disclosure of which is not specifically required by the Accounting Act, if these transactions are essential and did not take place under normal market conditions. In doing so, the value of the transactions, the nature of the relationship with the related party and other information related to the transactions that is necessary to assess the financial position of the undertakings included in the consolidation as a whole shall be disclosed.

2. Significance of information technology and sports companies

Numerous studies have already demonstrated the positive effects of sport on an individual's physical, mental, and mental condition (Fenyves et al., 2020). If we want the population to live in a healthier way and do more sports only education and motivation are not enough, it is very important to provide the appropriate infrastructural background as well. People can have a wide range of choice provided by the local sports establishments and companies and the possibilities resulting from sport infrastructure investments. (Nagy – Tobak, 2015)

Both information technology services and sports can be considered constantly, dynamically developing sectors, which is supported by multiple research activities. According to the data of KSH (Central Statistical Office, 2019), in 2016 the ICT sector in the Visegrad countries contributed to the gross domestic product of the entire national economy in varying proportions. The sector had the largest share in Hungary (5.8%) and the lowest in Poland (3.2%). The share of enterprises manufacturing ICT devices was also the highest in Hungary (28%) and the lowest in Poland (7.1%). Furthermore, it can be stated that at the end of 2017, the number of enterprises operating in the Hungarian national economy exceeded 724 thousand, 4.7% of which were operating in the ICT sector. Between 2013 and 2017, the number of enterprises operating in the sector increased by 6.3% on average annually, exceeding the national average. Between 2013 and 2017, the net sales revenue of enterprises operating in the ICT sector increased by an average of 5.7% per year, lagging behind the growth of the total national economy, reaching 7,869 billion HUF (8.0% of the national economy revenue (KSH, 2019).

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Presentation of the significance of sports enterprises is presented through the article of Bácsné et al. (2018). The average annual growth rate of the global sports market was 7% between 2009 and 2013, which means that the growth rate of the sector exceeds the growth rate of GDP. Household spending on sports accessories, clothing, equipment, health and fitness amounts to 700 billion USD a year, or 1% of global GDP. In the European Union, the direct effects of sports and the multiplier effects (indirect and induced) together contributed 2.98% (294.36 billion EUR) to total gross value added. The elasticity of national income in the sports sector is 1.14, which means that if national income increases by 1%, gross value added related to sports will increase by 1.14%. In the case of Hungary, in 2012, sports services contributed 778 million EUR to the gross value added (Bácsné et al., 2018). On the other hand, sports can analysed as investment in health because of the sports positive effect on it. This way sports can save budgetary sources for one of the most important systems operated by the states: the healthcare (Dajnoki et al., 2018; Kőmíves et al., 2018; Harangi-Rákos et al., 2019; Nagy et al., 2019; Novák et al., 2020)

Notes to the annual statement must be published and disclosed, but there is no regulation concerning their format or composition, these properties are not standardized at the national level. The analysis of annual statements from recent years has been linked to XBRL (eXtensible Business Reporting Language). XBRL has created the ability to quickly obtain financial information in a standardized format; it is a search-support software technology and methodology that improves the processability of reports. It stores data in a format that can be read by computers, allowing it to be better processed and analysed (Fenyves et al., 2019).

3. Material and methods of the study

The survey database included enterprises with a company seat located in Hungary, engaged in sports activities that designated NACE 931 (Sports activity) as their primary activity, as well as enterprises engaged in Information Technology Services (NACE 62) as their primary activity,. Only companies carrying out double-entry bookkeeping and subject to Act C of 2000 on Accounting in terms of their reporting obligations were included in the sample, which means they had to have a notes to the annual statement. There were a total of 11,476 companies providing information technology services, of which 8,858 had notes to the annual statements, of which 8,226 (92.87%) notes could be processed. While in the case of companies engaged in sports activities there were a total of 1747 companies, of which 1616 companies had notes to the annual statement, thus a total of 92.50% of companies engaged in sports activities had notes that could be processed. Figure 1 shows the distribution of companies preparing annual and simplified annual reports. It is clear that most of the companies from both sectors are smaller entities as most of them (almost 80%) prepare simplified annual statements. This type of statement is much less detailed than the annual report, therefore their notes does not contain as much explanation and information provisioned by law as the notes to the annual statement.

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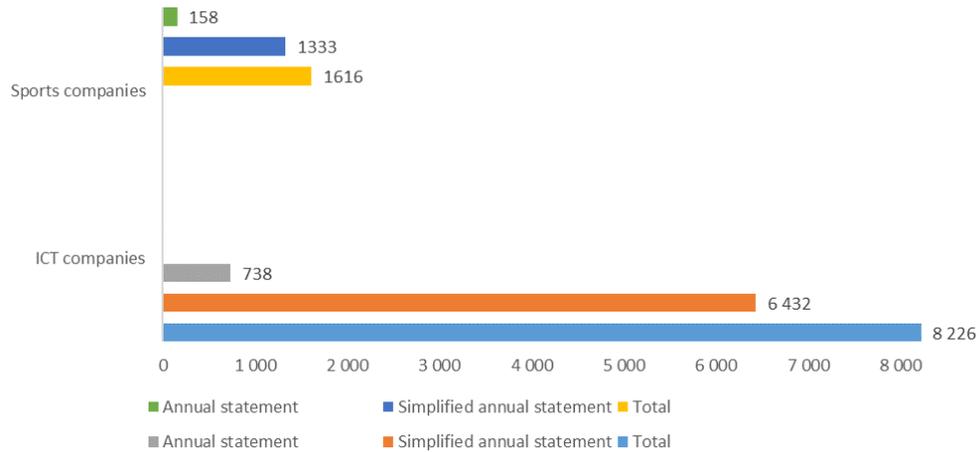
Figure 1: Distribution of companies preparing annual and simplified annual statements among enterprises providing information technology services and carrying out sports activities
Source: own editing

The analysis was performed by means of various packages of the R statistical system. Text mining was applied, to examine the extent to which the information in the informative part of the notes to the annual statements of companies belonging to the two types of activities meets the mandatory requirements of the Accounting Act.

4. Comparative analysis of the informative parts of the notes to the annual statements of companies carrying out information technology and sports activities

The notes to the annual statement is usually divided into three main sections, a general section, a specific section, including balance sheet and income statement-related disclosures, and an informative part. In the scope of present research, the informative part is examined. Explanations, information and expressions to disclosed in the informative part of the notes to the annual statement of the enterprises providing information technology services and carrying out sports activities were analysed from the point of view of legal compliance.
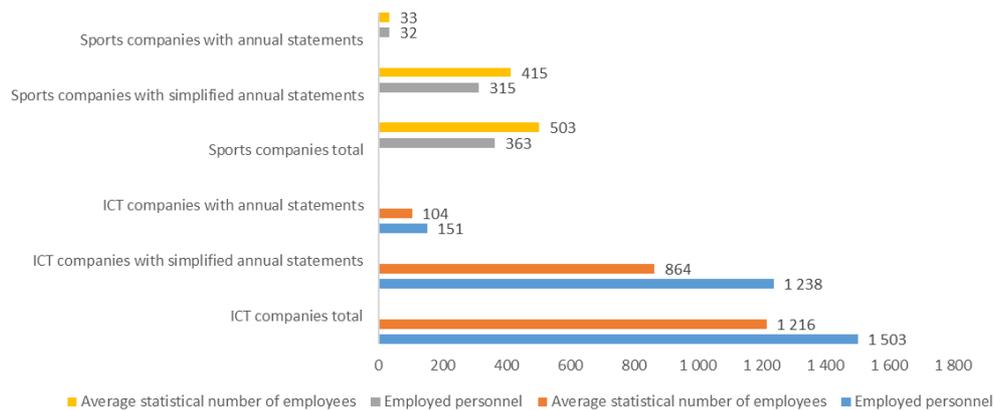
Figure 2: Presentation of the average number of employees among enterprises providing information technology services and sports activities
Source: own editing

In accordance with the legal provisions of the Accounting Act, the notes to the annual statement shall present the average statistical number of employees employed in the current year, their wage costs and other personnel-related payments by group, as well as wage contributions by item. To check whether these were found in the notes to the annual statements of the companies surveyed, the terms "average statistical number of employees" and "employees" were searched. Based on the chart presented by Figure 2, it can be clearly seen that 15% (1216) of the 8226 ICT companies presented the average statistical number of employees, while 18% (1503) had presented the employees on their payroll. This proportion almost doubled for sports enterprises; 31% (503) of their notes included the average statistical number, while 22% (363) of the employed personnel. Nearly 20% of ICT companies preparing annual statements and simplified annual statements published the term, while for sports companies this proportion was around 21% and 38% for companies with annual and simplified annual statements, respectively.

According to the Accounting Act, transactions with affiliated parties the presentation of which is not specifically provisioned in the Accounting Act, must be presented in the notes to the financial statements if these transactions are material and did not take place under normal market conditions. In addition, the value of long-term loans, receivables, subordinated liabilities and short-term liabilities towards affiliated companies, broken down into values belonging to a separate shareholding relation also have to be presented. Additionally, the amount of the provision for liabilities to affiliated companies and its utilization also needs to be disclosed by item, in with especial regard to the amount of the provision for guaranteed liabilities towards affiliated companies. To check legal compliance related to the above, term "affiliated company" was searched for using text mining, the results of which are shown in Figure 3. Only 25% of ICT companies, while almost half, 45% of sports companies presented this. In the case of ICT companies, this ratio did not change among the companies that prepared simplified annual statements, but increased to 31% in the

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case of companies with annual statements. The legal compliance of sports businesses has remained unchanged regardless of the type of statement.
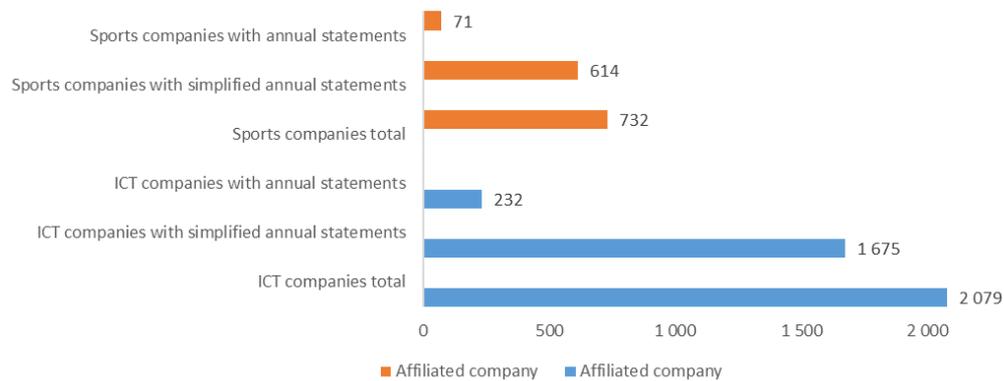
Figure 3: Presentation of items related to affiliated enterprises among companies providing information technology services and sports activities
Source: own editing
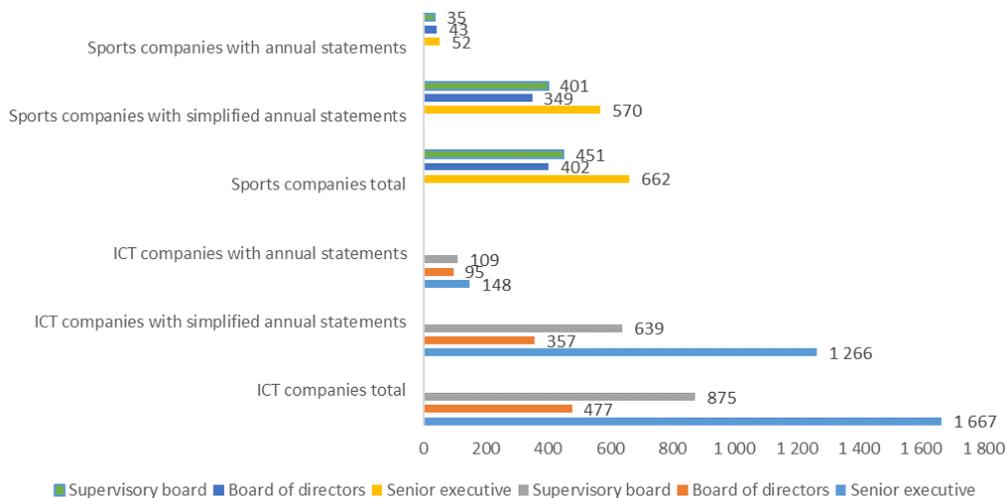
Figure 4: Presentation of the disclosures concerning the supervisory board, the board of directors and the senior executive among the companies providing information technology services and carrying out sports activities
Source: own editing

According to the legal regulations, the amount of remuneration for the activities of the senior executives, the members of the board of directors and the supervisory board of the company preparing the annual report must be presented in aggregate by group. The amount of advances and loans paid to them, the guarantees given

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on their behalf, also aggregated by group, with simultaneous notification of interest, material other terms, amounts repaid and repayment terms, and the total amount of pension liabilities due to them, aggregated. To check whether the above was presented by the surveyed companies, the terms "supervisory board", "board of directors" and "senior executive" were searched for in the published notes to the financial statements. The reason for the proportional difference in the case of the three terms may be that it is likely that only items relevant to the company were included in the statement. Thus, disclosures related to senior executives were examined; as seen from Figure 4, 20% of ICT companies and 41% of sports companies published this mandatory item. This ratio did not change significantly even after examining the breakdown by type of statement.
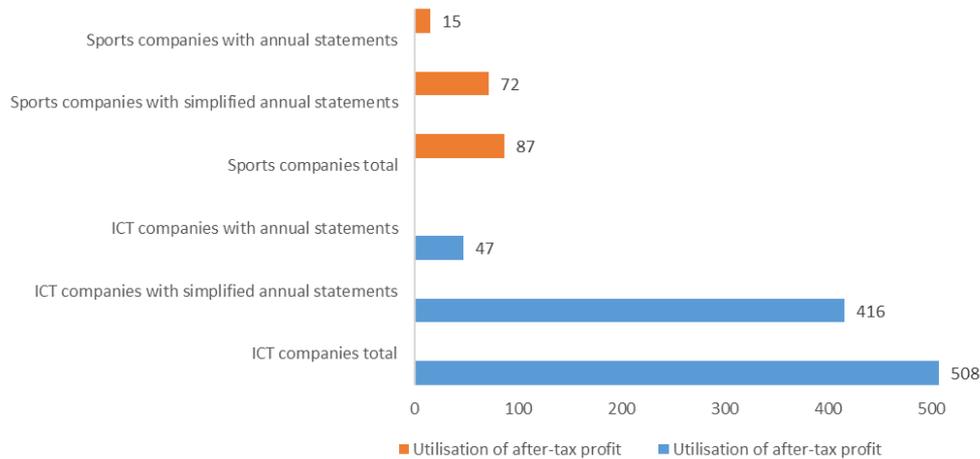
Figure 5: Demonstration of the use of after-tax profit among companies providing information technology services and carrying out sports activities
Source: own editing

By law, it is mandatory to present all assets, equity, provisions and all liabilities (including items of accruals), as well as income and expenses for the period, profit after tax, as well as data and textual justifications that are necessary for the presentation of the actual wealth and financial position of the company and the results of its operation. In addition, the amount of after-tax profit from foreign operations and the main taxes paid abroad and the proposal for the use of after-tax profit must also be presented. In this regard, the terms "after-tax profit" and "use of after-tax profit", were searched for and the research only deals with the proposed use of after-tax profit, as it belongs to the informative explanations. The proportion of these terms is behind the proportion of the previous expressions, since examining Figure 5, it can be seen that approximately 5-6% of the surveyed companies presented this mandatory element in their statement.

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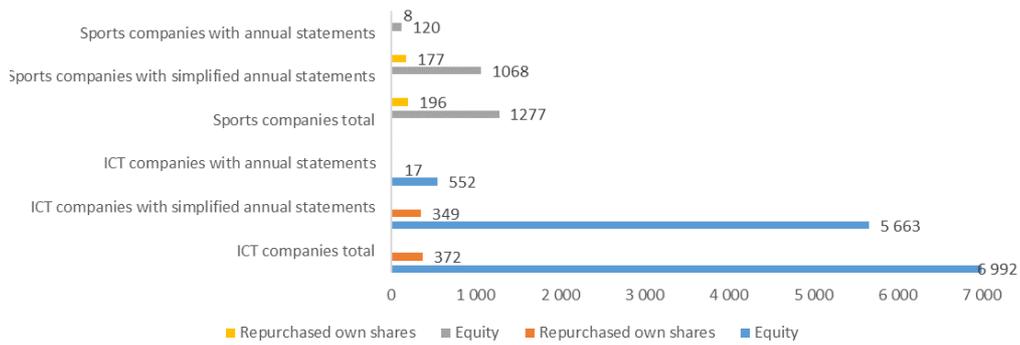
Figure 6: Presentation of repurchased own shares and equity among companies providing information technology services and carrying out sports activities
Source: own editing
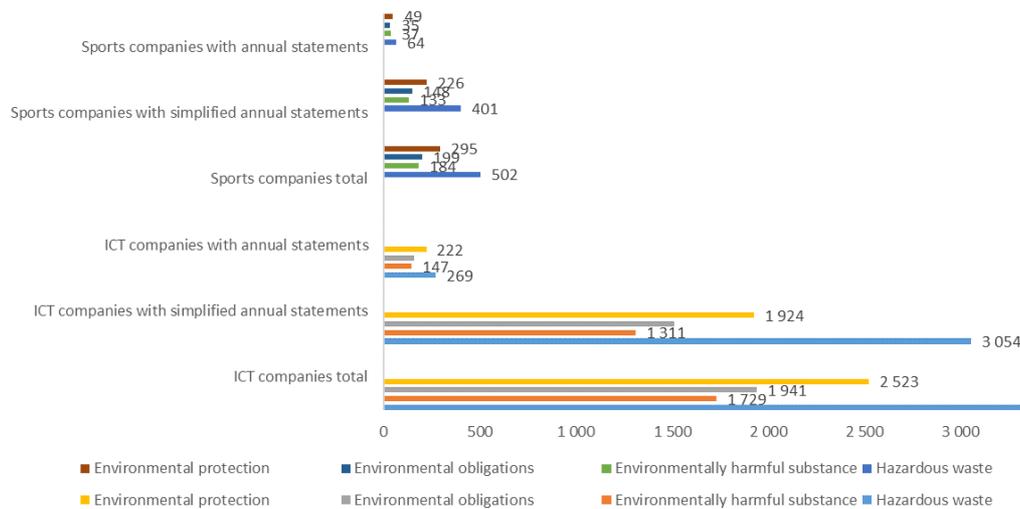
Figure 7: Presentation of environmental disclosures among companies providing information technology services and carrying out sports activities
Source: own editing

According to the provisions of the Accounting Act, companies must publish data on repurchased own shares and equity. The reason for acquiring own shares, and own business shares, the number and nominal value of these shares, their ratio to the subscribed capital, the amount of consideration paid or received in case of repurchase or disposal of, and the total number and nominal value of shares and business units placed at the disposal of the company directly or indirectly during the year. Information on the acquisition of redeemable shares must be presented separately in the notes to the annual statements. In addition, it is necessary to present the change in the components of equity during the business year, the reasons for these change, with especial regard to the changes in the subscribed

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capital. It shall also describe the proportion of the subscribed capital subscribed by the parent company, subsidiary(ies), joint venture(s), associate(s) and how its amount has changed. For this reason, the terms "repurchased own shares" and "equity" were searched for using text mining. Examining equity, it can be seen in Figure 6 that approximately 80-85% of the companies with two types of activities included some form of equity in their notes to the annual statement, while 5-12% of them disclosed their repurchased own shares in favour of sports businesses.

According to the provisions of the Accounting Act, the opening gross value of tangible assets directly serving the protection of the environment, its increase, decrease and closing value, separately the reclassifications, as well as the opening value, increase, decrease, closing value of accumulated depreciation, separately the reclassifications and the amount of depreciation for the current year. Quantitative and value data of the opening and closing stock of hazardous waste and environmentally harmful substances, the increase and decrease of their quantity and value in the current year, grouped on the basis of the hazard classes according to the relevant legislation. The amount of the provision for environmental liabilities, future expenses for the protection of the environment in the current year and the previous business year, as well as the amount of expenses recognized in the current year and the previous business year related to environmental protection and the expected value of unrecognized environmental and recovery liabilities broken down by item. To check whether the surveyed companies presented the above in their statement, the following terms were searched for: "environmental protection", "environmental obligation", "environmentally harmful substance" and "hazardous waste". Hazardous waste was disclosed by approximately 40% of the ICT companies, and 1/3 of the sports businesses. Only 21% of ICT companies and 11% of sports companies have dealt with environmentally harmful substances. Environmental protection-related information was disclosed by 30% of the ICT companies and 18% of sports companies in their notes to the annual statement.

5. In conclusion

It is essential for both external and internal market participants to have the information necessary for decision-making, which, in addition to the numerical data of the balance sheet and profit and loss account, is mostly provided by the textual explanations, information and supplements of the notes to the annual statement. A number of studies have already been carried out on the notes to the annual statement, according to which it does not always comply with legal requirements and thus does not achieve its purpose. Overall, the present research also supports these criticisms, so that decision-making is not always well established and increases the risk. It is important to note that during the research only the terms were searched for with the help of text mining, their content were not examined separately. Overall, no significant difference was found between the informative parts of the notes to the annual statements for ICT companies and sports companies. For both sectors, it can be said that they do not fully comply with the requirements of the Accounting Act, as for almost every term more than half of the

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notes of the ICT and sports businesses lacked the required information or comment to provide a reliable and true picture. This ratio could perhaps be improved if businesses did not consider the preparation of the notes to the annual statement a problem, but as an option.

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COMPARATIVE ANALYSIS OF HUNGARIAN AND ROMANIAN STOCK MARKET INDICES IN CONTEXT OF COVID-19

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Abstract: *The coronavirus pandemic, erupted in 2019, re-emphasized the importance of dealing with risk and uncertainty. In addition to difficulties caused in public and health sectors, the negative consequences of COVID-19 outbreak are more and more obvious also in economy. The rapidly spread of virus from China to Europe and U.S., seriously tests the countries' ability to deal with such an unexpected situations, both health-wise and economically. As the same time, measures adopted by governments like travel restrictions have further amplify the difficulties in some aspects. In response to growing uncertainty, individuals have suddenly changed their consumer behaviour, manifested in excessive food purchases which caused certain food products shortage. Companies have restrained production and spending. Some categories of services are particularly affected, restaurants and hotel units temporarily fully suspended their activities. There are also serious transport restrictions, airlines cancelled several flights. The news of the outbreak of the novel coronavirus, the rapid spread worldwide, and the measures taken by governments, the panic reactions of individuals and companies, negatively impact the economic and financial stability. The negative effects caused by the coronavirus affect relatively quickly the financial markets, which show terrible volatilities. On March 18, 2020, the stock market prices declined more than 30% compared to the peak price value of recent years, which can be considered significant. Since the outbreak of the coronavirus pandemic, several articles deals with the impact of virus-induced uncertainty on volatility. The results related studies highlights the correlation between COVID-19 cases, deaths and different stock indices price volatility. Based on these, the aim of this article is to examine the relationship between the main stock indices, namely BUX and BET of two neighbouring countries in Central and Eastern Europe (Romania and Hungary) and the COVID-19 cases in European Union. In order to investigate this relationship we used simple linear regression. The results show that in both countries' stock indices case there is medium-strong correlation between BUX (R=0,6651), BET (R=0,6001) and COVID-19 European Union's cases. By investigation of stock indices changes in the analysed period we can conclude that the time of reaction of stock markets and the intensity of stock prices changes is quite different in case of BUX (36,27%) and BET (31,12%).*

Keywords: *risk; uncertainty; COVID-19; pandemic; financial crisis; stock market index; volatility.*

JEL Classification: *G01; G15; G18; G3; G30; G32.*

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1. Introduction

Risk, uncertainty, instability and anxiety are features that can be well describe the present social and economic environment. The situation cause by coronavirus epidemic has strongly questioned the sense of security of world's population and also the preparedness of health sector for such a situation worldwide. In addition to the health and social consequences of the COVID-19 epidemic, the economic effects are also becoming more pronounced. The rapid spread of the epidemic on continents of the world, the published news about new infection cases and also the measures taken by governments have negatively affected the performance of various economic sectors such as transport, trading, manufacturing, international supply chains. In order to avoid a rapid increase of infections, governments have adopted measures regard to the free movement of persons and various workplaces shut down. The rapid spread of COVID-19 infections and the complete shutdown of some sectors which led to rising unemployment. The resulted panic and uncertainty also spill over into economy. In response to this situation, individuals changed their consumer habits e.g. excessive food purchase which caused serious shortage of certain products, especially in the food industry, companies slowdown their production, limited their spending and switch on the "wait-and see" mode. These reactions of population and companies have also negative impact on economic and financial stability at global level. The developed situation has seriously tested the ability of governments to deal with such an unexpected situations. The rapid increase in the number of new COVID-19 infections around the world, the rapid flow of negative news about this and as well the effects of government measures on companies and households had serious react overnight in some economic indicators such as e.g. unemployment rates, exchange rates and stock market indices. Previous research confirms that, with exception of Spanish influenza (1918-1920), no infectious disease had such a strong effect on the stock market as the COVID-19 pandemic (Baker et al., 2020). The Spanish influenza caused the death of 2% of the world population between 1918 and 1920 (Barro et al., 2020). Taking into account the strongly economic interconnected and integrated world, we consider that the consequences of current COVID-19 crisis will be more pronounced compared to previous epidemics as EBOLA, SARS, H1N1.

Taking into consideration the above mentioned aspects, the aim of this article is to examine the impact of European Union's COVID-19 infections cases on the main stock indices of two Central and Eastern European neighbouring countries (Hungary and Romania). Although many studies suggest that the negative effects of economic turbulences caused by COVID-19 will be present in the second half on year 2020, we consider that a short-term analysis of the situations occurred on stock exchanges is feasible.

2. Review of literature

COVID-19 (SARS-Cov-2) infectious disease appeared in Wuhan (Hubei region), China in December 2019 and then spread to America and Europe in January 2020.

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The known characteristics of COVID-19 infectious disease are: highly contagious, spreads terribly quickly, it presents particularly high risk of death for certain age groups and there is no vaccine currently available against it. Aware of these characteristics and the news about rapid spread of new infections case caused panic and uncertainty in the social and public health areas around the world. As a reaction to severe quarantine situation in Italy, the governments of the Member States of the European Union have been taken serious measures regard to the free movement of persons manifested in mostly serious domestic and foreign travel restrictions. In order to avoid the rapid spread of new COVID-19 infection cases, both Hungary and Romania declared an emergency situation and also adopted travel restrictions. Government measures addressed to the public health crisis have also negative consequences on economies. Particularly affected are international trade, global production, supply chain networks. However, problems of these sectors have spilled over into financial markets, which serious negative effects can already present (Huang, 2020, p.1). With these measures, economies around the world have slowdown.

Panic and uncertainty related to the novel coronavirus have negatively impact the global economy as a whole. Several studies confirm that economically, the most affected state by the coronavirus is China. Multinational corporations such as General Motors, Nissan, Renault, Peugeot, Honda, Toyota stopped their production in China which can have serious economic consequences. (Zeren – Hizarci, 2020, p. 2). However, due to the uncertainty caused by the coronavirus, and in response to travel restriction measures of governments, some airlines have cancelled several international flights, especially those to the Far East. These can further increase economic and social tensions (Ahani - Nilashi, 2020, p. 1). The panic and insecurity feeling caused by COVID-19 pandemic, as well the negative consequences of the disease, are similar in magnitude with the 2008 global financial crisis. Given its protracted effects over time, it can be conclude that the negative effects will hardly be felt in the near future. In some sectors such as trade (local product shortages), production (factory closures), tourism, the entertainment industry, and aviation, the negative effects of the epidemic are already present. Services such as hotel and restaurant and production, mainly labor-intensive manufacturing industries are strongly affected (Huang et al., 2020, p. 10). Large companies such as Volkswagen and Ferrari suspended production in Europe, which negatively impact both on employment rate and GDP.

Based on these, it can be concluded, that the outbreak of novel coronavirus, its rapid spread worldwide and measures adopted by governments lead to serious economic consequences, which most likely will be materialize in a recession curve within 1-2 years, globally (Gourinchas, 2020). According to Gormsen and Koijen (2020) expectations in term of economic growth, the GDP of the European Union will fall by nearly 6.1% and the GDP of the United States by 8.2%. McKibbin and Fernando (2020) predict that globally, GDP will decline by 6.7% and in both the United States and the Eurozone, the GDP is expected to fall by 6.7% (McKibbin - Fernando, 2020).

The negative effects caused by coronavirus epidemic are relatively quickly felt on stock markets. The outbreak of COVID-19 in China, the rapid growth of new cases,

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the fear and concerns of the disease, firstly, affected the Shanghai stock market, which fall 8% on February 3, 2020, followed by the U.S. S&P 500 which fall 4.4 % (Albulescu, 2020). As a result of its spread to European Union, South Korea (February 20), and as a consequences of the introduction of quarantine in Italy (February 22) stock market prices fall sharply. As a response to a travel ban to the EU introduced by the United States (on March 12), worldwide stock exchange prices fall by at least 10%. A week later (on March 18), stock markets fall more than 30% from their peak in recent years, causing a terrible volatility. The German's DAX, the UK FTSE 100 and the Euro Stoxx 50 also showed significant declines on 23 March, followed by a significant increase at the adoption of the European Union's rescue package (Nicola et al., 2020). Weaker performance than in the U.S. stock market prices was observed in the German, Spanish and UK stock markets. According to Gormsen and Koijen (2020) expectations, one of the most representative U.S. stock index, the S&P500 annual dividend will fall by 27%, while the European Union's Euro Stoxx 50 will fall by 37%, which can be considered quite significant (Gormsen – Koijen, 2020).

Hartwell (2018) considers that the main causes of significant volatility of financial instruments consists in development of economic conditions, institutional problems and market uncertainty. Macroeconomic news can also determine large fluctuations. According to Albulescu (2020) news about the spread of COVID-19 cases, as well the fear of illness have resulted in strong volatility in financial markets. Negative news has a particularly rapid and powerful effect. According to previous researches, news of spread of the virus from China to Europe resulted in greater volatility in stock markets worldwide, than in the Chinese stock market itself. The further spread of coronavirus to different countries further increased volatility. Since the outbreak of COVID-19, several articles deals with the impact of virus-induced uncertainty on volatility. Baker et al. (2020) examined the evolution of S&P500's volatility between 1900 and 2020. Their results suggest that the effects of COVID-19 on stock market volatility are quite significant, similar in magnitude to the Depression in 1933, the Black Friday in 1987, and to the 2008 global financial crisis. Compare to stock market effects caused by Ebola, SARS, H1N1 infectious diseases, the outbreak of COVID-19 resulted in severe stock market volatility (Baker et al., 2020, p. 5). Albulescu (2020) examined how the evolution of COVID-19 cases as well as the number of deaths affected the VIX (Chicago Board Options Exchange Volatility Index) financial market volatility index. He conclude that the mentioned independent variables significantly influence the evolution of the VIX volatility index. The results of Zeren and Hizarci's (2020) research shows that the evolution of COVID-19 cases, deaths is correlated with different stock market index prices in the world (SSE, KOSPI, IBEX35) (Zeren - Hizarci, 2020).

In contrast with these, other viewpoints suggest that the public health uncertainty, risk and high mortality rate caused by COVID-19 cannot be linked to the economic difficulties already present in these days. According to Ferdandes (2020), the reaction of Member States, the response embodied in concrete measures, the reaction of companies, consumers and the media to the existing emergency have greatly impact on the supply-demand balance, which spread to the world economy. This was inevitable in today's highly interconnected and integrated economies. The

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fear of contracting the virus has changed consumers' behaviour and also negatively affected production. It has led to disruptions to the normal functioning of global supply chains, which had also a negative impact on companies. As in the 2008 crisis, both consumers and companies have suspended their spending and switch on "wait-and-see" mode (Baldwin - Weder di Mauro, 2020, p. 10). Millions of people have lost their jobs for a few months. According to Fernandes, all these led to significant volatility in financial markets at global level (Fernandes, 2020, p. 3).

Taking into consideration the above mentioned aspects, the aim of this article is to investigate the evolution and reactions of main stock market indices of two Central and Eastern Europe neighbouring countries (Hungary and Romania) and to examine the relationship between the mentioned stock indices and the European Union's COVID-19 cases. We chose this area because nowadays this is a topical issue and because the world's stock markets react quickly to the economic difficulties caused by the COVID-19 pandemic. Given that relatively short time has elapsed since the outbreak of this epidemic (nearly 5 months) the analysis of stock market data is the most feasible and daily data it still available yet. The economic effects of the uncertainty caused by COVID-19 are likely to be even more pronounced and investigable in the second half of 2020.

3. Research methodology

The comparative analysis of Hungarian and Romanian stock market indices contains more steps. Firstly, we determine the relationship between BUX (Hungary), BET (Romania) stock indices and EU's COVID-19 cases. Then we present the evolution of stock market indices and COVID-19 cases for the investigated period and also compute the main statistical features for the investigated indicators.

In this research, in order to determinate the relationships between – two neighbouring countries stock market indices (BET-Romania, BUX-Hungary) and European Union's COVID-19 cases, we used simple linear regression model. During the regression analysis, we want to analyse the impact of changes of the European Union's COVID-19 cases between January 1st, 2020 to April 16, 2020 on the main Romanian and Hungarian stock market indices, namely BET (Bucharest Exchange Trading) and BUX (Budapest Stock Exchange).

The analysis is based on European Union's cumulative daily COVID-19 cases, like daily data series, from January 1st, 2020 to April 16, 2020, as well as the selected countries main stock market indices for this period. The Romanian data referring to the exchange rate were collected from the databases of Bucharest Stock Exchange. The Hungarian data were also collected from databases Budapest Stock Exchange. The data reflecting the evolution of European Union cumulative COVID-19 cases were collected from official website of European Centre for Disease Prevention and Control (*https://qap.ecdc.europa.eu/*).

In order to test the goodness of fit of the regression models, we used coefficient of determination (R^2). The coefficient of determination reflects the part of the total variance explained by the created model (Andreß et al. 2013; Park, 2011). According to Hunyadi (2000) a very small value of coefficient of determination (R^2) indicates weak, poor fit of model which means that "the model has very little to do with reality".

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The author notes that judging the usability and goodness of fit of the regression model cannot be rely only on the high values of coefficient of determination (R^2) but should be aware because very low coefficient of determination (R^2) value indicates that model is bad.

The statistical analysis was built on the R statistical software system, such as a solving program. In the R statistical system there are available all the packages (modules) which is necessary for this analysis. The R statistical system is open source software, that ensure many analysing, modelling and visualization facilities and another advantage is that it could be connected with other software, which facilitates the usage of different databases.

4. Results of research

In order to analyse the relationship between Hungarian stock market index, BUX and Romanian stock market index, BET and European Union's COVID-19 cases, we used simple linear regression. The regression model for the tested model is:

$$BUX = \beta_0 + \beta_1 *COVID+ \varepsilon_i, \; ; BET = \beta_0 + \beta_1 * COVID + \varepsilon_i \quad (1)$$

where the question is how the changes of European Union's COVID-19 cumulative daily cases, can explain the evolution of BET, BUX stock indices. The calculated regression coefficient correspond essentially to the two countries stock market indices β coefficient, which shows that the daily COVID-19 cases changes explain the changes of BET and BUX index.

The mentioned regression analysis was carried out in the R statistical software system by using of '*lm*' function, and the results of computation are the regression function below:

$$BUXi = 42040 – -0,0167* COVID ; BETi = 9486 - -0,00263 * COVID \quad (2)$$

For testing the goodness of fit of obtained regression's coefficient the software run the T-test and associated significance level, which values will be presented in the Table 1. and 2. By analysing the tables below, we can observe that in both case of BUX and BET index, the significance level for each coefficient value is around 0, which means that computed coefficients can be used successfully for describing relationship between two variables.

Table 1.: Estimation the parameters of BUX (Hungary) function

Statistical attributes	Estimation	Std. Error	T- value	Pr(>|t|)
Intercept	42040	561,9	74,82	< 2e-16 ***
Regression coefficient	-0,0167	0,0022	-7,55	1.02e-10 ***
Standard error of regression	4295			
R-squared (R^2)	0,4424			
Correlation coefficient (R)	0,6651			

Source: Own computation

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Table 2.: Estimation the parameters of BET (Romania) function

Statistical attributes	Estimation	Std. Error	T- value	Pr(>|t|)
Intercept	9486	117	81,07	< 2e-16 ***
Regression coefficient	-0,00263	0,000419	-6,278	2,51e-08 ***
Standard error of regression	878,5			
R-squared (R^2)	0,3602			
Correlation coefficient (R)	0,6001			

Source: Own computation

By analysing the coefficients of determination (R^2), we can conclude that in case of BUX (0,4424) the dependent variable variance can be explained by independent variable in proportion of 44,24%, while in case of BET (0,3602), this is only 36,02%. This means, that in case of Romania, the evolution of European Union's COVID-19 cumulative daily case for investigated period can explain much less the BET. The above tables also presents the coefficient of correlation (R) which is 0,6651 in case of Hungarian BUX index and 0,6001 in case of Romanian BET index. By analysing these values we can conclude that in both cases there is a medium-strong correlation between stock indices and changes in European Union's COVID-19 case. The negative values of COVID coefficient in both of cases draw attention on the inverse relationship between changes in COVID-19 cases and the evolution of stock market indices, concretely the increase of COVID-19 EU's cases determine sharp fall in the prices of stock indices. This is not surprising, because most of stock market records significant price falling in this period.

By using R software we also performs the variance analysis, for both regression function and the results are presented in the Tables 3. and 4.

Table 3.: Variance-analysis / ANOVA table for BUX (Hungary)

	Degree of freedom	Sum of square	Mean of square	F-value	F-test Significance level
BUX	1	1054092347	1054092347	57.131	1.02e-10 ***
Error	72	1328427286	18450379		

Source: Own computation

Table 4.: Variance-analysis / ANOVA table for BET (Romania)

	Degree of freedom	Sum of square	Mean of square	F-value	F-test Significance level
BET	1	30415503	30415503	39.414	2.514e-08 ***
Error	70	54018605	771694		

Source: Own computation

The Tables 3-4. show us the deviation of Sum of Squares between original BET and BUX indices and the estimated indices values. Related with variance analysis, the F-test answer to the question if the model is acceptable in the sense that how well

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the independent variables can explain the BET and the BUX index. The F-value is equal with: Mean Squares (BUX) / Sum Squares (Error). Because F- value's significance level in both of cases are very closed to 0, we can conclude that the explanatory variable effect is significantly greater than the error effect, so the regression model will be useful in the description of such a correlation. That means, we can reject the null hypothesis, so in both of cases, the variance of dependent variable can be well explained by the variance of independent variable. This is also suggested by '***' signs what means in both of cases the significance level are very closed to 0.

The changes of BUX and BET index between January 1st and middle April are shown by Figure. 1.

BUX index evolution

BET index evolution
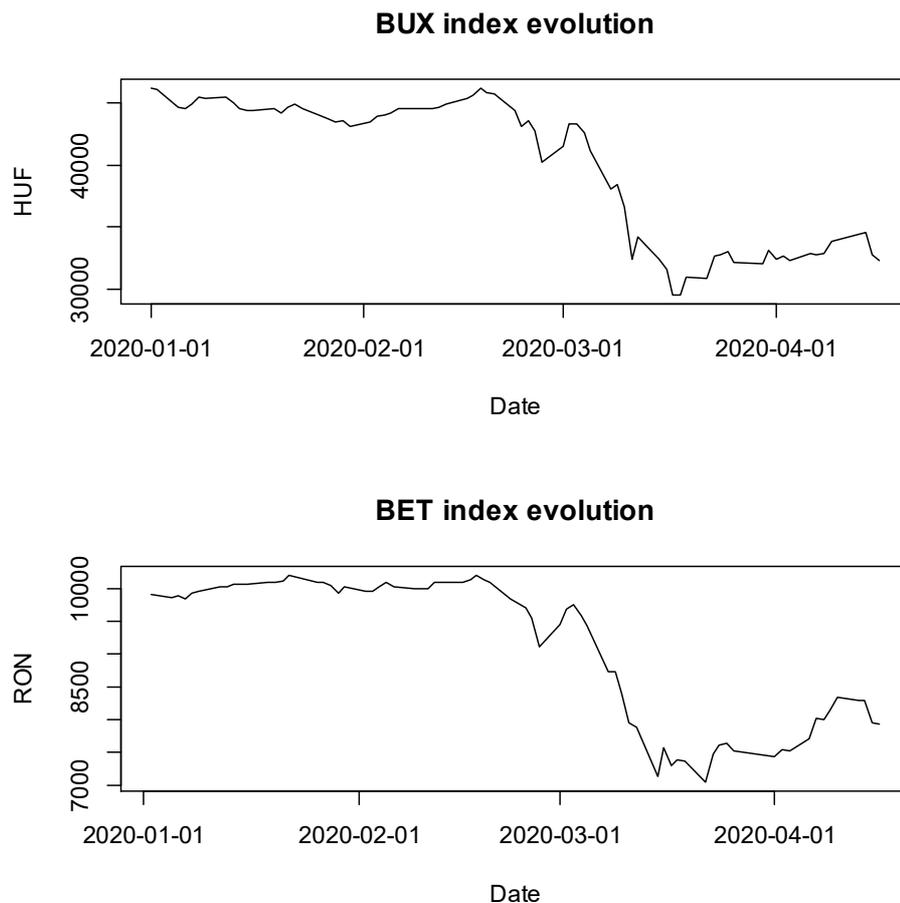
Figure 1: BUX and BET stock indices changes (1st January - 16 April 2020)
Source: own calculations using R statistical system

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By comparing the graphs, similar trend can be observed at stock indices in the investigated period. Analysing the trends of the stock indices we can see that until the end of February, there are no significant changes in BUX and BET indices prices. The first significant and sharply price falling has recorded at the end of February, that could be probably linked with quarantine and beginning difficulties in Italy. As a result of mostly important stock market price changes, from the beginning to the middle of March, the BUX and BET also records the one of the largest decline from this year. Concretely in case of BUX the lowest value in the analysed period can be seen on March 18, which means 36,27% decrease from the peak value of this year recorded on January 1st. In case of Romanian BET, the largest volatility appears later, on March 23, which also means 31,12% falling from the peak value from investigated period recorded in January 23. It is obvious that the time of reaction of stock markets and the intensity of stock prices shock are quite different. In both of stock market index cases, these evolutions can be considered extremely compared with trends of recent years. At the end of March, after the adoption of the European Union's rescue package, slightly increase can be observed.

Table 5. presents the main statistical features of investigated indicators. During the analysis of the table, we can see that the interquartile range in case of all the investigated indicators is significant. This draws attention to a very large fluctuations in the investigated period, which also means high risk. In term of standard deviation on investigated indicators we can observe an extremely high value in case of COVID-19 cases in European Union, which is the consequence of large fluctuations in the investigated period. This can be explained with fact that at the beginning of January there was 0 registered COVID-19 infection cases in the European Union, so the extent of fluctuations is much greater. The coefficient of variance reflects the same situation. In comparison, slightly higher standard deviation and coefficient of variance values can be seen in case of BUX stock index than in case of BET index. Higher standard deviation, as well as coefficient of variance shows higher volatility, which also describes higher risk level.

Table 5. Main statistics of investigated indicators

Statistical feature	BUX	BET	COVID-19
Minimum	29464.28	7038.95	0.00
1. Quartile	32896.42	7991.09	9.50
Median	43411.06	9814.10	236.00
3. Quartile	44554.61	10039.47	87824.00
Maximum	46230.22	10219.75	852184.00
Mean	40095.93	9143.50	129885.63
Standard deviation	5712.90	1090.51	248312.03
Coefficient of variance	14.25%	11.93%	191.18%

Source: Own computation

The Figure 2. presents the evolution of COVID-19 infection cases from January 1st to April 16, 2020. The data on which this graph is based is daily cumulative European

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Union's COVID-19 infection cases for above mentioned period. The COVID-19 extremely contagious infection disease appeared for first time in European Union on January 27, 2020. After a short time, as figure show us, the COVID-19 infections began to spread and the number of case increased rapidly.
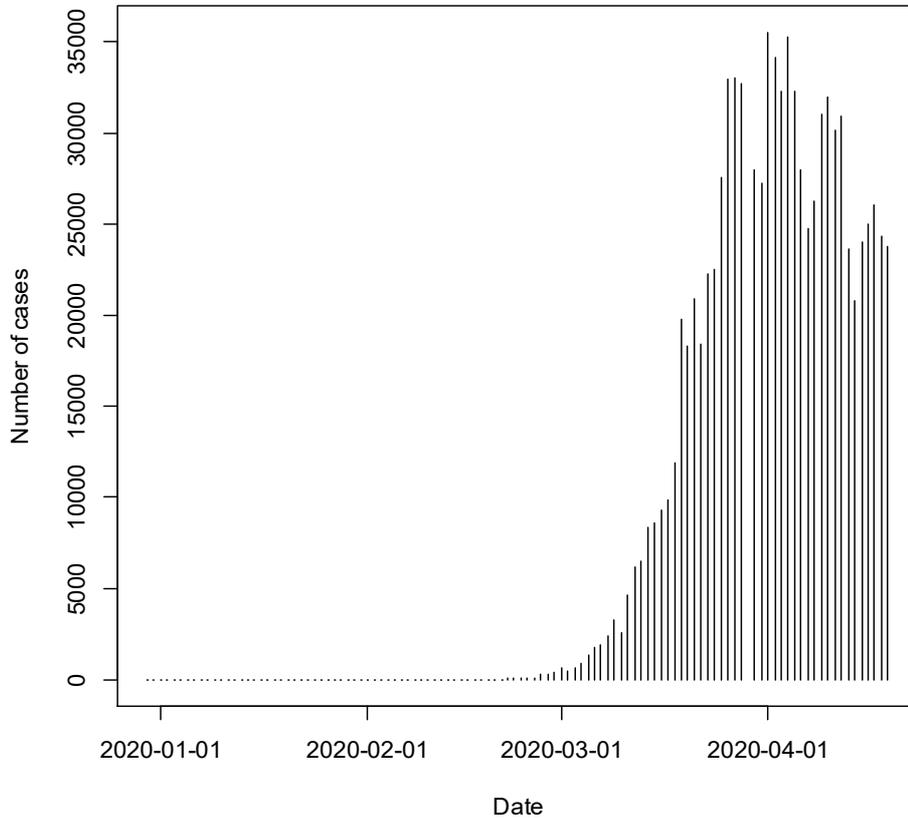
Figure 2. Evolution of European Union COVID-19 cases (January 1st - April 16, 2020)
Source: own calculations using R statistical system

By analysing the evolution of COVID-19 infections cases, sharply increase can be observed at beginning of March. On March 9, 2020 the number of COVID-19 infection cases have almost doubled, compared to previous day. Another significant increase in COVID-19 infection case was on March 16. We consider that this changes in both BUX and BET stock market indices prices can be well linked with the evolution trend of COVID-19 cases in European Union.

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5. Conclusion

It is clear that the news of the outbreak of the novel coronavirus, the rapid spread of it worldwide, and the measures taken by governments, the panic reactions of households and companies, negatively impact the economic and financial stability. Although some of the negative effects are expected to be obvious only in time, the second half and following years, we can summarize that the effects experienced yet are significant. Some studies underline that the negative effects of this pandemic on economies will be more pronounced than in case of EBOLA, SARS, H1N1 epidemics. Taking into consideration the mostly interconnected and integrated world, we consider the expected effects will be probably exponentially.

As a response to economic imbalances, the stock markets worldwide immediately react and drew attention through significant level of volatilities. The most important and representative stock markets of U.S. (S&P 500) and European Union (Euro Stoxx 50) fell more than 30%.

The results of our empirical analysis shows that the investigated stock indices also react to worldwide changes caused by novel coronavirus. By analysing the evolution of two countries stock market indices (BUX and BET), we can observe that these are very similar. The time of reaction of stock markets indices are quite different, while the Hungarian BUX index record the minimum price value on March 18, the Romanian BET index price react only 5 days later, on March 23. The magnitude of volatility is almost quite different. In case of BUX (36,27%) greater fall can be observed compared with BET volatility shock intensity (31,12%). All these re-emphasized the importance of dealing with financial risk.

In term of relationship between stock indices and COVID-19 cases in European Union we can conclude that in both countries case there is medium-strong correlation between stock indices price BUX (R=0,6651), BET (R=0,6001) and the evolution of COVID-19 cases.

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GREEN BONDS: THE MOST INNOVATIVE FINANCIAL INSTRUMENTS ON THE STOCK EXCHANGE

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Abstract: *In the last decades, the market economy adopted new developments in terms of sustainable growth. A significant number of states realized the need to develop a sustainable environment in which the climate is valued and protected. The word 'green' has become increasingly used in the field of sustainable investments. Some of the most innovative and profitable tools are green bonds. Since their inception, accredited institutions and governments have developed various practices and principles, which they constantly improve to adapt to the market. Moreover, given that the interest of multinational companies has gradually increased, the stock exchange has become increasingly interested in these green bonds. Thus, in the research carried out, a clear delimitation of the concept of green bond was made, in the context in which, according to the researches, the area of coverage is much bigger from year to year. In fact, the purpose of the paper is also to present the development framework of these financing instruments, the principles and concepts underlying the impact that green bonds have on the capitalist economy, but also their development stage. An extremely important aspect that we have surprised is the stages of issuing bonds from asset management, to reporting and auditing them. In order to highlight the steps made by the green bonds as best as possible and to present the role played in the stock market, we have used qualitative research methods of indicators that highlight the performance of debt instruments, calculating market changes and its trend using the standard deviation. Meanwhile, in order to create an overall picture, the market leaders of the green bonds along with the value of investments in the environmental economy were presented detailed. In this way, it was pointed out that most of the amounts are allocated to mitigation and only a quarter to the adaptation of the bonds. In other words, although some of the newest specialized financing instruments are considered on the market, they have become some of the most popular and innovative financing mechanisms in the world.*

Keywords: *Green Bonds; Green Finance; Financial Instruments; Green debt securities; Green Bonds Principles; Green Investment.*

JEL Classification: *Q56; G12.*

1. Introduction

Recently, environmental finance has been attracting more attention in frameworks for developing green program. At this point investors, governments and multinational companies become more and more interested in this kind of projects. This has recently taken form in an increasing number of enterprises issuing green bonds. These are considered financial instruments for funding ecological projects. In comparison with normal bonds, green bonds have particular characteristics, and

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their released follows a special path (Zhiyong Li, Ying Tang, Jingya Wu, Junfeng Zhang & Qi Lv, 2019). Investing in the business environment can have an important impact in renewable development, As Taher Nahed&Hajjar Bandar (2014) stated this concept is part of the banking sphere, as such investments could generate profits with a substantial net value. Investments in the environment could therefore serve as a multiplier for the creation of remarkable sources of liquidity and may also induce policy changes.

As far as financial products are concerned, they are considered an essential tool to allow investors to allocate funding for green projects. Green bonds are one of the most affordable methods for low carbon emissions. In fact, these are currently available as financial instruments that resonate with investor preferences for the sustainability and refreshment of projects (Sarah La Monaca, Katherine Spector and James Kobus, 2020).

2. Literature review

First, we will briefly detail what a bond is and how this financing instrument works. A green bond is a specialized financial instrument, defined by a "use of income criteria" that require those that are collected from their issuance to contribute to the mitigation/adaptation of climate change. Also, it is important for the conservation of natural resources if the prevention of the pollution and the control of it is done. This theme is set within the literature covering energy finance, including climate finance and environmental finance (Broadstock & Cheng, 2019). Zhang (2018) considers that much more investigations are needed to support the rapid growth of green bonds.

In the last decades, the word "green" has been frequently associated in wide economics with ecological growth, which in turn leads to sustainable economic development. At the same time, the notion alludes to saving or conserving natural resources, so that natural assets are also sustainable (OECD, 2011). Compared to the bond history we can say that the term green bonds are relative, especially since nowadays there are cases in which it is interpreted differently. But despite the differences between the aspects of green bond concepts, it is generally agreed that green bonds are the instrument of debt that raises funds for causes, in one way or another, connected to the green economy. On the other hand, there is clear evidence that the green economy has a strong bond to the sustainable part of the economy. Moreover, we can import to the green economy the characteristics of what we call a sustainable economy (Draksaite, Kazlauskiene, & Melnyk, 2018).

On the one hand, a green bond can be seen as a guarantee of debt issued by a multilateral institution, government entity or corporation to raise capital from investors for a project that contributes to a low-carbon economy, but especially with climate resistance (Georg Inderst et.al, 2012). In other words, a green bond is the convergence of its two component parts: a climate change ("green") and a debt instrument (a "bond") (Park, 2018). To be classified as a green bond, the use of collateral must first be used in at least one of five eligible environmental categories: alternative energy, efficient energy, prevention and control of the pollution, sustainable water and green building. The World Bank also provides a definition for

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highlighting the green bond program support for the transition to developing and expanding support of low carbon countries. (Anderson, 2016)

3. The history and the principles of Green Bonds

The first issuer of green bonds was International Bank for Reconstruction and Development in 2007. (OECD, 2011) This was the first to issue awareness-raising bonds by combining innovative features focused on protection of the climate. As this was the first issue of its kind, it is a debt instrument that had rather simple features. In fact, this was considered a bond, with a relatively short maturity of 5 years, some of the price risks being associated with having bonds with a maturity higher than those that offer zero coupons. Green bond issues have been sustained by a vast range of institutions that are providing financial support, including multinational companies and financial institution which are accredited to give a second opinion of the reports (Anderson, 2016).

As (Bagnoli & Watss, 2020) stated in 2013 the first corporate green bond was made public. In that year, one of the biggest companies in the car industry announced the largest green bond for financing leases and loans for low fuel, (Moodie, 2016). Later, in 2016 was issued one of the largest corporate green bonds and the largest obligation to finance sustainability initiatives (Wolf, 2017).

The country that surprised the market in 2016 was Poland. This was the first with a EUR 750 million sovereign credit issue (external debt). Subsequently, in 2017, France came on the market with the largest issue of approximately 7 billion euros (Soe, Xie, Luke, & Horan, 2019).

In 2019, the five largest individual green bonds issued were from the Netherlands State Treasury Agency (climate bonds) with a total amount of EUR 5.99 billion, KfW of 3 billion, Industrial Bank Co., Ltd. with 2, $ 91 billion, France with 2.47 billion euros and Noor Energy with 2.69 billion dollars. The sectors targeted by green bonds were clean energy, which dominated the general use of revenues at 31.5%, followed by buildings with low carbon emissions at 29.3%, transportation with low carbon emissions 20.2%, water 9, 3%, with the use of land and waste at 3.5%, the rest being divided into other categories. (Whiley & Fatin, 2020)

The main difficulty faced by the issuers of green bonds is regarded to the issuer's promise that the funds raised will effectively fund socially responsible activities. (JP Morgan, 2014). Similarly, a constant "verification". to help investors trust that they are investing in green bonds is provided by the Climate Bond Initiative and other organizations are developing (Bagnoli & Watss, 2020).

In 2014, the International Capital Market Association published the Principles of Green Bonds (GBP) (International Capital Market Association (ICMA), 2017). Thus, the first voluntary guidelines for green bonds that are largely accepted by stakeholders are drawn by GBP (Zhiyong Li, 2019). With the expansion of the market, the need to clarify some concepts and processes associated with green bonds has intensified. Thus, the conventions accepted in 2014 were revised and published in a second edition in March 2015. In other words, to encourage the development of the green bond market there is an essential need of transparency, along with the disclosure and the integrity. The important fundamentals to

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development GBP are related to the administration and the broadcasting of bond receipts. When it comes to launching the green bonds, issuers need a clear vision of the fundamental material of the basic components. Investors in green bonds can subscribe to several eligible projects, among which the most important categories are: renewable energy, energy efficiency, sustainable waste management, sustainable land use, biodiversity conservation, clean transport, the management of sustainable water and adaptation to climate variation (The World Bank, 2015).

The key binding principles around which green bonds are built include firstly the description of the use of revenues to finance assets and projects with a positive impact on the environment, secondly the requirement of a process needs to be clearly delimited for project selection. (EU Technical Expert Group on Sustainable Finance, 2020). Finally, it is mandatory to declare the use of receipts with, if possible, information on the environmental impact of the projects. GBP includes four basic components. These include to explain how the revenue is invested, which is the sequence of the project selection, followed by evaluation. Nevertheless, it is mandatory to present the distribution of the revenues and the reporting steps(ICMA, 2018).

4. Research and Methodology

The research was conducted starting from the central objective, namely the analysis of green bonds on the stock market. In this sense, we followed how they have evolved recently, which are the European countries that have companies or institutions that issue green bonds as well as the calculation of the standard deviation. In our research, the database used was provided by the Luxembourg Green Exchange regarding the S&P Green Bond Index. It calls itself the first platform in the world that is committed 100% to financial instruments meant to help the world to become sustainable (Luxembourg Stock Exchange, 2020). Moreover, 32 countries are listed globally, holding 690 listed securities with a total of approximately 247.83 bn euros.

In Figure 1 we captured the distribution of green bonds worldwide. Thus, the states with the most listed securities are the USA with a total of 268 bonds, of which Citigroup Inc. holds 1, International Bank for Reconstruction and Development 244, and International Finance Corporation 23.

This is followed by Luxembourg with 100 listed securities, some of which belong to Banque Europenne D'Investissement (37), Candriam SRI (33), NEF (8), etc. and the Netherlands with 55 of which 11 return to BNG Bank NV, 6 to Iberdrola International B.V. and 3 at ENEL Finance International B.V.

In terms of their value, the IBRD holds 70.88 bn. Euro, European Investment Bank 22.98 bn. Euro, and the Dutch Waterschapsbank N.V. 10.92 bn. euro.
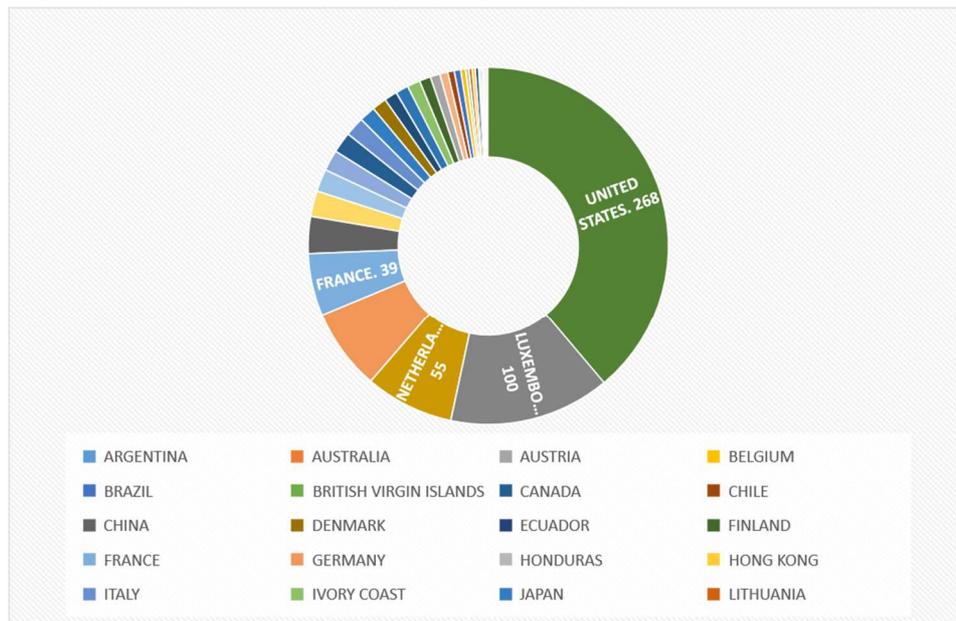
Figure 1: The distribution of green bonds by country
Source: own edited based on data provided by: https://www.bourse.lu/home

In the first table, we selected the most important companies on the Luxembourg stock market for European countries. When it the database was accessed the biggest issued amount was 1.000.000.000 euros. Several companies reached out this summ, among which E.ON SE (Germany), ENEL Finance Internatioan N.V. (Netherlands) and Sparebank 1 Boligkreditt N.V. (Norway). Although, there is a semnificant amount of money, the number of bonds listed differs. Meanwhile, E.ON SE has just 12 green bonds, ENEL Finance Internatioan N.V has 5 bonds and Sparebank 1 Boligkreditt N.V is the lider with 18 bonds. If we are looking deeper, even if E.ON at this issued amount has a 0.375% coupon, on the stock market it has also coupons with 1.625% for an issued amount of 750.000.000 eur. Meanwhile Enel has coupons with a percentage of 1,5% and Sparebank 1 Boligkreditt coupons worth aroun 0,5%.

In addition, I selected from Luxemburg Stock Exchange, all the listed countries and companies the ones with the greatest profits, highest coupons and a wide range of listed bonds. From the entities with a high number of green bonds held in the top of the ranking we note Commerzbank AG (Germany) - 834 green bonds, Natixis Structured Issuance S.A. (Luxembourg) 683 green bonds and Natixis (France) 404 green bonds. With regard to bond coupons, the highest percentage is held by Neo Industrial PLC (Finland) 6%, followed by Suzano Austria GMBH (Austria) 5.75% and Greenalia S.A. (Spain) 5.5

First of all, looking at the the value of emissions. at the time of accessing the platform (02.04.2020) they had the following characteristics:

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Table 1: Top listed green bonds on stock market

Issuer	Country	Issued amount (EUR)	Bond	Coupon	Listing date	Final maturity
E.On Se	Germany	1000000000	12	0,375 %	16/01/2020	29/09/2027
Enel Finance International N.V.	Netherlands	1000000000	5	1,5 %	21/01/2019	21/07/2025
Sparebank 1 Boligkreditt As	Norway	1000000000	18	0,5 %	30/01/2018	30/01/2025
Innogy Finance B.V.	Netherlands	850000000	18	1,25 %	19/10/2017	19/10/2027
Iberdrola International B.V.	Netherlands	850000000	16	3,25 %	12/2/2019	Perpetual
Naturgy Finance B.V.	Netherlands	800000000	15	0,875 %	15/11/2017	15/05/2025
Assicurazioni Generali S.P.A.	Italy	750000000	12	2.124%	1/10/2019	1/10/2030
Caisse Francaise De Financement Local	France	750000000	135	0,1 %	13/11/2019	13/11/2029
Iberdrola Finanzas, S.A.U.	Spain	750000000	19	1,25 %	28/06/2018	28/10/2026

Source: own edited based on data provided by:https://www.bourse.lu/home

In the first phase we will focus on the Green Bond Index, provided by S&P which is designed to track the global market for green bonds. This is one of the first indices that maintain strict standards to include only bonds whose revenues are used to finance ecological projects. In our research we considered the market value weight index, which aimed to quantify the performance of green bonds at global level. The green bonds were issued by any country, without exclusions, with the requirement that the current currency is indexed. The maturity of the bonds must at least one month old from the date of rebalancing, without it developing in the index. Bonds such as fixed and zero, fixed to float, floaters or step-up coupons were accepted. The minimum requirement realized in the methodology provided for Euro issuers is that Sovereign has to be 750 million euros, the investment level will be 250 million euros, and High Yield will be 250 million euros. Table 2 provides a background of the performance of the index with a total yield of 158.81 and a YTD drop of -1.14%. In terms of annual returns, they have a positive trend of 2.41% for 1 year, 1.79% for 3 years, 1.23% for 5 years and 4.11% for 10 years (S&P Dow Jones Indices, 2020). To measure the volatility of the green bond market we calculated the standard deviation. The database used was the one provided by (S&P Dow Jones Indices, 2020) and was accessed on April 13, 2020. The research has a starting date of

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15/04/2019 until 13/04/2020. Thus, we measured how the value of bonds is dispersed on a large scale by the average value.

Table 2: The appearance of the index level

INDEX LEVEL	RETURNS			ANNUALIZED RETURNS			
Total Returns	1 MO	3 MOS	YTD	1YR	3YRS	5 YRS	10YRS
158.81	-4.39%	-1.14%	-1.14%	2.41%	1.79%	1.23%	4.11%
Benchmark Total Returns	-4.49%	-3.36%	-3.36%	0.07%	2.69%	1.68%	1.96%
137.43							

Source: own edited based on data provided by: https://us.spindices.com/indices/fixed-income/sp-green-bond-index

In our case the standard deviation is 3.82%, with a daily variation of 0.00058% and an annual variation of 3.82%. The calculation was made based on the following formula: SD= $\sqrt{\frac{\sum_{i=1}^{n}(x_i-\bar{x})^2}{n-1}}$

However, the lowest registration was on 15/04/2019 with 154.02 (eur), and the highest on 25/02/2020 with 166.91 (eur).
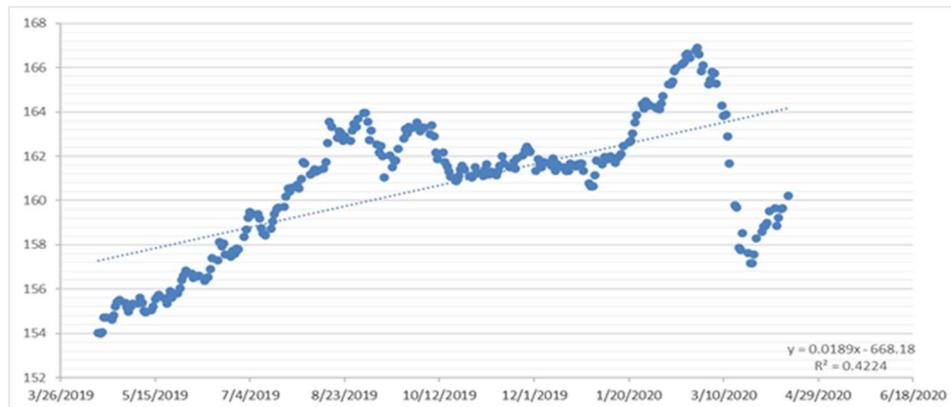
Figure 2: The trendline of Green Bond Index
Source: own representation

Also in April 2020 an upward trend, with strong fluctuations, can be noticed.
From another point of view, green bonds is the observation of the sectors where they are invested. According to data provided by (WORLD BANK, 2019) in 2019, and shown in Table 3, Renewable Energy and Energy Efficiency accounted for 36% of the total eligible projects, 30% were allocated to Clean Transportation, 17% to Agriculture, Land Use, Forests and Ecological Resources, 8% belonged to Water and Wastewater, another 8% go to Infrastructure Resistance, Environmental

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Building and others and last but not least 1% remained solid waste management. The net committed amount of cancellations for eligible projects for which loans are paid reaches a total of $ 12.8 billion for mitigation, representing 75% of the total and $ 4.3 billion for adaptation for the remaining 25%. Last but not least, the revenue from green bonds allocated to support the financing the funding of suitable projects, without compensation of loans that are not adapted for past obligations and have not been replaced with new green bonds, is $ 10.5 billion.

Table 3: Distribution of green bonds impact

Amounts in Eq. US$ billion	Committed			Allocated& Outstanding
	Mitigation	Adaptation	Total	
Renewable Energy & Energy Efficiency	6.1	0.1	6.2	4.4
Clean Transportation	5.0	0.2	5.1	3.1
Water & Wastewater	0.1	1.3	1.3	0.8
Solid Waste Management	0.1	0.0	0.1	0.1
Agriculture, Land Use, Forests & Ecological Resources	0.5	2.4	2.9	1.3
Resilient Infrastructure, Built Environment & Other	1.0	0.4	1.4	0.8
TOTAL	**12.8 (75%)**	**4.3 (25%)**	**17.2**	**10.5**

Source: own edited based on data provided by: (WORLD BANK, 2019)

5. Conclusion

Following my investigation, we concluded that Green bonds have become indeed the most well seen and innovative financial instruments. We can see a marked increase of them since 2007 when they were first listed, but also an improvement of everything that means procedural and legal framework. Starting from picking the environmental programs in which companies to invest, to their issuance, certification and audit, we can observe a series of policies aimed at increasing transparency.

The results of my research show that the number of green bonds has become increasingly popular both among multinational companies and governments. The percentage of coupons is quite consistent, especially since the duration between the listing date of the green bonds and the final development is significant. However, in the last period, the slope of green bonds has experienced a slight instability due to an increased volatility, but with an upward direction. It is worth noting, however, that the yield is a positive one, and the economic forecasts are quite favourable The purpose and impact of green bonds has been concentrated in the area of Clean Transport, Agriculture, Renewable Energy and Efficienc, Land Use, Forests and Ecological Resources of Water and Wastewater, Infrastructure Resistance, Environment Building and, last but not least, Solid Waste Management. In conclusion, we can say that green bonds are the newest and most innovative green financing instruments.

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COMPARISON OF THE LEADING VEHICLE MANUFACTURERS IN HUNGARY AND ROMANIA BASED ON THEIR FINANCIAL POSITION SITUATION

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Abstract: *In the ever-accelerating world of our time, competition is getting larger and stronger, where it is important for managers to make fast and high-quality decisions. Economic analysis helps management to identify and evaluate the factors that affect its operations and effectiveness, thereby ensuring that management is properly informed. In the course of the economic analysis, information is obtained about the actual situation of the company, which helps in making management decisions as well as the activities of the management. However, in addition to understanding the internal processes, it is important to examine the operation of companies with the same activities within the industry, to which results can be compared and, if necessary, strategies can be changed. In the scope of the present study, the aim was to compare the leading vehicle manufacturing companies in Hungary and Romania based on their financial position.*

1. Literature review

In terms of the scope of the analysis, it can be comprehensive or partial analysis. In the case of a comprehensive or overall analysis, the entire business activity is examine, usually relying on the data of the accounting statement (hence also referred to as statement analysis). Analysis of annual statements helps to identify anomalies and find the sources of problems, but rather it allows the emergence of questions, a more detailed analysis is needed to explore the actual causes (Musinszki, 2014; Fenyves et al., 2019, Béresné, 2017). In a comprehensive analysis, the goal is to explore critical points for further, more in-depth analysis.

During the partial analysis, each organizational unit and management sub-process of the company are analysed, i.e. the points that are found problematic during the comprehensive analysis (Blumné et al., 2011).

The analysis of the report is retrospective, as the statement is past-oriented, always containing only the data of the previous year. "Analyses can be performed of the data of the statements very quickly for the past years (Böcskei et al., 2015)". As a result, the analysis of the statement is a relatively simple, fast process, but at the same time requires adequate expertise (Fenyves, 2014). Its aim should be to draw conclusions, which can be helpful in the later stages of the design work (Körmendi – Kresalek, 2006, Orbán - Kiss, 2017, Kerezsi et al, 2018, Kerezsi et al, 2019).

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In the analysis of the financial position, primarily the data of the balance sheet are examined, and in addition the studies rely on the information of the notes to the financial statement (Béresné – Darabos, 2016).

According to Musinszki (2014), in the scope of the examination of the property situation the following can be observed:

- the composition of assets and liabilities,
- change in assets (from the previous period to the current period),
- consistency (adjustment) of the maturity of assets and liabilities
- the ratio of certain significant balance sheet entries to each other (provided that the formulated indicators have an economically meaningful content).

In terms of the scope and depth of the analysis, the balance sheet can also be analysed comprehensively and in detail. In the course of the comprehensive analysis, the balance sheet is analysed, trends and significant processes (e.g. how the proportion and value of subordinated, long-term and short-term liabilities developed within liabilities) are observed, i.e. points which are worth paying attention to during the detailed analysis are designated (Musinszki, 2016).

In the course of the detailed analysis, a more thorough analysis of each balance sheet item is performed, focusing on those points that were found "interesting" during the comprehensive analysis, i.e., where negative trends were suspected to be discovered (Böcskei et al., 2015). In the course of the comprehensive analysis, vertical and horizontal analysis can be distinguished, which will be discussed in more detail below.

Vertical balance sheet analysis

In the case of the vertical (structural) balance sheet analysis, the balance sheet is analysed vertically. This means that only the asset side or only the liabilities side is examined.

In the vertical analysis of the asset side, the following can be examined according to Adorján et al. (2011):

- ratio of the most important asset groups (e.g. the ratio of current assets to fixed assets),
- ratio of the (main) asset groups and its change (e.g. fixed assets as compared to total assets)
- composition within asset groups and its change (e.g. the proportion of investments within tangible assets),
- other vertical indicators (e.g. the ratio of purchased inventories).

There are no generally accepted values for the values of individual indicators, as they are also influenced by the nature of the activities of the company, so it is worth comparing the indicators with the data of the previous year or comparing them with other similar activities (Fenyves et al., 2020). At the same time, the composition of assets can provide an answer to the question of how stable or flexible an enterprise is (for example, a large proportion of fixed assets leads to inflexibility), and even by examining the assets, we can determine what the actual activity of the enterprise can be (Musinszki, 2014).

In the case of the vertical examination of the liabilities side, Böcskei - Kádasné (2014) distinguish two groups of indicators:

- debt to equity (i.e. the ratio of debt to equity),

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- ratio of the source (main) groups (capital structure indicators) and its change (e.g.: capital strength, indebtedness, capital growth rate)

There are guidelines for the expected values of the liability-side indicators (e.g. the ratio of liabilities is critical over 70%), but the composition of liabilities also helps to get to know the capital strength, viability and debt dependence of the company (Böcskei, 2014, Hegedűs - Zéman, 2016).

In the horizontal balance sheet analysis, indicators are formed "horizontally" from the balance sheet, i.e. asset and liability entries are compared.

By comparing liabilities to assets, the coverage (capital requirement) of assets with liabilities can be determined, while comparing resources to assets results in the asset requirement (coverage) of liabilities (Béhm et al, 2016).

2. Material and method of the study

Successful businesses contribute to the economic growth of a country. In the rapidly and dynamically developing environment of our time, enterprises achieve their results by maintaining, increasing and continuously developing their market competitiveness (Nagy - Tobak, 2016). The aim of the present study is to compare the leading Hungarian and Romanian vehicle manufacturer companies in terms of assets. As the Romanian statements (unlike the Hungarian statements) are not public, the analysis relied on the EMIS database, as this database contains data on many Central and South-Eastern European companies, so it also contains data on Hungarian and Romanian companies. Data from the annual statements of the companies included in the analysis were collected for the last 5 years (2014 to 2018). After collecting the data in a Microsoft Excel spreadsheet software and collecting it in spreadsheets, the software was used to calculate the indicators for assessing the financial situation.

During the selection of the companies to be analysed, the scope of the EMIS database was narrowed based on the NAICS classification system first to Industry (31), then to Automotive and Other Automotive Manufacturing (336), and finally to Road Vehicle Manufacturing (3361). Road vehicle manufacturing (based on the NAICS classification) includes enterprises the primary activity of which is the manufacture of passenger cars, light commercial vehicles and heavy vehicles, and which are exclusively engaged in the manufacture of chassis for motor vehicles (NAICS, 2019). Automotive manufacturing is a key industry for the economy of Central and Eastern Europe, and the countries of the region are significant players in the studied area in the world (Németh - Kőmíves, 2020a; Németh - Kőmíves, 2020b). The role of passenger cars in mobility is not expected to diminish in the near future, despite issues related to the use and replacement of fossil fuels (Harangi-Rákos et al., 2017; Oláh et al., 2017; Popp et al., 2014).

Companies with similar volumes were intended to be compared, therefore companies that could be considered as "leading vehicle manufacturers" were selected from the two countries to be examined, taking into account turnover, total asset value, profit (earnings) and number of employees. Based on the criteria, it was managed to select two companies (one from Hungary, one from Romania) that fulfil the following criteria in the last two years (2017 and 2018):

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- their annual net sales revenue is > 1 000 million EUR,
- their total assets (balance sheet total) > 750 million EUR,
- their annual profit is > 20 million EUR,
- number of employees > 2500.

Analysis of the collected data was performed using the most frequently used method for statement analysis, the utilisation of indicators (rate analysis). The analysis of indicators is a common practice in other sectors as well, as Fenyves et al (2017) apply in their work.

3. Analysis of the companies by quartiles

In analysing the financial situation, the study relied mainly on the balance sheets of companies (in some cases also on the notes to the financial statement).

3.1. Analysis of the financial position of Audi Hungaria cPlc

The financial position of Audi Hungaria cPlc was first examined on the basis of the absolute data of the balance sheet, thus Table 1 shows the (simplified) balance sheet of the company in 2014-2018.

The balance sheet total of the company fluctuated slightly in 2014-2016, but in 2017 its value increased significantly (by 66.31% compared to the previous year). This is mainly due to the increase in fixed assets, which is due to the merger mentioned in Section 2.1.1 Audi Hungaria Services cPlc. had a significant portfolio of financial assets, of which it sold its Volkswagen Group Services SA share to Volkswagen AG in 2017, and in connection with this provided a long-term loan to Volkswagen AG in the amount of 3,277,616 thousand EUR. This change is reflected in equity on the liabilities side, as its value increased by 78.46% in 2017.

Table 1: The main categories of the balance sheet of Audi Hungaria cPlc in 2014-2018

Name	Values of the analysed years (thousand EUR)				
	2014*	**2015***	**2016***	**2017**	**2018**
A) Fixed assets	4 170 033	4 088 873	3 715 162	6 609 314	8 077 873
B) Current assets	1 286 259	1 049 755	1 906 905	2 745 491	1 764 374
C) Accrued assets	9 307	5 052	8 362	9 216	11 386
Total assets	**5 465 599**	**5 143 680**	**5 630 429**	**9 364 021**	**9 853 633**
D) Equity	3 923 231	4 353 927	4 696 732	8 381 988	8 821 824
E) Provisions	106 680	66 343	60 259	80 341	89 189
F) Liabilities	1 209 141	506 098	460 555	524 604	617 970
G) Accrued liabilities	226 547	217 312	412 883	377 088	324 650
Total liabilities	**5 465 599**	**5 143 680**	**5 630 429**	**9 364 021**	**9 853 633**

Source: own editing based on the data of the EMIS database

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Assets are dominated by fixed assets; the ratio of current assets to fixed assets is at most 51% in the analysed years. Within liabilities, equity is significant and the value of liabilities relative to equity can be said to be low (except for 2014), as it is only 6-11% (30.82% in 2014).

It can be said that the proportion of fixed assets exceeded 65% in the studied years, thus the business is stable. As a result, current assets accounted for less than 1/3 of the company's assets. The ratio of accrued assets is minimal and results from interest income from the associated company and proportional discounts from turnover expected from suppliers.

Examination of the ratio of fixed assets shows that the ratio of intangible assets has been declining over the years. Between 2014 and 2016, more than 65% of fixed assets were tangible assets, (property, plant and equipment, vehicles, equipment and investment), but after the merger this proportion shifted in favour of fixed assets, due to the long-term loan provided to Volkswagen AG, the amount of which increased further in 2018.

Current assets of the company consisted mainly of inventories and receivables. The value of inventories showed a significant increase in 2018 (52.74%), which is mainly due to the increase in work in progress, semi-finished products and finished products. Receivables fluctuate over time (± 23-129%), but this does not indicate a more serious problem, as the change was due to fluctuations in receivables from affiliated companies (mainly receivables related to cash pool concern companies). The company had no securities and also tried to keep its financial assets to a minimum, as uncommitted funds do not increase profitability.

During the examination of the liabilities side, the indicators in Table 2 were analysed.

Table 2: Vertical indicators of Audi Hungaria cPlc on the liabilities side

Name	Analysed years				
	2014	2015	2016	2017	2018
Debt to equity	0.39	0.18	0.20	0.12	0.12
Capital strength (%)	71.78%	84.65%	83.42%	89.51%	89.53%
Indebtedness rate (%)	22.12%	9.84%	8.18%	5.60%	6.27%
Ratio of long-term liabilities (%)	0.00%	0.00%	0.00%	0.00%	0.00%
Ratio of short-term liabilities (%)	100.00%	100.00%	100.00%	100.00%	100.00%
Ratio of provisions (%)	1.95%	1.29%	1.07%	0.86%	0.91%

Source: Own editing based on data from the EMIS database and annual statements of the company

The Debt to equity indicator refers to the predominance of equity. A significant part of this was accounted for by reserves (capital, profit, restricted, valuation reserves), as the company's subscribed capital was or remained below 100,000 thousand EUR in the analysed years.

Examining the capital strength, the company can be said to be strongly capital-intensive, as the value of the indicator has been close to 90% in the last two years.

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As a result, the trend is also favourable in terms of the level of indebtedness, as it is declining (with the exception of the minimal increase in 2018), far below the critical value of 70%.

The company had no subordinated or long-term liabilities during the studied period, only short-term ones. These were mainly due to debts to suppliers. It was only in 2014 that the company had a liability to a significant associate (726,694 thousand EUR), most of which was owed to Audi AG. The ratio of provisions is also favourable, as it remained below 2%. This was mainly due to warranty obligations, subsequent price changes, indemnities and raw material price risks due to rising energy and raw material prices (based on the Company's notes to the annual statement).

In order to analyse the financial situation more accurately, the assets and liabilities of the company were also compared, thus horizontal indicators were formed (Table 3).

Table 3: Horizontal indicators of Audi Hungaria cPlc

Name	Analysed years				
	2014	**2015**	**2016**	**2017**	**2018**
Asset coverage ratio I. (%)	94.08%	106.48%	126.42%	126.82%	109.21%
Equity multiplier	1.39	1.18	1.20	1.12	1.12
Net working capital (thousand EUR)	77 118	543 657	1 446 350	2 220 887	1 146 404

Source: Own editing based on data from the EMIS database and annual statements of the company

Based on the horizontal indicators, the equity fully covered the fixed assets from 2015, so the company was able to cover its fixed assets on its own. (Asset coverage ratio II was the same as asset coverage ratio I due to the lack of long-term liabilities). The equity multiplier is a bit low but favourable, as with a unit of equity, the company moved 1.11 to 1.39 units of assets.

Net working capital suggests that an increasing share of current assets was financed from long-term funds as its value increased until 2017. However, in 2018, net working capital decreased by 48.38% due to a 35.74% decrease in current assets and a 17.80% increase in short-term liabilities.

3.2. Analysis of the financial position of Automobile-Dacia SA

The balance sheet total increased steadily, mainly due to the increase in current assets. The ratio of fixed assets to current assets was almost the same (approximately 50-50%). The value of accrued assets is negligible (Table 4).

Based on the examination of the composition of fixed and current assets, it can be said that the proportion of intangible assets is negligible, mainly tangible assets dominated (over 90%), within which real estate, vehicles and machinery predominated. A significant part of the financial assets invested is subsidiary investments, the value of which has not changed over the years.

Table 4: Assets of Automobile-Dacia SA in the 2014-2018 period

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Name	Values of the analysed yers (thousand RON)				
	2014	2015	2016	2017	2018
A) Fixed assets	**3 672 149**	**3 410 890**	**3 765 166**	**4 465 384**	**4 435 693**
I. Intangible assets	764	681	791	879	1 482
II. Tangible assets	3 393 831	3 134 641	3 488 807	4 188 881	4 159 062
III. Investments and funds	277 554	275 568	275 568	275 624	275 149
B) Current assets	**3 472 262**	**3 964 965**	**4 181 146**	**4 625 704**	**5 553 759**
I. Inventories	479 822	515 261	548 719	614 561	606 929
II. Receivables	1 501 952	1 638 398	2 093 962	2 510 970	2 258 945
III. Stocks	0	0	0	0	0
IV. Financial assets	1 490 488	1 811 306	1 538 465	1 500 173	2 687 885
C) Accrued assets	**7 512**	**6 590**	**6 416**	**8 283**	**13 548**

Source: Own editing based on the EMIS database and the available annual statements of Automobile-Dacia SA (2016-2018)

Most of the current assets were receivables and financial assets, the share of inventories was 10-14%, more than half of which was raw materials. Receivables in 2014 consisted mainly of trade receivables, but later receivables from affiliated companies became dominant. This company did not have any securities held for trading, but its cash position is relatively high.
Liabilities were also examined using vertical indicators (Table 5).

Table 5: Indicators of the liabilities side of Automobile-Dacia SA

Name	Analysed years				
	2014	2015	2016	2017	2018
Debt on equity	0.94	0.94	1.04	1.09	0.96
Capital strength (%)	51.55%	51.51%	48.93%	47.85%	51.05%
Indebtedness (%)	46.17%	46.26%	49.04%	50.53%	46.85%
Ratio of long-term liabilities (%)	4.92%	4.75%	4.11%	3.52%	3.38%
Ratio of short-term liabilities (%)	95.08%	95.25%	95.89%	96.48%	96.62%
Ratio of provisions (%)	1.40%	1.28%	1.17%	0.94%	1.23%

Source: Own editing based on the EMIS database and the available annual statements of the company

The value of debt on equity is around 1, so the ratio of own and external resources is almost the same. The activity of the company is approximately financed 50-50% from own and external sources. The capital strength of the company is not critical, but it lags behind the values of Audi. Within equity, the value of the subscribed capital since 2015 is 2,541,738 thousand RON (approximately 550,000 thousand

EUR), which gives a declining amount of equity due to the successful operation of the company.

The 45-50% level of indebtedness is not critical either, but it is relatively high. The ratio of long-term liabilities to liabilities is low (3-5%). The ratio of current liabilities is 95-96%, most of which is provided by suppliers, but the company has also incurred liabilities to affiliated parties in the last 4 years. The proportion of the provision is below 2% (not significant), so it does not involve too much risk and uncertainty.

Equity covered fixed assets every year except 2017, but in addition to long-term liabilities, the coverage of fixed assets was also ensured in 2017 by the company's long-term liabilities.

Table 6: Horizontal indicators of Automobile-Dacia SA

Name	Analysed years				
	2014	**2015**	**2016**	**2017**	**2018**
Asset coverage ratio I. (%)	100.41%	111.48%	103.34%	97.51%	115.13%
Asset coverage ratio II. (%)	104.83%	116.23%	107.60%	101.13%	118.70%
Equity multiplier	1.94	1.94	2.04	2.09	1.96
Net working capital (thousand RON)	332 650	712 042	441 701	189 873	1 025 891
Net working capital (thousand EUR)	74 217	157 375	97 267	40 748	219 964

Source: Own editing based on the EMIS database and the available annual statements of the company

The value of the equity multiplier is close to 2 and it shows that the company is able to move twice its equity as an asset.

The value of net working capital fluctuated very much, but at the same time, it was positive in all the examined years, so it was able to finance a part of the company's current assets with long-term liabilities.

4. In conclusion

The aim of the study was to compare the leading vehicle manufacturers in Hungary and Romania based on their financial position. In the scope of the analysis, Audi Hungaria cPlc. and Automobile-Dacia SA were examined. The assets of the examined enterprises were mainly dominated by fixed assets, but at Dacia the ratio of assets within and over 1 year was almost the same. Within liabilities, Audi was dominated by equity, while the capital of Dacia approximately originated in equal proportions from own and external sources.

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DO ROMANIAN COMPANIES AND THEIR STAKEHOLDERS BENEFIT FROM THE ADVANTAGES OF A GOOD CORPORATE GOVERNANCE? EMPIRICAL RESEARCH ON THE LEVEL OF COMPLIANCE

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Abstract: *Corporate governance is a topical subject interrelated with many other concepts such as financial performance and earnings management and also a topic of real interest especially to shareholders and potential investors, but also to other stakeholders. The advantages attributed to corporate governance (maximizing global and long-term financial performance, increasing transparency and investor confidence) are the impetus for carrying out the present paper by asking a question related to approaching the concept in our country and, more importantly, the extent to which the principles of corporate governance are applied practically. The specialized literature in Romania has been dealing intensely with the subject in recent years, both through theoretical and empirical studies. The present empirical research is carried out among the companies listed on the regulated market of the Bucharest Stock Exchange in 2017 for which we analyzed the Statement on compliance with the provisions of the Corporate Governance Code issued by the Bucharest Stock Exchange.The results show that 40% of the analyzed companies apply more than 75% of the principles of the Code regarding the responsibilities of the board of directors, the risk management system and the internal control, to the just reward and motivation and last but not least, to the relationship with investors, to transparency. Moreover, 66% of the analyzed companies apply over 50% of the principles. Comparing the results obtained with the results of other studies from the past, we appreciate a positive evolution of the corporate governance in Romania, obtaining for 2017 an average compliance score of 58% with growth prospects, considering the mentions regarding the implementation process of certain criteria stated by some companies. However, at EU level, Romania occupies the last positions in some aspects regarding corporate governance according to indicators published by the World Economic Forum.*

Keywords: *corporate governance; protection of shareholders' interests; transparency; financial reporting quality; performance.*

JEL Classification: *G34; O16; M41; M49.*

1. Introduction

At the international level, corporate governance has been marked by several benchmark moments. In 1992, in the United Kingdom, the Cadbury Report was issued which defined corporate governance as "the system by which companies are run and controlled". The report established the principles on which good corporate governance is built: integrity, transparency and accountability.

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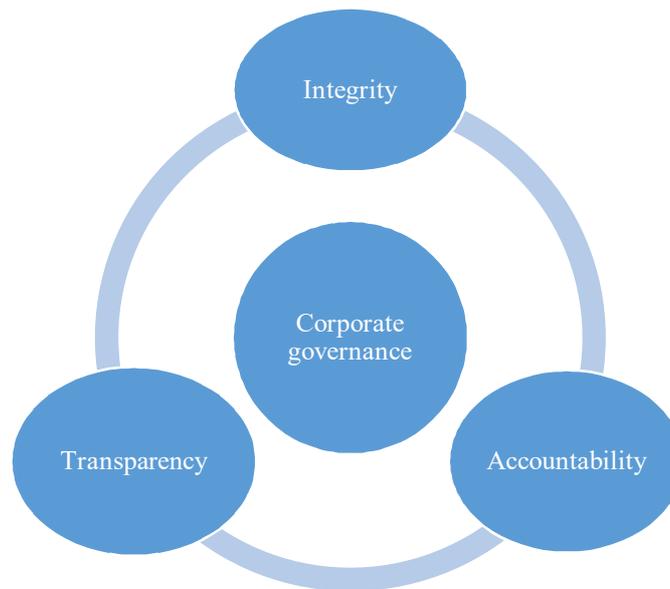
Figure 1. Principles of corporate governance according to the Cadbury Report
Source: Author's projection

In 1999, the Organization for Economic Cooperation and Development issued "the only set of principles unanimously accepted worldwide" (Ghiță, 2008) regarding corporate governance. The OECD (1999) defines corporate governance through the following elements:

- a set of relationships between a company's management, its Board of directors, its shareholders and other stakeholders
- the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined
- the system of incentives for the Board and management to pursue objectives that are in the interest of the company and shareholders and should facilitate effective monitoring, thereby encouraging firms to use resources more efficiently

The Sarbanes-Oxley law adopted in the US in 2002 has emerged in response to major financial scandals that have rocked reputable companies such as Enron (2001), Qwest Communications, Global Crossing, WorldCom, Adelphia or Tyco (2002) and have led to the loss of public confidence in practices and figures reported by companies. Therefore, the Sarbanes-Oxley Law sets more stringent standards on the accounting, auditing and responsibilities of boards of directors. Romanian companies that are part of the groups listed on the New York Stock Exchange, including Romtelecom, Vodafone, Orange, Coca-Cola, ArcelorMittal, Bunge Romania, Autoliv Romania, Fiat, Delphi-Packard, Avon Cosmetics had to implement SOX regulations.(Mihăileanu, 2008)

Romania has adopted the OECD principles in the corporate governance code issued in 2008, which replaced the first code issued in 2001, and in 2015 a new code adapted to European and national requirements, as well as to the interests of different stakeholders in corporate governance, would be issued. The Corporate Governance Code of the Bucharest Stock Exchange, applicable from January 1, 2016 and currently valid, includes a set of principles and recommendations for companies whose shares are admitted to trading on the regulated market. The principles are based on efficient and transparent communication with shareholders, potential investors and other stakeholders, with the aim of increasing transparency and investor confidence.
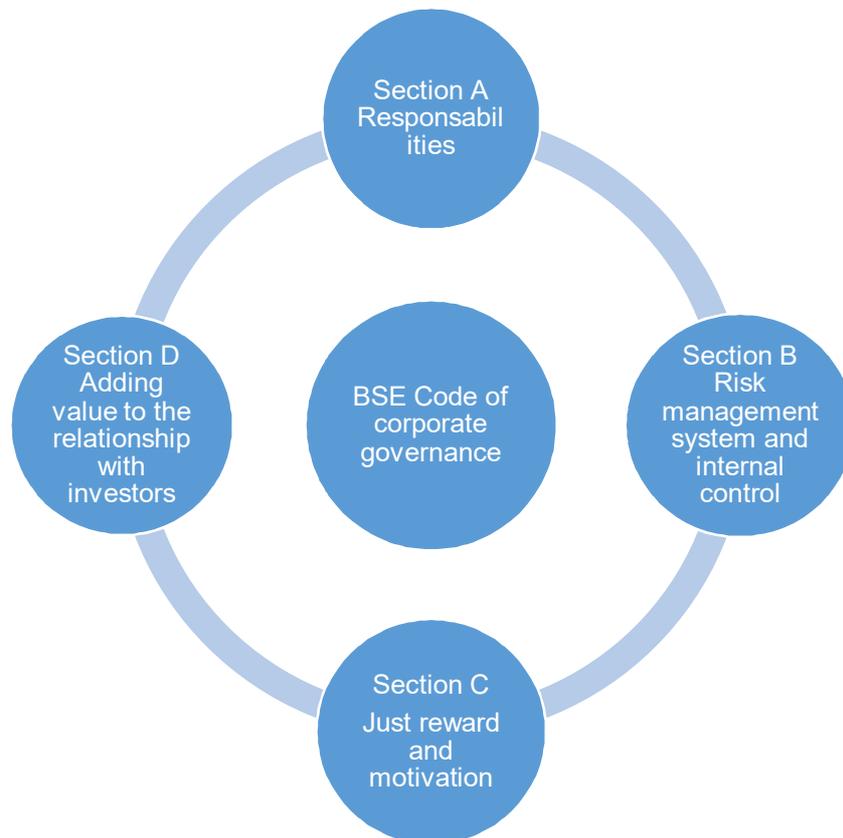
Figure 2. Organization of the BSE code of corporate governance
Source: Author's projection

Companies whose shares are admitted to trading on the regulated market of the Bucharest Stock Exchange can voluntarily adopt the BSE Code of Corporate Governance, in which case it will have to publish annually the so-called Apply or explain statement. That statement contains 40 questions, organized into four

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sections, to which companies have to answer with YES, NO and if NO, then explain why.

Section A contains 11 questions regarding the composition and responsibilities of the Board of Directors or of the Supervisory Board / Directorate, as the case may be, as well as information regarding the independence of the Board members.

Section B contains 12 questions regarding the risk management system and the internal control, as well as the organization of the internal audit activity.

Section C contains a single question regarding the remuneration policy of the members of the Council and of the Director General, as well as of the members of the Directorate in the dualist system.

Section D contains 16 questions regarding investor relations.

2. Literature review

A functional capital market is based on "strong investor protection" (Kieff & Paredes, 2010). A functional capital market is based on "strong investor protection" Corporate governance limits the abuse of power of the internal ones on the company's resources and provides the means to monitor the behavior of the managers, to ensure the protection of investors and other external stakeholders (Feleagă et. al., 2011).

Various studies (Dechow et al, 1996, Davidson et al, 2005), Dhu & Hbp, 2019) demonstrate the association between earnings management and the absence of strong corporate governance. A strong corporate governance structure is less prone to fraud, income manipulation and other creative accounting practices (Dechow et al, 1996, Beasley, 1996). Corporate governance has the role of reducing the information asymmetry that is considered the point of genesis for the emergence of creative accounting (Vladu & Matiș, 2010). Karamanou & Vafeas (2005) have shown that effective corporate governance is associated with quality of financial reporting.

The effect of adopting and meeting the principles of corporate governance noted by Murwaningsari (2010) is to maximize the financial performance of the companies, and Apostol (2015) extends the positive effects on the global performances. Brown and Caylor (2009), Erickson and others (2005) also advocate a positive association between corporate governance and performance. There are also studies (Core and others, 2006, Aman and Nguyen, 2007) that question this connection, but even in its absence we cannot neglect the main purpose, that of protecting the stakeholders' interests.

Given these benefits, we raise the question to what extent the Romanian companies and the stakeholders benefit from the advantages of adopting and observing the principles of corporate governance. This interest led to the present research.

In Romania, specialized literature in the field of corporate governance has developed especially since 2011. The topic was touched by authors such as Răileanu et al. (2011), Feleagă et al. (2011), Manolescu (2011), Ionașcu & Olimid (2012), Achim & Borlea (2013), Albu et al. (2013), Mihalcea & Burja (2018) that exploited some particular aspects related to corporate governance (related to the attributes of the board of directors: size, structure, frequency of meetings, independence of the board of directors, disclosure of information on the remuneration of Board members and

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directors, some aspects regarding transparency), the evolution of corporate governance at the legislative level, and tested some hypotheses related to the correlation between corporate governance and performance among a sample of Romanian companies.

3. Research metodology

As methods, we used descriptive methods, comparison, analysis and synthesis.
For the purpose of data collection we have accessed the Annual Reports for the year 2017 for listed companies on the regulated market of the Bucharest Stock Exchange. Based on the statement regarding compliance with the provisions of the Corporate Governance Code issued by the Bucharest Stock Exchange, we calculated a corporate governance score in the following way: I scored with 1 each affirmative answer, 0.5 with partial compliance and 0 with each negative answer within the Apply or explainstatement. For each company, this score will be able to record values between 0 and 40. By averaging them, we will obtain an average score of corporate governance at the level of the Romanian companies for 2017. We will then compare this score with similar ones calculated, highlighting thus the evolution of the corporate governance system in Romania in recent years.
For the evaluation of the corporate governance at macroeconomic level and the comparison with other countries, the efficiency index of the board of directors (Efficacy of corporate board) by Achim & Borlea (2019) can be used, but also other indices such as Protection of minority shareholders' interests. These indices are calculated and reported annually by the World Economic Forum in The Global competitiveness report and can take values between 1 and 7.

4. Findings

13 out of 86 listed companies (15%) did not include the statement in the annual report for 2017. If we eliminate them we get an average corporate governance score of 69%. We do not eliminate them, however, because, as this statement is prepared by the companies that have voluntarily adopted the Corporate Governance Code of the BSE, we conclude that the 13 companies did not adopt the recommendations of the code and do not apply the principles of corporate governance. They will be taken into account with a score of 0 corporate governance. Otherwise, we get an average corporate governance score of 58%. Compared with the results obtained for 2009 by Răileanu et al. (2011), which showed a very low, insignificant compliance with the principles of corporate governance, the percentage obtained in the present research is an optimistic one, but lower than the one calculated in 2012 by Achim&Borlea (60%) according to a similar methodology. The evolution in time is not a permanently ascending one, as it would be ideal, but the mentions regarding the process of implementation of certain criteria declared by some companies have growth prospects. This small setback can also be explained by the introduction of the new corporate governance code in 2015, which brings new recommendations that companies have not implemented immediately.

In a more detailed analysis, the extreme positive represented by the observance of all the principles is gathered by 7% of the total of the companies listed on the regulated market of BSE. 66% of companies respect more than 50% of the principles.

On a scale from 0 to 40, the median, which divides the series into two equal parts, is represented by the value 25.5, which means that half of the analyzed companies respect the principles in proportion of over 63%. The quartile of ordinal 3 is represented by the value 35,375, so a quarter respects the principles in a proportion of over 88%.
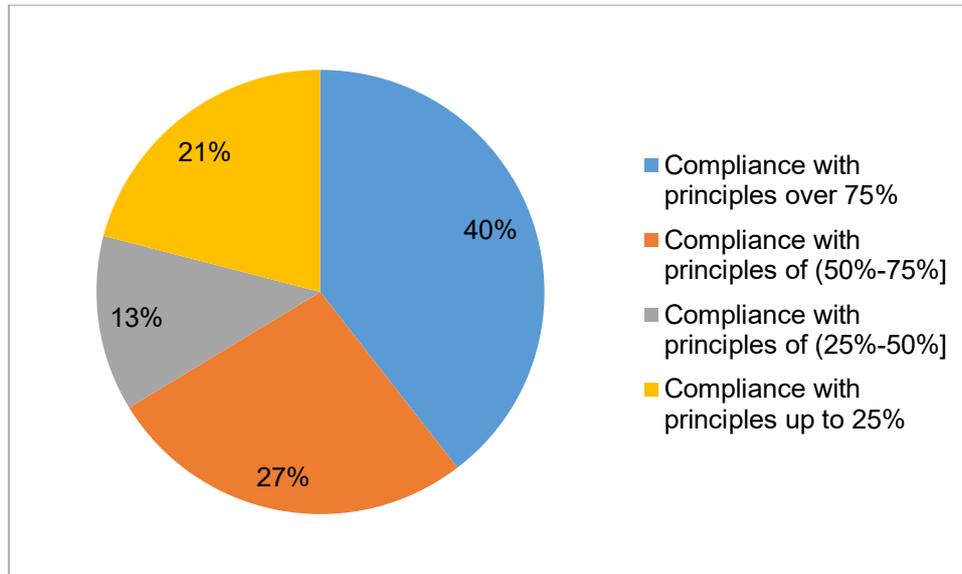
Figure 3. Dividing listed companies by their degree of compliance with the Corporate Governance Code
Source: Author's projection

According to the Efficacy of corporate board, Romania ranked in the penultimate place at the EU level in 2017-2018, and Protection of minority shareholders' interests ranks our country in 5th place from the bottom, according to the graphs below.

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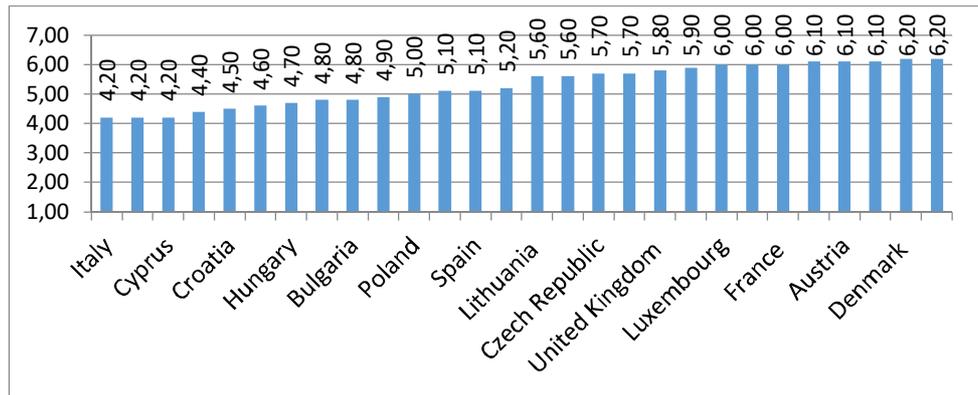
Figure 4. Efficacy of corporate board
Source: Author's projection
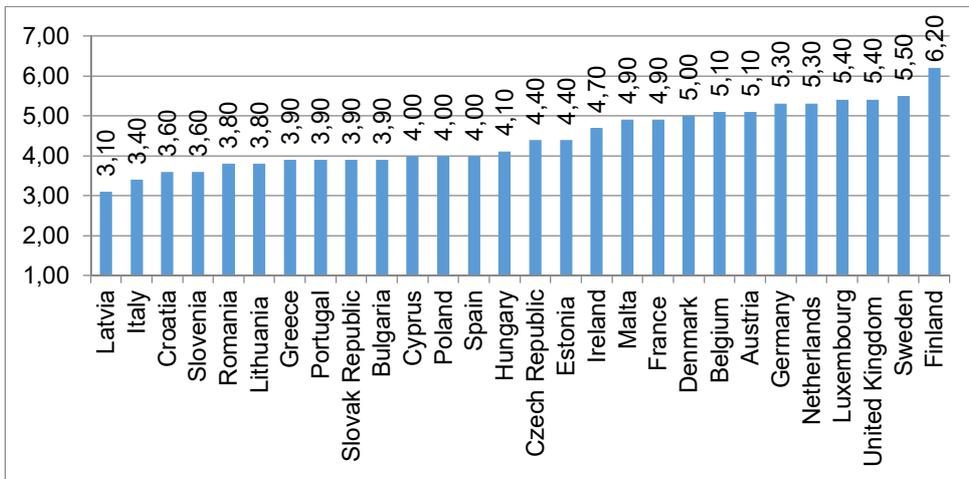
Figure 5. Protection of minority shareholders' interests
Source: Author's projection

5. Conclusions

The benefits of corporate governance affect the quality of financial reporting, financial and global performance. Effective corporate governance leads to the well-being of all stakeholders.

In Romania, we have, theoretically, laid the foundations for corporate governance. The corporate governance code of the BSE contains a set of principles and recommendations based on effective and transparent communication, aimed at increasing investor and other stakeholder confidence. Practically, however, the degree of compliance of listed companies on the regulated market of BSE is an average one, of only 58%, but it is nevertheless to be appreciated that in the last

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years progress has been made, and the mentions regarding the process being implemented by some principles stated by some companies show growth prospects. At the macroeconomic level, the indicators taken into account by the World Economic Forum - the efficiency index of the board of directors (Efficacy of corporate board),Protection of minority shareholders' interests places our country on top of the EU level, which makes us focus more on this topic.

6. Research Perspectives

The results obtained will be used further to test a correlation between corporate governance score, earnings quality and risk of manipulation.

7. Acknowledgement

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THE IMPLEMENTATION OF THE RESEARCH DEVELOMENT AND INNOVATION PROGRAMS IN ROMANIA

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Abstract: *Starting from the main challenges and growth opportunities of Romania, and also considering the actual context of the social and economic developments, the aim of the paper is to analyse in terms of the research opportunities, the core activities that can be applied in Romania, in order to increase and support sustainable and favourable social inclusion. The analysis will be based on the National plan and the National strategy of the research, development and innovation projects that will also include sets of objectives that have close links for forecasting the results -of the national RDI system. At the same time, this program is supported by the state, which emphasizes the importance of the correct organization of funds in order to create activities necessary for the wellbeing of the society. Therefore, this work will also analyze the strategic orientation of the European Structural and Investment Funds for the period 2014-2020, learning from the lessons of the programming period between 2007-2013, in order to find out the answer to the research question: What are the main sectors in Romania where research development, and innovation projects would be needed as a priority? Following the qualitative analysis carried out by observation and comparison methods, it has been found that there are thirteen main areas that require the priority attention of the research, development, innovation programs, which are divided into two categories: smart specialization and public relevance. First, the field of smart specialization includes: bio-economy; information and communication technology, space and security; energy, environment and climate change; eco-nano-technologies and advanced materials. Secondly, the category of public relevance includes: the field of health; heritage and cultural identity and new and emerging technologies. Consequently, all of the above mentioned aspects are not possible without the stimulation of research and technological innovation programmes. Also through the correct application of the involution processes, using creativity and development-based entrepreneurship, it will be possible to train the population to generate credible program models, eventually this process becoming a lifestyle that will encourage the culture of innovation. Therefore, the purpose of RDI programs is to provide members of the global scientific community with an attractive development environment, involving both young researchers and top researchers from around the world.*

Keywords: *Research; Development; Innovation; National Strategy of RDI; National Plan of.*

JEL Classification: *O21; O31; O32.*

1. Introduction and research methodology
It is well known that today's society is considerably influenced by the existence of the new technologies, which are constantly evolving over time. Consequently, this

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modernization process is needed in order to development a proper economic growth and sustain the prosperity of the society.

Moreover, in this current era, the economy and the competitiveness are not only focused on primary production coefficients, such as access to natural resources or cheap labor, but are largely connected to innovation, which is a dominant source of competitive advantage. In this way, it can be understood that innovation has the capacity to obtain profitable services and products, using the maximum resources of the existing technology. (Holzinger A., 2011, p. 27)

This paper will analyze both the ordinance regarding the research-development-innovation activity applied in Romania, as well as the National Plan for Research Innovation Development and the National Strategy for Research Innovation Development, in order to have an overview on the objectives, programs and indicators used for the programs of RDI in Romania.

Between 2007-2013, Romania concluded a cycle of public policies in the sector of research, development, innovation, followed by the beginning of the new cycle of the RDI program in 2014-2020. One of the main tools of the National RDI Plan is the National Strategy for Innovation Development Research 2020. Among the National Plan of the RDI activities, five programs are listed: The first program involves the development of the national research and development system; The second program supports the increasing number of competitivity of the Romanian economy through the RDI plan; The third program refers to the European and International cooperation; The fourth program studies the frontier and fundamental research, and lastly the fifth program is related to research in areas of strategic interests. (National Research and Development Plan 2015-2020, Art. 2, (3)).

The main objectives of the National Plan of research development and innovation III is to support the idea of increasing the competitiveness of the Romanian economy, to increasing the scope of science in society and not lastly to improve the Romanian contribution to the progress of knowledge. Also, it is important to note that the RDI activities will focus on the private and on the public investments that are involved in the priority areas, where Romania already has an existing potential. Through this, specializations such as the branch of economic intelligence, or other activities supporting a specific national interest will be supported. (National Research and Development Plan 2015-2020, Art. 6,(1),(2))

At the same time, it is important to mention that the specialized central public administration body of Romania is the Ministry of Research and Innovation, which fulfills the tasks of the state authority for the R&D sector. This authority has the main responsibilities in: updating, elaborating, stimulating, developing, supporting and monitoring the national strategy of research-development and innovation; coordination of government policies at national level and to conduct certain activities of the research-development-innovation programs. (Ordinance 108, art. 4, p. 4)

As a result, the paper wants to find out the answer to the following research question: What are the main sectors in Romania where research development, and innovation projects would be needed as a priority? To answer the research question, the National Strategy for RDI 2014-2020, will be the basis for the elaboration of the paper, specifying the new strategic cycle needed to be implemented in order to help the development process.

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The methodological approach used for this work will be based on academic journals, books and online sources. At the same time, the main sources used in the realization of this article are focused on: The National Plan for Research Development and Innovation for the period 2015-2020 (Decision 583/2015); on the Ordinance regarding the research-development and innovation activity with modifications of normative acts pursuant to art. 108 of the Constitution of Romania, republished, and of art. 1 (X) of Law no. 183/2018 regarding the Government's ability to issue ordinances elaborated by the Government of Romania and not least on the National Strategy for research, development and innovation for the period 2014-2020.

The secondary research method has been chosen in order to provide a well-defined academic framework and to answer the research question, using sources such as ordinances, laws and programs that are closely related to research, development and innovation topic. Also, the qualitative research method is applied, by using the observation and comparison methods that will help to analyze the case studies, regarding the modalities of research, development and innovation programmes.

Therefore, the subjects of the research, development and innovation programs have always been a concern for the developing countries. From the previous literature it can be seen that there were a number of factors that influenced the innovation process.

As the author Dan Voiculescu also stated, in his book entitled The Romanian Economy, there are several types of financing methods used in the Romanian economy, such as: self-financing, financing through the credit market or the capital market, mixed financing or other financing methods. Due to the fact that economies are divided into economies that focus on financing systems through the savings market and the capital market, the banking market is at the base of these models. For example, in the proportion of over 70%, the US economy is financed through the financial market, while in the European economy financing is capitalized using approximately 70% from the banking market. As for Romania, the financing of the economy is achieved through the banking market, because the capital market is well below the necessary level of development. (Voiculescu, 2015, pp. 50-51) Therefore, financing Romania through research, development, innovation programs is another way to increase the welfare of the country, by obtaining funds and expertise from the foreign sector.

At the same time, the author Dorin Isoc, emphasizes the need to raise the Romanian standard in terms of accessing and completing the research and development projects, taking example from the developed states of the world, such as France, Germany or the United States of America, which have proven a broad social and economic involvement. (Isoc, 2007, p. 2)

The structure of the paper is divided into five chapters as follows: the first part presents a short introduction and background to the research, development and innovation programmes by also analysing the research methodology used in order to elaborate the work; the second section is considering the financing process of the RDI programmes in Romania; the third chapter reviews the tools of implementing the National Strategy for the RDI activity, the fourth part examines the results of the

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research question and lasty the fifth chapter is concluding the work and suggests improvements for the future.

2. Financing research, development and innovation activities in Romania

Due to the fact that all people have the right to develop research-development-innovation activities, this program has free access to the funds and it represents a guaranteed right, if the conditions of the legal provisions and competences of the persons or institutions applying for these funds are respected. (Ordinance 108, Art. 5, (1) p. 5).

Also, it is important to note that the research-development and innovation activities of the institutions and units within the national RDI system is financed from: the state budget funds; funds coming from international programs and cooperation; funds attracted from the economic agents or other funds according to the law. (Ordinance 108, Art. 40, p. 16)

Accordingly, the amounts allocated by the state budget are used as a priority to help finance the objectives that were agreed in the National Strategy, the Core Program, in the National and Sectoral Plan. (Ordinance 108, Art. 41, (3), p. 17)

Moreover, in order to achieve new objectives of the national interest, it is required to have investment expenditures financed in part or in full by the state budget. These expenditures are included in the draft of the state budget, based on a list of investments, and by also having the opinion of the state authorities for research-development-innovation. (Ordinance 108, Art. 41, (5), p. 17) Therefore, the financing of the research-development and innovation activities from the funds included in the state budget, are carried out in a competitive system, based on the proposed programs and projects. (Ordinance 108, Art. 43, p. 18)

In the table below, the government budget expenditures of Romania for the last 10 years is illustrated, for the research, development and innovation activities, according to the statistics published on the website of the European Commission.

RIO Indicator: Government budget appropriations or outlays for R&D   Country: Romania   Unit: % of GDP and Million units of national currency

■ PERCENTAGE OF GROSS DOMESTIC PRODUCT (GDP)   ■ MILLION UNITS OF NATIONAL CURREN...
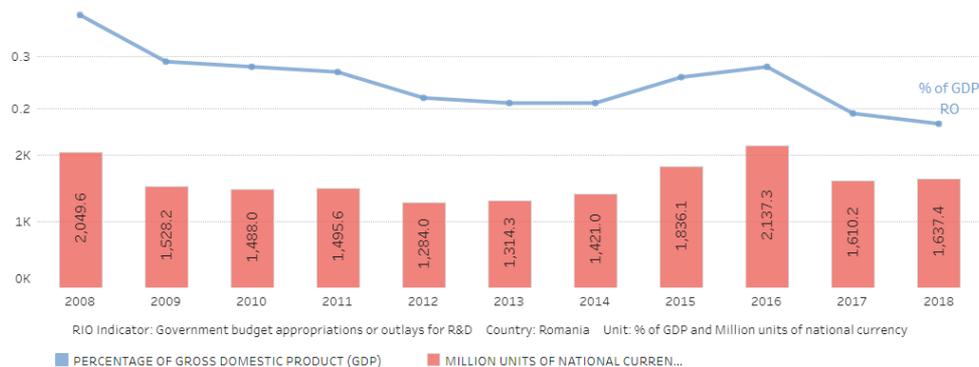
Figure 1: Romania's government budget expenditures for research, development, innovation projects between 2008-2018

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Source: European Commission, 2020 Available at https://rio.jrc.ec.europa.eu/stats/government-budget-appropriations-or-outlays-rd-0?GEO_DESC=Romania

From the table above, it can be observed that Romania had approximately the same amounts of funds distributed over the period of 2008-2018. However, in 2016 it could be observed a slight increase of the funds invested, which is due to the fact that at the end of 2016, a number of 44386 employees were involved in developing the field of research and innovation, this number being slightly increased compared to the end of 2015, when 43448 were involved in the same process. Thus, more employees meant more specialist that could visibly develop the RDI activities. (National Institution of Statistics, 2017)

At the same time, in order to financially support research, development and innovation activities, it is necessary to diversify the structure of the financing resources with the massive help of the private sector and capital markets. (Iancu, 2005, p.9) Currently, there is a common implementing regulation for the programming period of 2014-2020 for the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD) and European Fishing and Maritime Fund (EMFF). (Voiculescu, 2015, p. 31)

Therefore, in order to achieve the goals set out in the Europe 2020 Strategy, the new Member States will have priority in obtaining structural funds. At the same time, this allocation of funds will be based on the competitiveness of the countries, menaing that if a country proposes a qualitative portfolio of projects that exceeds the financial allocation initially granted, it may benefit from funds allocated to another country whose program portfolio either does not correspond qualitatively or as a number for the absorption of the allocated budget. Therefore, the financial allocation for the 2014-2020 programming period of Romania is 22904 million euros, being distributed as follows:
- • Cohesion Fund - 6935 million euros
- • Less developed regions - 15058 million euros
- • More developed regions - 441 million euros
- • European territorial cooperation / cross-border cooperation 364 million euros
- • Youth employment initiatives - 106 million euros. (Voiculescu, 2015, pp. 40-41).

3. Tools for implementing the National Strategy for research, development and innovation

Firstly, based on the National research-development and innovation strategy, the obligations of research, development and innovation institutions, which are financed from public funds, are obliged to: plan their own development plans or strategies, monitor the fulfillment of the objectives set in their own plans, periodically organize examinations both on the financial-economic activity and on the performance management and annually report to the state authority the scientific performances

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and the results of research-development-innovation results. (Ordinance 108, Art. 32, p. 14)

Secondly, the implementation of the National Strategy for Research, Development and Innovation is carried out through: The National Plan for Research-Development and Innovation, the Core Program for Research-Development and Innovation, the Sectoral Plan of Central and Local Public Authorities for Research-Development and Innovation and other research, development and innovation programs, projects or plans. (Ordinance 108, Art. 33 p. 14)

Another important aspect is the fact that on the one hand the national plan, including the necessary financial resources, is administered and elaborated by the state authority, the approval being made by Government decision, and the financing is multi-year, using a competitive system. (Ordinance 108, Art. 36, p. 15)

Annually, the State Authority for research-development and innovation projects draws up proposals for research topics for the Core Programs, with objectives for solving socio-economic problems. (Ordinance 108, Art. 37, (2) p.15)

Therefore, as a target for 2020, the research and development programs was to exceed the reference value registered in 2011, as can be seen in the table below.

Table 1: Achieving the target values of the RDI program for 2020

No.	Indicators	Reference value (year 2011)	Target 2020
1.	Public expenditure on research-development-innovation (% of GDP)	0.31	1.0
2.	The number of doctoral graduates per 1,000 inhabitants aged 25-34	1.4	1.5
3.	Number of public sector researchers (full-time equivalent)	12409	17000
4.	Scientific publications in the top 10% of the most cited publications in the world (% of total scientific publications in the country)	3.8	7
5.	International scientific co-publications (number per 1 million inhabitants)	148	300
6.	Venture capital (% of GDP)	0.033	0.090
7.	Business sector research and development expenditure (% of GDP)	0.17	1.00
8.	Number of researchers in the private sector (full-time equivalent)	3518	14500
9.	Public-private co-publications (no. / 1 million inhabitants)	8.3	16.0
10.	Share of innovative collaborating SMEs (%)	2.93	6.00
11.	EPO patent applications (no. / Year)	40	120
12.	USPTO patent applications (no. / Year)	17	60

Source: National Plan for research, development and innovation 2015-2020, Art. 9.

According to the table above, the value of the indicators that must be increase significantly to reach the target for 2020 compared to 2011 are: the number of

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researchers in the public sector; scientific publications in the top of the most cited publications in the world; international scientific publications; the number of researchers in the private sector; public-private co-publications; the share of collaborating innovative SMEs and patent application.

The most difficult target to achieve is the increase in the number of researchers in the private sector, and the easiest target is the number of doctoral graduates per 1,000 inhabitants aged 25-34. Therefore, to achieve these goals, five programs have been implemented, which are the basis for the development of RDI activities, which are listed in the table below.

Table 2: Programs underlying RDI activity

Nr.	Denumire program
1.	Development of the national RDI system for increasing the capacity in resources, performance and quality of RDI activities
2.	Increasing the competitiveness of the Romanian economy through RDI to support the productivity of enterprises and progress on value chains through partnerships between enterprises and public organizations
3.	European and international cooperation - participation in international research programs that facilitate the mobility of researchers, circulation of ideas and knowledge, access to transnational collaboration networks, programs of research institutions that are not available in Romania
4.	Fundamental and frontier research to maintain and develop niche areas where Romanian fundamental research has a comparative advantage and critical mass of researchers or where there is the possibility of international collaboration
5.	Research in areas of strategic interest support program led by institutions with the role of scientific coordination in areas of strategic interest

Source: National Plan for Research, Development and Innovation 2015-2020.

4. Results of the research, development, and innovation activities

Based on the previous chapters, the answer to the research question: What are the main sectors in Romania where research development, and innovation projects would be needed as a priority? will be detailed in the following paragraphs.

First of all, the strategic cycle of 2014-2020, takes into account the shortcomings of the last two decades of the RDI programs, in order to be able to focus on the improved results and to have practically visible impact for the future programmes. Based on previous experience of the national strategy, the optimal development of the research programs should be achieved through strong partnerships for innovation. These partnerships involve long-term coordination following the factors of: securing the resources by planning and approving public budgets; through the environmental predictability of the research, development and innovation activity, this program is enjoying stable rules that can help to increase collaboration; and last but not least, the credibility of public-private partnerships that are aided by private spending on the R&D program, which aims to reach 1% of GDP by 2020. (National Strategy for Research, Development and Innovation 2014-2020, p.7)

At national level, in order to fund research, development and innovation programmes, there is a need to access structural funds, which are based on limited sets of strategic priorities. Therefore, through the National RDI Strategy 2014-2020, the areas in which Romania could significantly contribute to the development of future technologies were identified. Thus, the Research, Development and Innovation Strategy pursues two types of priorities, as described below:

• Smart specialization priority - represents the consolidation and definition of high areas of competences, with a significant comparative advantage to contribute to GDP growth. It is therefore necessary to concentrate resources by mobilizing a mass of researchers in order to penetrate both the regional and global dimensions.

• Public relevance priority - considers the allocation of resources in the sector where technological development and research needs concrete social assistance. These priorities involve increasing the capacity of the public sector to track the space of emerging technologies and to find innovative solutions through research, development and innovation activities. Furthermore, fundamental research retains its importance, being a priority program within the National RDI Strategy 2014-2020 - covering socio-economic and humanities disciplines - also representing a source of interdisciplinary and frontier research. (National Strategy for Research, Development and Innovation 2014-2020, p.7)

Secondly, the priority research areas were established following the organization of a broad consultative process, which defined an extended participatory procedure, being structured in the following essential steps:

1. The first step was the selection of a set of strategic domain and priority subdomain, based on the consultation of a large panel of experts which were also based on empirical evidence. This process also included important criteria for smart specialization, such as: capitalizing on the social and economic potential of the research and development results; capitalizing on proven scientific performance; and lastly capitalizing on Romania's strategic development interests. This process was designed to be future-oriented, taking into account the new regional and global trends, societal challenges, emerging technologies, and the behavior of different economic agents. Also, this stage was based on a first consultation of the online environment with a number of 28,000 experts, who were represented by guests and stakeholders, who completed a total number of 1322 questionnaires on the 13 distinct areas.

2. The second stage was about the exploration of the 13 candidate areas. These areas involved the formation of a panel of specialists for each strategic specialization, to discuss according to a grid of criterias, the needs and the research potentials of the programmes.

    A major tool used in this process was the so-called "knowledge map", which represented the central component of the exploration process. This map was based on the objective evidence of the relationships of the main economic operators. Also, the organization of the knowledge map was primarily based on the relationship and the processing of over 6,000 databases of all projects funded in Romania in the 2007-2013 cycle; secondly, the use of approximately 100,000 publications by Romanian authors; and last but not least, the use of 7,000 patents granted to over half a million of companies.

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3. The third stage was the selection of the main list of the priority areas. This stage was based on an extensive consultation of the online environment, based on an argumentative procedure. The survey also aimed to rank the 13 candidate areas, in order to establish the final set of priority areas for research, development and innovation programmes for the period of 2014-2020. (National Strategy for Research, Development and Innovation 2014-2020, p.8)

Finally, the answer to the research question in relation to the areas that requires priority involvement of the research, innovation and development programs is divided into two areas: the category of smart specialization and the category of public relevance. First of all, the field of intelligent specialization includes: Bioeconomy; Information and communication technology, space and security; energy, environment and climate change; eco-nano-technologies and advanced materials. Secondly, the category with public relevance includes: the field of health; heritage and cultural identity and new and emerging technologies.

The first category smart specialization is supporting the economic behaviour besides the importance of the technological and social impact of science the in relevant sectors. This specialization presupposes a dynamic style, which can be characterized by the continuous collection and analysis of data both for national and regional level. From the point of view of the intelligent specialization, the bio-economy benefits from a great potential of Romanian agriculture, in order to create a local food industry and to activate and grow standards. This field is especially developing the main pharmaceutical industry's products, food industry outcomes, animal husbandry, fisheries and horticulture. Concerning the information-communication technology area, and space-security area, both are supported and expertised by raising the higher level education and the academic research for this relevant discipline. This area also focuses on the use of software and the calculation of several performances. Regarding the space applications, this field can be dedicated or integrated based on space technologies and infrastructures in order to be able to use their own and international spaces. The security of society is supported by the expansion of products, technologies and research capabilities for a systematic system of local and regional security, cyber security, emergency management for counter-terrorism, cross-border threats, illegal trafficking and security crises. The field of energy, environment and climate change, are responsible for the reduction of Romania's energy dependence, with the help of the higher recovery fossil fuels and by diversifying national resources such as nuclear or renewable resources. And last but not least, the field of eco-nano-technologies and advanced materials are part of the TGE (Essential Generic Technologies) category, which is helping Romania's automotive industry. (National Strategy for Research, Development and Innovation 2014-2020, pp. 17-18)

With regards to the second category of innovative solutions concerning the public sector, this category of health represents a critical area in terms of quality of life; Thus, this category of heritage and cultural identity promotes the language habits of each member country and last but not least the field of the new and emerging technologies has the role of supporting the economy by solving specific problems in order to feed public needs.

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5. Conclusions

Aiming to capitalize on the research potential, both state authorities and ministries work together to ensure partnerships between academies, research units, institutions and education. This can be achieved by organizing joint research and development innovation teams, regardless of the form of organization.

At the same time, the technical assistance program is encouraged, which involves direct collaboration between research, development and innovation institutions and economic agents that use the results of RDI programs. (Art. 57, (3) pp. 24-25)

The advantages of the research-development and innovation projects can make major contributions in both the private and public sectors, by playing an important social and economic role, being an essential service provider, regulator and potential future employer.

The disadvantages that may occur during the research, development and innovation projects are the possibility of market failure, but the state accepts this risk. This may be due to the fact that the generated goods are mainly public, which also involves the process of exploring the unknown, which also implies an inherent risk of not achieving the proposed objectives or hypotheses. Instead, these shortcomings will be observed during the evaluation and monitoring of the ongoing programs. (Art. 64, p.28)

Therefore, a possible solution to address the above-mentioned disadvantage is to turn to an advisory body to support the state authorities for research, development and innovation activity. This advisory body could be the Consultative College for Research-Development and Innovation, being the main specialized consultant of the state authority. This college is made up of researchers, teachers and other specialists whose role is to provide scientific support at the national level in establishing the strategies and policies needed for the research, development and innovation programs. Other similar bodies that could help the RDI process are: the National Council for Scientific Research, the National Council for Ethics in Scientific Research, the Technological Development and Innovation, the Romanian Committee for Research Infrastructures and the National Council for Technology Transfer and Innovation.

Although the international standards for the research, development and innovation industries are well structured at European level, Romania does not have yet the necessary number of researchers to meet the country's domestic needs. Moreover, the European Commission also debated Romania's main challenges in terms of its low competitiveness. The data indicate a limitation in the marketing capacity of Romanian research, development and innovation results. Therefore, in response to the challenge mentioned above, the National Strategy suggests the formation of an innovation ecosystem through public-public and public-private partnerships. (European Commission, 2013, p. 226)

Another problem is the decrease of the researchers in the field of individual businesses, and the large number of multinational companies with subsidiaries in Romania, are reluctant to set up local research centers. It has also been observed that the private sector has limited access to public infrastructure, and as a result the

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use of these facilities is declining. Therefore, the research, development and innovation sector in Romania is undersized due to the fact that the demand for RDI activity is not sufficiently stimulated. Thus, as a possible solution the business environment and the general public must be connected in order to develop the economic and social situation of the country. (National Strategy for Research, Development and Innovation 2014-2020, p.6)

As a recommendation for the future, there is a need for professionals in public organizations in order to ensure technology transfer and to facilitate knowledge of public-private partnerships. This recommendation would be beneficial, as research, development and innovation organizations do not have adequate teams to realize the research potential in the best possible way. Therefore, it is necessary to specialize the staff in order to achieve the technology transfer by focusing on human resource training. Also, the development of the fields of doctoral schools by allocating some increased shares of resources to intelligent specialization, will increase the resources necessary for the development of the economic environment.

Nevertheless, in order to create stronger collaborations at international level, Romania must consider increasing their participation in projects such as: Horizon 2020 Framework, supporting participation in European initiatives by collaborating with European Union programs in "twinning" or "teaming" projects. For this process, it is also necessary to attract young people to science and not only; being necessary the scientific literacy of the population of all ages.

As a prediction for the future, even more research, development and innovation projects will be needed, because this generation requires more exploitation, which is why research will be one of the most important tasks of society. (Jain, Triandis and Weick, 2010, p. 20)

In conclusion, this paper demonstrated that the purpose of the research, development and innovation program was to create the right conditions to ensure the growth and competitiveness of the Romanian research system. (Galsworthy and McKee, 2013)

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EXAMINATION AND COMPARISON OF THE PROFITABILITY OF A COMPANY IN TWO DIFFERENT ACCOUNTING ENVIRONMENTS

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Abstract: *The primary goal of the present research is to examine the profitability of companies that have transitioned to IFRS in the year of transition. This provides an opportunity to compare the profitability of a given company in the system of IFRS and on the basis of the data of the annual statement prepared in accordance with the Hungarian accounting rules. In the scope of the literature review and material and method chapters, the method of calculating the applied profitability indicators and the economic content of the indicators are presented. In addition, the source of the annual statements containing the data used for the study is described. In the scope of the research, it is hoped to be highlighted how different results can be presented in terms of profitability, using the data of two annual statements prepared on the basis of two different accounting systems. For the study, the Magyar Telekom Telecommunications Plc was selected, which switched to IFRS in 2017. The profitability of Telekom Plc. was examined using the return on sales (ROS), return on assets (ROA), and return on equity (ROE) profitability ratios. Simultaneously with the presentation of the profitability indicators, the factors influencing the value of each profitability indicator were described. In addition, the accounting specificities of the factors influencing profitability indicators in the system of IFRS and in the Hungarian accounting regulations were highlighted. In the scope of the present study, the focus was on the causal relationships of each difference. As a result of the research, it can be clearly stated that the profitability indicators calculated on the basis of the data of the annual report prepared in accordance with the requirements of IFRS are higher, so a more favorable profitability situation can be detected than in the Hungarian accounting environment. In the conclusion chapter, the results of the study and the drawn conclusions are briefly summarized.*

Keywords: *IFRS; Hungarian accounting; profitability; transition; IFRS 1 standard.*

JEL Classification: *M4.*

Introduction

The globalization of international money and capital markets has given investors plenty of opportunities to invest their capital. By the 21st century, national and continental capital market boundaries have disappeared to such an extent that either an investor living in Europe has access to investments in the United States or even an Australian businessman is able to buy shares on the Tokyo Stock Exchange

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at any time. The globalization has several benefits, such as an increased supply of investments that allow the investors to choose from numerous options and choose the investment that best suits their preference. Accounting has been known since the beginning as a reliable source of information that greatly contributes to the decision-making of investors. Investor decisions may be hampered by valuation differences between accounting systems, which determine the value of individual assets differently. Different systems may differ so much that a given company may achieve different sales and after-tax results if two different accounting systems are used, but it may even show a given tangible asset at a different value. In the scope of the present study, the intention is to highlight how reports prepared based on two accounting systems might show different results in terms of profitability indicators.

1. Literature review, material, and method

In the present, our study, the individual financial statements of Magyar Telekom Telecommunications Plc (hereinafter: Telekom Plc.), were examined, which covered the 2016 financial statements, as in 2017, Telekom Plc. switched to the use of International Financial Reporting Standards (hereinafter: IFRS) in terms of its individual financial statements. In compliance with one of the important accounting principles, Telekom Plc. is obliged to publish and present the data of the previous year (2016) in its 2017 annual statement, which complies with the said principle if these data are prepared in accordance with International Financial Reporting Standards. Thus, a statement prepared on the basis of two accounting systems for a given year (2016) is available for examination. The statements were downloaded from the website of the company and e-beszamolo.hu.

1.1. The necessity of transition to IFRS
As a result of globalization, the need for international harmonization of accounting is becoming more and more important (Dékán Tamásné Orbán – Kiss, 2017). As a result of the rapid capital flows characteristic of the current economic life, national borders are becoming increasingly irrelevant (Beke, 2014), since, as the data of enterprises in several jurisdictions are examined, the comparison of financial statements prepared from these data becomes almost impossible (Rózsa, 2015). It makes it particularly difficult for companies, owners, investors, other decision-makers and public authorities to assess the wealth, financial and profitability situation of companies on the basis of reports prepared according to different principles (Madarasiné et al., 2018). Economic change reinforces the need to standardize the main communication language of the economy, i.e., accounting so that those wishing to invest in different countries can measure the performance of individual companies (Böcskei et al., 2017). For this reason, special emphasis should be placed on the teaching of IFRS for practice-oriented training (Fenyves et al., 2020).

1.2. Profitability indicators
In the present study, three profitability indicators in relation to the 2016 data of Telekom Plc. were analyzed.

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The first indicator used for the analysis is the return on sales ratio (ROS).

$$ROS = \frac{Profit\ after\ tax}{Revenues}$$

The ROS ratio shows how much after-tax profit is accompanied per unit of sales. Thus, in principle, the higher value can be considered more favorable, because if the company did not have an income adjustment item other than sales revenue and the payment of taxes would be disregarded, the value of the indicator would be 100%. The more costs and expenses a company has, the lower the value of the ROS indicator (Bán et al., 2017).
The second indicator used for the analysis is the return on assets (ROA).

$$ROA = \frac{Profit\ after\ tax}{Total\ assets}$$

The ROA indicator shows how much after-tax profit is achieved for a unit of total assets. Thus, it can be determined as a percentage how much the company can achieve an after-tax profit with the help of its asset portfolio. Basically, a higher indicator value can be considered more favorable; since then, the company can achieve a higher result in proportion to a smaller stock of assets (Bíró et al., 2016).
The third indicator used for the analysis is the return on equity (ROA).

$$ROE = \frac{Profit\ after\ tax}{Return\ on\ equity}$$

The ROE indicator shows how much after-tax profit is achieved per unit of equity. A higher value can be considered advantageous, although further research is recommended, as a higher value may also mean a low amount of equity. Basically, the indicator can also be considered as a proportion, as the after-tax profit is part of equity (Birher et al., 2009).

2. Examination of Telekom Plc.'s profitability indicators in the year of transition to IFRS

In this chapter, the development of Telekom Plc.'s profitability indicators and the factors influencing them in the year of transition to IFRS, 2016, are presented. In addition, the accounting specifics of the factors influencing the indicators are explored.

2.1. Development of the return on sales profitability indicator of Telekom Plc. in the year of transition
In this chapter, Telekom Plc.'s return on sales (ROS) profitability indicators based on the Hungarian Accounting Act (HAS) and the annual statement prepared in accordance with IFRS are presented. The indicator can be defined as the quotient

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of after-tax profit and sales revenue. The following table shows the development of ROS indicators:

Table 1: Introduction of ROS indicators and the factors influencing them in the year of transition

million HUF

	HAS	IFRS	Difference (IFRS/HAS-1)
Sales revenue	*468 255*	*447 173*	*-4.50%*
Operational costs	475 299	392 580	-17.40%
Operational profit	34 729	62 268	79.30%
Earnings before taxes	29 398	45 788	55.72%
Tax liability	862	8457	881.09%
After-tax profit	*28 536*	*54 245*	*90.09%*
ROS	6,09%	12,13%	99.18%

Source: own calculation based on the annual statements of Telekom Plc

As shown in *Table 1*, the ROS indicator based on the data of the annual statement prepared in accordance with IFRS is almost double, 90.9% higher than the indicator calculated on the basis of the data of the annual statement prepared in accordance with the Accounting Act. One of the main reasons for this is that the after-tax profit is almost twice as large according to IFRS as under the Hungarian Accounting Act. After-tax profit is composed of several factors, so the large difference is likely to be due to the difference between several factors in the profit and loss account

The value of operating profit in the system of IFRS is much higher than according to the Hungarian Accounting Act. The main reason for this is that the value of operational costs expenses is much lower as required by IFRS.

The largest difference is shown by the tax liability, and its amount is almost ten times higher when accounted under the requirements of IFRS than in the Hungarian accounting system. This difference is due to the IAS 12 - Income Taxes standard. An essential difference between the two accounting systems with regard to the calculation of income tax is that under the Hungarian tax law, earnings before taxes must be adjusted with the so-called tax base adjustment items, and the determined tax liability corresponds to the actual tax liability. In contrast, IFRS and IAS 12 requires after-tax profit to be reduced not only by the actual tax but also by the deferred tax. Based on this, the large difference is given by the fact that earnings before taxes are adjusted by tax base adjustment items in the line of tax liability according to Hungarian accounting regulations. The most significant tax base reduction item is depreciation according to the taxation legislation and dividends recognized as income from financial operations. The tax liability under IFRS includes both actual and deferred tax liability.

The difference is further increased by the fact that the sales revenue is lower according to the rules of IFRS than the Hungarian Accounting Act. The difference between the amounts of revenue is likely to be due to the special requirements of IAS 18 – Revenue standard, as IAS 18 strictly defines the conditions for accounting revenue. One of the most common examples is that if the product sold includes a

right of return, the resulting revenue cannot be fully accounted for. One option is for the company to account for revenue only when the right of return ceases. The other option is that the standard provides an opportunity to determine, based on the experience of previous years, the proportion of products returned by a reliable estimate, and the recognized sales revenue should be reduced accordingly. In connection with IAS 18, another common example is when a company provides an additional guarantee for its products in addition to the statutory warranty obligation. According to the standard, the guarantee obligation, in addition to the statutory requirement, must be accounted for as a revenue-reducing item, the amount of which must also be estimated on the basis of the experience of previous years. IFRS 15, which replaced IAS 18 after 1st January 2018, will certainly cause further differences in results, which is worth addressing later.

Overall, it can be stated that the ROS indicator calculated in the system of IFRS is twice as large as the indicator calculated according to Hungarian accounting. As a result, higher profitability is recognized in accordance with the provisions of IFRS.

2.2. Development of the return on assets profitability of Telekom Plc. in the year of transition

After the comparison of return on sales (ROS), the next indicator was return on assets (ROA). As already explained in the methodology, the return on assets is the ratio of after-tax and total assets. ROA shows how much after-tax profit is generated per unit of total assets. The development of the indicator is greatly influenced by the development of the after-tax profit and total assets calculated based on the two different accounting systems. Table 2 shows the development of ROA for 2016 based on the application of the Hungarian and international accounting systems.

Table 2: Introduction of ROA indicators and the factors influencing them in the year of transition

million HUF

	HAS	IFRS	Difference (IFRS/HAS-1)
After-tax profit	28 536	54 245	90.09%
Total assets	984 574	1 084 223	10.12%
Intangible assets	289 939	392 069	35.22%
Inventories	12 224	10 683	-12.61%
ROA	2.90%	5.00%	72.62%

Source: own calculation based on the annual statements of Telekom Plc.

Table 2 shows that the after-tax profit influencing the development of the ROA indicator in the case of financial statements prepared on the basis of IFRS is almost twice that of the report prepared on the basis of the Hungarian accounting system. The reason for this has already been explained when presenting the development of the ROS indicator. 10.12% higher amount was reported for all assets, so in the case of return on assets, most of the difference is due to the difference in the method of calculating net profit between IFRS and the Hungarian accounting system.

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However, it is also worth examining the 10.12% difference for total assets. In the scope of the present study, the aim is to present the assets that show a more significant and greater difference within total assets.

If the development of intangible assets calculated on the basis of both Hungarian and IFRS regulations is examined, it can be seen that the value of intangible assets in the financial statements prepared in accordance with International Accounting Standards is higher than the value calculated in accordance with the Hungarian Accounting System, despite the fact that the Hungarian Accounting System provides more freedom to activate various direct costs. The costs of foundation reorganization and the direct costs incurred with experiments can also be capitalized in the Hungarian accounting system.

In this case, we should examine the valuation procedure for items belonging to intangible assets. The company has goodwill, which is defined in the Hungarian accounting system as the difference between the market value and the liabilities of the acquired company. In the case of International Financial Reporting Standards, intangible assets that might not have been recognized as intangible assets of the acquired company may also arise at the time of the acquisition, as they are internally generated assets (IFRS 3 Business Combinations). One of the most common examples of this is an internally generated client list (Lakatos et al., 2013), which is disclosed in the financial statements in accordance with IFRS 3 after the invisible capital, thus increasing the total assets of the company.

Additionally, it is also important to mention valuation options related to intangible assets. In both accounting systems, intangible assets are accounted at cost value, but there may be differences after initial recognition. In the Hungarian accounting system, intangible assets are depreciated over their useful lives. In the case of the application of IFRS, intangible assets may have a definite (finite) and indefinite useful life, intangible assets with indefinite useful lives cannot be depreciated, but must be tested annually for impairment. Thus, if the impairment test does not reveal any circumstances that would justify an impairment, the book value of those assets remains unchanged for years. It is also worth mentioning the differences related to goodwill, because while the Hungarian accounting system depreciates the value of goodwill to zero over a period of 5-10 years, IFRS only subject the said asset to the impairment test, so the value of goodwill may remain unchanged for years if no impairment is revealed.

In the case of inventories, some differences can also be detected, as the inventory value in the statement prepared in accordance with the IFRS was 12.61% lower than the inventory value in the statement prepared on the basis of the Hungarian accounting system. This difference is due to the inventory valuation rule applied by IFRS. In the Hungarian accounting system, inventories are impaired if the market value of the inventories is permanently below their book value. In the case of IFRS, inventories should be depreciated to the net realizable value, where it is not sufficient to determine their market value, as net realizable value is determined as the difference between the market value and the costs of selling the inventories. So the cost of sales calculated by the company is also deducted from the market value.

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Interestingly, the asset side of the balance sheet prepared on the basis of the Hungarian accounting system includes the repurchased own shares, which, according to IFRS, must be shown as equity reducing entry.

Overall, it can be stated that the ROA indicator calculated in the IFRS system is 72.62% higher than the indicator calculated according to the Hungarian accounting system.

2.3. Development of the return on equity profitability indicator of Telekom Plc. in the year of transition

The third examined indicator was the return on equity (ROE). The ROE indicator can be defined as the ratio of after-tax profit and equity. The development of the indicator is shown in the following table:

Table 3: Presentation of ROE indicators and factors influencing them in the year of transition

million HUF

	HAS	IFRS	Difference (IFRS/HAS-1)
Subscribed capital	104 274	104 274	0%
Capital reserve	58 952	27 119	-54.00 %
Accumulated profit reserve	233 761	408 708	74.84%
Own shares (within equity)	0	-55	N/A
Equity	425 558	540 046	26.90%
After-tax profit	28 536	54 245	*90.09%*
ROE	6,71%	10,04%	49.63%

Source: own calculation based on the annual statements of Telekom Plc

Table 3 lists the factors that may affect the development of the ROE indicator.

The first capital item is the subscribed capital, the value of which is the same according to the accounting of both accounting systems, as the value of the subscribed capital is always included in the balance sheet at nominal value.

The amount of the profit reserve shows a significant difference according to the accounting of the two accounting systems. The main reason for this is that, in accordance with IFRS 1 - First-time Adoption of International Financial Reporting Standards, any differences that arise from differences in the specifics of the two accounting systems are reflected in profit reserve. The most common difference during the transition, which can significantly affect the profit reserve is the recognition criteria for assets. According to the requirements of IFRS, certain assets cannot be shown in the balance sheet, which is allowed by the Hungarian Accounting Act, and vice versa. In addition, the difference is increased by the fact that the balance sheet prepared in accordance with IFRS does not show the after-tax profit on a separate line, but is transferred directly to the profit reserve. *Table 3* shows that the value of the after-tax profit, according to IFRS, is 54,245 million HUF, so only the direct transfer of the after-tax profit to the profit reserve causes such a difference.

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In the present case, the difference between the recognition of repurchased own shares in the two accounting systems causes a minimal difference, as according to IFRS it is required to be shown as equity reducing entry, while according to Hungarian accounting regulations it is shown on the asset side, among current assets.

Overall, these differences result in a 26.9% increase in the value of equity when accounted for in accordance with IFRS.

The reasons for the large-scale difference in the after-tax profit have already been explained in the previous chapter.

The ROE indicator calculated in the accounting system of IFRS is 49.63% higher than the indicator calculated in the Hungarian accounting environment. This is due to the difference in the requirements of the two accounting systems explained above.

Overall, it can be stated that the ROE indicator also shows higher profitability in the IFRS system.

3. In conclusion

In the scope of the present study, the aim was to point out what differences may appear in the financial indicators of a given company if it uses different accounting systems. In the study, the accounting data of Telekom Plc. were available to in both the Hungarian and international accounting environment. From these data, profitability indicators were calculated, which showed a relatively large difference. Basically, it cannot be stated that a company applying IFRS has higher profitability. Still, it can be established that the profitability indicators showed a big difference, and in the case of Telekom Plc. the transition in 2016 turned the development of the indicators in favor of the company. However, the company had the same assets and resources, and only the valuation methods of these assets and liabilities differed and complied with the rules and regulations of the applied accounting system. Investors should consider the accounting system used by companies when comparing their investment opportunities. It is not very fortunate to compare companies based on their balance sheets and results that operate in a completely different accounting system, as decision-makers may not be able to make the right decision. One of the main goals of the emergence of IFRS was to unify accounting systems so that investors could make a rational decision between companies operating in the same accounting system. Basically, it is only rational to compare profitability indicators that are calculated with elements (revenue, profit, asset value, etc.) determined on the basis of valuation procedures of the same accounting system. Also, only companies that prepare their annual statements based on similar principles should be compared based on their profitability ratios.

4. Acknowledgments

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THE MANDATE AND THE AGENCY CONTRACT

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Abstract: *The creation of the Anglo-Saxon system of law, the agency contract received its own rules at a European Community level by the adoption of the Council of Europe Directive no. 86/653 of 1986, regarding the harmonization of the member states legislations concerning the independent commercial agents. This directive was intended to eliminate the existing regulatory differences in the laws of the member states relating to commercial representation, which affected competition and the smooth running of trade relations within the Community. "The exchange of goods must take place under conditions that are similar to those of the single market, and this requires the resemblance of the legal systems of the member states to such an extent as to satisfy the proper functioning of the common market." (the Council Directive of the 18th of December 1986). In the Romanian law system, the commercial agents, as independent auxiliaries of traders, were submitted to the regulations of the Commercial Code, namely art. 402. Afterwards, the principles set by the named European Directive were imported to our legal system as well; this type of contract was enshrined as a sui generis agreement by the Law no. 509/2002 regarding the permanent commercial agents. This law was repealed by the entry into force of Law no. 71/2011 regarding the implementation of Law no. 287/2009 on the Civil Code, which, achieving a unitary regulation of private law relations, codifies this type of contract in art. 2072-2095. This category of independent auxiliaries, the agents, has emerged from the needs imposed by the activity of the trader, who wants to expand his activity to a more or less distant market, without increasing the costs and risks of setting up branches abroad. Through this legal mechanism, he will be able to use an individual or a legal person in order to achieve the stated purpose, granting them a remuneration for all contracts concluded by the principal as a result of their intervention. This person works as a self-employed professional, placing, in a certain area, the products of one or several principals. In market economy countries, real agent companies have been set up, in the legal form of joint stock companies, whose object of activity is the intermediation of business between companies in the country of origin and companies in other countries. In the Common Law system, commercial agents are independent intermediaries of different categories (factor, mercantile agent, broker), which are specialized in dealing with commercial operations in a certain branch of activity, but they are subjects to the same legal regime. Therefore, the agency contract is a legal mechanism characterized by increased flexibility, which better meets the current requirements of speculative activities and which, as has been rightly said in the doctrine (Prescure, 2003: 52), will gradually replace the old commission agreement. Thus, producers of goods for export frequently resort to the contract of agency, that they consider to be a simple yet efficient means of organizing the distribution of their goods outside their state of origin.*

Keywords: *agency; mandate; agent; principal; representative; represented.*

JEL Classification: *K11; K12; K15; K22.*

The new Civil Code also accomplishes for the first time in our legal system, a definition of this type of contract, as being the one by which "the principal permanently empowers the agent either to negotiate or both to negotiate and conclude contracts, in the name and on behalf of the principal, in exchange for a remuneration, in one or several determined regions." (art. 2072 para. 1 of the Civil Code).

We think that the maintenance of the name "principal", also enshrined in the Law 509/2002, is uninspired, as it can lead to confusion with the principal of the commission contract (art. 2043-2053 of the Civil Code), or even with the principal referred to in art. 1373 of the Civil Code, which would be an error, the legislator even specifying that the agent "is an independent intermediary acting in a professional capacity", therefore he cannot be at the same time the employee of the principal, so he will not be held liable for the damage caused by the agents to third parties, as if they were acting under the direction, supervision and control of the principal.

As far as the legal nature of the agency contract is concerned, it is the subject of doctrinal controversies, generated in part by the way in which Law no. 509/2002 used to stipulate on the object of the contract; as we will see, even the current regulation of the Civil Code is likely to create some confusion.

First of all, we must note the provision stipulated by the legislator in art. 2095 of the Civil Code, in the sense that, to the extent of their compatibility, the provisions regarding the agency contract will be supplemented with those regarding the commission contract, respectively with the provisions regarding the mandate with power of representation, which are applicable when the agent also has the power to represent the principal at the conclusion of contracts. This provision therefore suggests that the agency is a kind of mandate contract, whether with or without power of representation, a theory otherwise supported in doctrine (Prescure, Crisan, 2003: 45-46) under the rule of the old regulation of this contract, namely the Law no. 509/2002, which, in its turn, referred to the commercial mandate (art. 26).

We believe that in order to determine the legal nature of the relationship between the agent and the principal, it is necessary to identify the object of the agreement, that is the tusks entrusted by the principal to the agent, but also the way in which the agent works to fulfill them.

The agent prospects the clientele, receives orders on behalf of the principal, sometimes even concludes contracts of sales, purchase and provision of services in the name and on behalf of the principal. Sometimes, he also assumes complementary tasks, especially what is generically called "consignment of goods", that is he receives the goods in storage, keeps them in good condition, then, after concluding the contract with the customers, ensures delivery, invoices and charges the price, all in exchange for a special remuneration.

In the French law, the agent is defined in art. L134-1, para. 1 of the Commercial Code as follows: "The commercial agent is an agent who, as an independent professional, without being bound by a service lease, is entrusted, on a permanent

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basis, to negotiate and possibly conclude contracts of sale, of purchase, lease or provision of services, in the name and on behalf of producers, traders or other commercial agents. He may be a natural or legal person." Thus, the French law details the activities carried out by this category of business intermediaries, the agent appearing as a sales service provider and the plurality of their powers gives contractors the advantage of good knowledge. (Leloup, 2005: 45) Working with the same clients for several ranges of items, the agent gains a much more in-depth experience than the one who empowered him, regarding how to approach and negotiate with each client. As a consequence of the plurality of products offered, the agent may be more requested by costumers, who find it more convenient to address him to ensure a release of surplus stock, rather than to address buyers. The sales agent may collaborate with several companies, that have different strategies, which gives him a broad vision and a flexibility of the marketing strategy, that can benefit the principals (Leloup, 2000: 30). It is common ground, however, that the staff member's ability to work for more than one principal is limited by the non-compete obligation imposed on him by the principals.

The Romanian Civil Code synthetically defines the object of the agency contract in the provisions of art. 2072 para. 1: the agent may be empowered by the principal either to negotiate or both to negotiate and to conclude contracts, in the name and on behalf of the principal.

In the situation where the agent receives not only the power to negotiate, but the principal expressly gives him the power to conclude contracts in the name and on behalf of the principal, we believe that the relations between the parties will certainly be specific to the mandate with power of representation. This also can be deduced from the provision of para. 2 of art. 2095 of the Civil Code, which stipulates that "if the agent also has the power to represent the principal at the conclusion of contracts, the provisions of this chapter shall be supplemented accordingly with those concerning the mandate with power of representation." Therefore, in such a situation, the wording chosen by the legislator leaves no room for interpretation as to the nature of the relationship between the parties.

The controversy arises in the situation where the agent is only a negotiator for the principal, in which case the agent's mission will merely be to procure orders(offers) from third parties, which he will make available to the principal, who will himself conclude the respective contracts with the third parties, without the agent participating in the conclusion of the operations. The confusion was caused in part by the provisions of the Law 509/2002, which stipulated that the power of attorney given to the agent in such situations, would be to negotiate business for the principal, in contrast to the situation where the agent is empowered to negotiate and conclude business on behalf of and at the expense of the principal.   This expression of the legislator, in the sense that the agent negotiates business for the principal, but without specifying whether he does it in the principal's name or in his own name, has led some authors (Cărpenaru, 2003: 85) to think that in such cases, the agent acts on the basis of a mandate without power of representation, which gives him the power to negotiate with third parties the terms and conditions of future contracts, allowing them to be concluded directly between the principal and the third parties.

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Other authors have been more reserved in qualifying the nature oif the contract, taking into account the unclear expression of the legislator on the matter. For example, one author (Clocotici, Gheorghiu, 1995: 80) sincerely expresses this ambiguity, pointing out that, as defined by the Law no. 509/2002, the situation of the negotiating agent is uncertain, not being able to establish whether he behaves as an agent (negotiates in the name and on behalf of the principal) or as a commissioner (negotiates in his own name, but for the principal).

Whatever the opinion expressed by the doctrinaires, either in the sense of the existence or non-existence of the power of representation, it seems that the opinion is unanimous regarding the fact that the relations between the agent and the principal are mandate-like (either mandate with power of representation or commission).

As far as we are concerned, we cannot but express some doubts about the legal status of the agent, if he does nothing but negotiate the conclusion of future contracts, that is his mission is to procure contract offers for the principal.

Art. 2009 of the Civil Code defines the mandate as „the contract by which a party, called agent, undertakes to conclude one or more legal acts on behalf of the other party, called principal". The agent who does nothing but put his client (principal) in connection with third parties who would be interested in concluding contracts with him, does not conclude legal acts on behalf of the principal, but makes simple material acts: prospecting clients, taking orders and receiving orders on behalf of an industrial enterprise or of another agent; in other words, he negotiates the transactions that the principal will later conclude directly with the third parties. From this point of view, we could say that the activity of the agent is closer to that of an independent intermediary rather than to that of a representative. At the same time, however, we cannot ignore an essential difference, namely that the agent negotiates the conclusion of future contracts between the principal and third parties in the exclusive interest of the principal, while the intermediary, as it appears from the legal regulation of his activity (art. 2096-2102 of the Civil Code), works in an impartial manner in relation to the contracting parties; practically, the activity of the intermediary is carried out in the interest of both future contractors, to whom it ensures a more efficient sale of goods or service provided.

The new Civil Code establishes a regulation that seems to clarify the legal nature of the agency contract as a mandate without the power of representation, more precisely a commission, in cases where the agent, not having power of representation of the principal at the conclusion of contracts, will not be able to qualify as a representative agent. Thus, art. 2095 para. 1 of the Civil Code states that "the provisions of the present chapter (chapter on the agency contract) shall be supplemented with the provisions regarding the commission contract, insofar as the latter are compatible".

Therefore, is the negotiating agent a commissioner? We consider that it is difficult to assumer that the agent will always be empowered by the principal to negotiate with future clients in his own name, as the clientele is most often attracted precisely by the reputation of the principal's trademark. Therefore, we do not believe that the empowerment given to the agent to negotiate business should always be considered as a mandate without representation.

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In arguing the view that it is an essential condition of the agency contract that the intermediary activity be carried out in the name and on behalf of the principal, an author (Iacob, 2010: 72) relies on the rules of the European Comission Directive no. 86/653 of the 18th of December 1986, arguing that the named provisiones do not apply to the activity carried out by an independent intermediary on behalf of the principal, but in his own name, because the definition of the agent in the Directive is limited to concrete criteria, without any direct reference to the activity carried out in one's own name and with no indication in the sense of extending the provisions to the commissioner. The two occupations are different and therefore "the commercial agent must not be mistaken for a commissioner", concludes the author.

Still, we must note that the Romanian legislator did not adopt the European Community regulations ad literam, since there are differences between the provisions of the Directive and those of the Romanian Civil Code both in defining the agent notion, as well as in other aspects of the contract. For example, the intermediary activity carried out by the agent, as defined in the Directive, only concerns the negotiation or the negotiation and conclusion of transactions for sale or purchase of goods. Therefore, the intervention of the European Community legislator is limited in this matter exclusively to intermediation for the purpose or sale-purchase of goods, and does not concern all intermediary activity carried out on a permanent, independent and professional basis, regardless of its object, as the one taken into account by the Romanian legislator in the provisions of the Civil Code (art. 2072). The current Romanian regulations on the matter lead us to the conclusion that the agent has the possibility to act as a commissioner, that is, in his own name, when negotiating contracts on behalf of the principal, stipulating that the agents will be submitted, in addition to the special regulations of the Code regarding the agency contract, to the rules of the commission contract, to the extent of their compatibility (art. 2095 para. 1). The Law no. 509/2002 and later the Civil Code have adjusted to the obligation of Romania, as an European Union member state, to transpose into national law the Community provisions regarding the agency contract. On the other hand, we believe that the national legislator, in exercising its attribution of sovereignty, has understood to extend the range of activities covered by the agency contract to any form of business intermediation which is permanent, whether it takes place in the name and on behalf of the principal or in the name of the agent and on behalf of the principal, excluding the activity of those persons to whom the Civil Code expressly refers in this regard (art. 2073).

Therefore, as far as we are concerned, we believe that the agent who only has the power to negotiate contracts can either act in his own name or in the name of the principal, according to the instructions given to him; the power of representation is always attached to the power of attorney only for the conclusion of contracts, not for their negotiation.

Therefore, if the agent who negotiates and concludes contracts on behalf and in the name of the principal always acts on the basis of a mandate with power of representation, the agent who only negotiates contracts for the principal has an uncertain status: the legislator tells us that the provisions concerning the commissioner apply to him, insofar as they are compatible (art. 2095 para. 1 of the Civil Code). Therefore, he will in principle have the legal regime of a commissioner

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(although he does not conclude contracts for the principal, but only negotiates them on his behalf and in his own name). However, we believe that the status of commissioner, as it results from the regulations contained in art. 2043-2053 of the Civil Code, cannot be compatible with that of the agent to whom the principal expressly gave the power to negotiate not only on his behalf, but also in his name. In this case, the agent not only does not actually conclude legal acts for the principal (as does any representative, including the commissioner), but he negotiates in the name of the principal, not in his own name, which disqualifies him as a commissioner. Therefore, his legal status is uncertain: on the one hand, he works in the name of the principal, so he cannot be a commissioner; on the other hand, although he works in the name and on behalf of the principal, he does not conclude legal acts, so he cannot be a representative, within the meaning of art. 2009 of the Civil Code. A person - the agent - who does only material acts in the name and on behalf of another is a service contractor rather than a representative/commissioner.

The legal relations that are established between the agent and the principal are most often ruled by the mandate contract, regardless of its form (mandate with/without power of representation, commission). Under the mandate, the agent will be required to inform the principal of the status of the power of attorney received, of the accomplishment of his duties, of the market and competition in the territory; he also has the obligation to comply with the reasonable requests from the principal regarding obtaining useful commercial information (Belu Magdo, 1996: 133).

However, there are certain differencies between the agency and the mandate contract, which is why the agency has its own special regulation.

The relationship between the agent and the principal is established on contractual basis, the Civil Code expressly and imperatively stipulating the essential rights and obligations of the parties, from which they cannot derogate against the interests of the agent (art. 2094).

First of all, the agent's activity is of a professional and lasting nature, while the representative acts occasionally; the agent is empowered "on a permanent basis" to negotiate, or to negotiate and conclude business in the name and on behalf of the principal, while the representative obliges to conclude "one ore more legal acts" on behalf of the represented. The object of the mandate given to the agent is the conclusion of professional acts for the principal. The agent has a permanent power of attorney either for the negotiation of sale or purchase of goods on behalf of the principal, or for the negotiation and conclusion of such transactions in the name and on behalf of the principal, in exchange for a payment. Therefore, business intermediation under the agency contract will be long lasting and professional, not occasional, as it is in the case of the common mandate.

An indicator of the permanence of the agent's power of attorney is the amount of transactions mediated by him for the principal. However, Community case-law has shown that when an agent is empowered to conclude a single contract on behalf of the principal, which is subsequently extended for several years, it will be considered that the power conferred to the agent is permanent if the principal gives the agent the power to negotiate successive extensions of the contract (decision of the European Community Court of Justice of January 2004). Therefore, the

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permanence of the agent's power of attorney is a matter of fact, at the discretion of the courts.

The agency contract is concluded either for an indefinite or for a definite period of time, as it results from art. 2089 of the Civil Code, while the mandate cannot be for an indefinite period, the law stipulating that it will end after three years, if the parties have not stipulated the contractual term (art. 2015 of the Civil Code). Therefore, the activity of the agent must be contracted for a long period of time and it must involve numerous operations. Jurisprudence (Cass. Com. of the 16th of Jan. 1968) pointed out that a representative who would only deal with isolated operations in the name and on behalf of a company could not claim to have the qualification of a permanent commercial agent.

As the legislator expressly stipulates, the agent acts as an independent intermediary, and cannot be the employee of the principal. The independence enjoyed by the agent in the performance of his duties is one of the essential features of his legal status and any contrary clauses, which would transform the relations between the parties into an employment contract, will be devoid of legal effects. Such clauses could be considered those that would stipulate the obligation of the agent to devote himself uniquely and absolutely to the representation of the principal, the interdiction to have other activities than those for which he was employed by the principal, the organization of the agent's work by the principal an so on. Therefore, the agent organizes his work autonomously in order to carry out the power given by the principal. The existence of employment relations between the agent and the principal is excluded. The representative, on the other hand, executes his mandate under the orders of the represented, any deviation from them being qualified as exceeding the limits of the mandate, with the consequence of the representative's personal liability and the inapplicability of those operations to the principal. However, it is true that the represented does not always impose on the representative the manner in which the mandate must be fulfilled, as he may confine himself to indicating the acts that must be performed on his behalf, or even to confer the representative a general power of attorney. In the case of the agent, on the other hand, the activity of intermediation is organized by himself autonomously, as an independent professional activity, the principal not being able to impose on the agent the way to carry out his work, but only to verify the compliance of the agent with certain specific requirements of the contract, such as the exclusivity, non-competition, good faith and loyalty clauses. The agent will, however, have to "follow the reasonable instructions given by the principal" (art. 2079 para. 1 of the Civil Code), which suggests that it is the agent's attribute to choose the way in which he carries out his tasks, taking into account, of course, the instructions of the principal, but only to the extent the the agent, as a professional, considers them to be reasonable.

The agent must "take the necessary steps to negotiate and, where appropriate, conclude the contracts for which he was empowered, in conditions which should be as advantageous as possible for the principal" (art. 2079 para. 2 of the Civil Code). Thus, he assumes, like the representative, an obligation of means to pursue the interests of the principal in business. As he is always a paid agent, he will have to act with the diligence of a good owner, his fault being assessed according to the

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abstract criteria of a prudent and diligent individual, a good parent of family (culpa levis in abstracto). The representative also owes such a concern in managing the business of the represented, when being remunerated; however, the representative can also act free of charge, in which case his fault will be less severely assessed: he will only owe the diligence with which he conducts his own business (culpa levis in concreto) (art. 2018 para. 1 of the Civil Code).

As regards the obligation of information that the agent has, it is more extensive than that of the representative. Thus, the agent must communicate to the principal "all the necessary information" for the performance of the contract, such as those related the the contractual territory, market requirements, possible claims regarding the defects of the goods sold or of the services provided by the principal. The representative must notify the represented of any changes in the performance of the contract or of any new circumstances that could make the represented want to modify or revoke the mandate; when the contractual relations are terminated, the representative will have to give an account of his management. We think that these obligations also apply to the agent, based on the provisions of art. 2095 of the Civil Code.

The obligations incumbent to the agent will have to be fulfilled personally by him or by his employees. The Civil Code allows the substitution of the agent with another person, but only under the conditions provided by art. 2023. The agent will therefore be responsible for the subagent, if he did not have the consent of the principal for the substitution or if, having an agreement in principle, but without indicating the person of the substitute, he did not perform with the diligence of a good owner of business when choosing the subagent.

The mandate contract is by its very nature free of charge, even though it is presumed onerous if given to a professional (art. 2010 para. 1 of the Civil Code). The agency contract is essentially onerous, since the agent is acting in a professional capacity, pursuing his own patrimonial interests through the activity he carries out. Moreover, the Civil Code explicitly stipulates that the regulations related to the agency contract are not applicable to the activity of persons providing unpaid services as agents (art. 2073 para. 1 of the Civil Code).

The agent will negotiate or negotiate and conclude a multitude of contracts for the principal, in one or more determined regions, his obligation of exclusivity being able to target certain geographical areas, determined by the contract, or certain clients 9art. 2074 of the Civil Code). The representative is required to carry out the tasks entrusted by the represented with diligence (art. 2018 para. 1 of the Civil Code), being also bound by an obligation of loyalty towards the represented.

Finally, in the vision of the Civil Code, the common mandate is concluded and executed in the exclusive interest of the principal, which explains the power of the represented, who can revoke the mandate at any time and in any situation, ad nutum (art. 2031 para. 1 of the Civil Code). On the other hand, the agent, acting in the performance of his duties, carries out that activity as an ordinary and independent professional. The power of attorney given by the principal to the agent is usually permanent, being the very support of his professional activity. The agent, developing the principal's clientele, contributes to the growth of his own business. The principal is interested, by concluding the agency contract, in capitalizing his own

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manufactured goods or providing the services that are subject of his speculative activity; the agent is interested in negotiating and concluding as many contracts as possible for the principal, since he will be remunerated accordingly. Therefore, the conclusion and the execution of the agency contract is done in the interest of both contracting parties, benefiting both the principal and the agent. Therefore, permanent commercial agents have often been described by the doctrine as "the prototype of the representative in common interest".

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SECTION: *MANAGEMENT, MARKETING, ECONOMIC INFORMATICS AND CYBERNETICS*

ANALYSIS OF CONSUMER MARKET IN CENTRAL EUROPEAN FOOTBALL

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Abstract: *Spectator sports have become an integral part of entertainment industry. Football matches attract masses at the specific venue and via television broadcasts, which has given professional football significant business potential in addition to the value of sport. According to professional football's business model, the sports consumer is in focus – whether they be present at the venue or media consumer –, as they have an effect on all additional business revenues (such as those arising from sponsorship and broadcasting rights, merchandising revenues), and therefore their behavior and attitude are key elements to be studied and understood in order to create and operate successful football in business terms. The matches of major Western European leagues are followed by tens of thousands on the average, while television broadcasts are watched by millions worldwide. In contrast, in the Central European region the average attendance figures of leagues does not even approach 10,000, and also the broadcasting rights are sold within the country borders only for a much smaller amount than in the case of Western European leagues, which generates enormous gaps in the clubs' budget. A look at the revenues of Western European teams during the past decades shows dynamic growth, and the budgets of specific clubs exceed the revenues of Central European leagues in total. This study is seeking to answer what factors contribute to the fact that the average attendance figures of matches in Central European Leagues lag far behind that of Western European competitors, as well as what factors influence the habits of spectators and media consumers, if they have any expectations from the matches when watching it in the stadium or on television. Is it possible that the televised broadcasts of Western European top leagues withhold the supporters of Central European teams from visiting the venues of matches, focusing most of the attention to the Big Five Leagues, which trend will further increase in the future? In order to answer the questions of the research a secondary study was conducted that included the determination of the scale if European football market, as well as the processing of average attendance figures of leagues, revenues of clubs and previously created supporter motivation scales. Base on the results professional football has been concluded to be a strongly increasing product of European entertainment industry, however a huge gap has developed between the Western and Central European leagues in recent years. World-class players, quality performance and entertainment are concentrated in Western European leagues, which was further intensified by such major events in the 1990s as changes in the political regime of Central European states, Champions League series launched in 1992 or the Bosman ruling introduced in 1995. Nowadays – through broadcasting*

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on various sports channels – Western European football matches have become part of our everyday life, and therefore these interested can encounter top football day by day, compared to which Hungarian football lags far behind in terms of quality. This is why – from among supporter motivation factors – players in this region need to focus on community building, sense of belonging to a community or team, which can generate a loyal supporter base sticking to the specific club that may serve as a foundation for business-based operation.

Keywords: *sportmarketing; sport services; sport consumption; spectator sports; football.*

JEL Classification: *Z20; Z21.*

1. Introduction

European professional football has by now surpassed the limits of the classic sports to turn into one of the most dynamically developing areas within entertainment industry, and therefore has become a major business in addition to competition of teams. This finding primarily applies to West European club football, where football matches are watched in the stadium by several thousands week by week, and followed on television by millions all over the world. Due to television broadcasts matches have gone beyond the walls of stadiums, and in fact they have become available anywhere in the world causing football to globalize (Dima, 2015; Cleland, 2015; Maderer and Holtbrügge, 2019).

In the field of football Andrác (2003) identified 5 markets that allow clubs to generate business-based revenues. The 5 markets are as follows:
• Consumer market
• Sponsorship market
• Market of broadcasting rights
• Merchandising market
• Player's market

Consumer is a key player in the business model of professional football, regarding the fact that they have direct and indirect influence on all markets (Figure 1). Consumers can be divided into two groups: spectators and television consumers.

Spectator is in the focus of professional football, as they basically influence the scale of all markets. Clubs can directly earn – on the one hand – so called match-day revenues from spectators (tickets and passes, merchandising, buffet and other supplementary services), and on the other hand spectators provide the value of advertising surfaces. Spectators also serve as a basis for television broadcasting revenues (Feuillet et al. 2019) that claim increasing significance in the revenue structure of professional sports, since television companies are right to assume that sports events with high supporting base will be followed by masses via the media (András, 2004; Várhegyi 2016). If a match is broadcast on television, the advertising surfaces in the specific facility become more valuable, as – in this way – the messages of advertisements reach out not only to spectators, but to a much bigger

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audience – to media consumers – resulting in sponsors being willing to pay higher fees for advertising surfaces. Additional value to television broadcasts is that it is able to reach out to new consumers who can become future spectators, purchase tickets for matches, use supplementary services and buy merchandising products. This is the logic behind the business model of professional football, which can be perceived as a circular process based on local consumers.
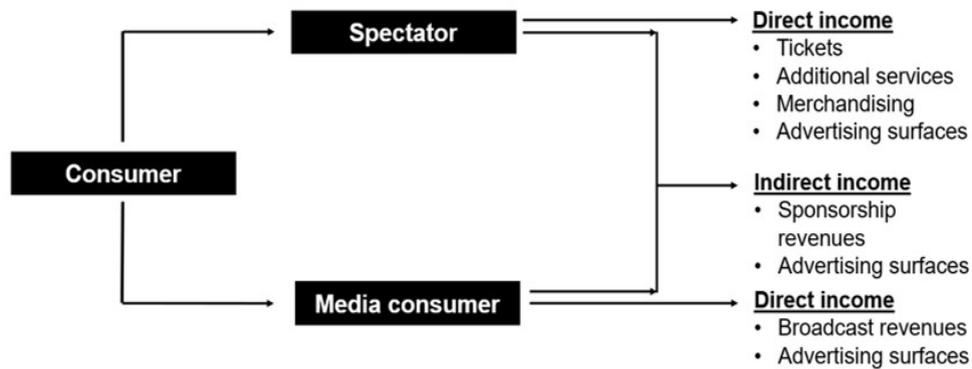
Figure 1: Ordinary business model of football
Source: Own editing based on András, 2003

In contrast to Western Europe's flourishing football economy, in Hungary and other Central European countries low attendance figures and rudimentary market mechanisms get usually into focus in addition to the lack of international sports success. Following the change of government in 2010, sports has been made a strategic sector in Hungary (Sárközy, 2017), which resulted in the renewal of sports infrastructure (Stocker and Szabó, 2017), attendance figures, however, keep to be extremely low.

2. Data and Methods

In spite of governmental efforts and direct and indirect subsidies to clubs, consumer interest in football matches has not been significantly increased in Hungary. Before the construction of the new stadiums low attendance figures were attributed to critical condition of the sports facilities and the lack of supplementary services – in addition to the poor quality of game. To date, however, the sports infrastructure has been renewed and scientific articles have questioned whether it is the quality of sports performance that is solely or primarily responsible for empty stands (Kajos et al. 2017; Kassay, 2018; Balogh and Bácsné, 2019a; Balogh and Bácsné, 2019b).
The question has arisen: if even renewed sports facilities fail to attract more spectators to matches and the quality of the game is also challenged, what such other factors are there in the background that bring about similar tendencies in Hungary and other Central European leagues, and attendance figures that lag far behind those of Western European leagues?

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Our research objective is to answer this question, and examine what the driving factors there are on the consumer market in the case of spectators and media consumers.

In order to answer this question, we will conduct a secondary research, process the relevant international and domestic researches, collect the average attendance figures of the last 5 seasons in the case of the Visegrád countries and the Romanian first-class, and compare the revenues of the big Western European leagues with those of Central European leagues, and finally we explore the motivation of spectators and media consumers.

3. Results

The past 5 seasons (from the 2014/2015 season until 2018/2019) have seen considerably positive trends in average attendance figures neither in the Visegrád countries, nor in Romania (Figure 1). In terms of consumer interests, the worst situation can be recorded in Slovakia, where the average attendance figure in the first league reached up to 2500 persons in none of the years, whereas the Polish Ekstraklasat attracted spectators in the largest numbers, still the Polish football league could not boast of average attendance figures at or over 10,000 persons in spite of the fact that the country's population well exceeds the population of the countries used for this comparison (Figure 2). In Hungary, there seems to have been some rise in consumer interests, because in the 2018/2019 season the average attendance figure exceeded 3300 persons (Figure 2), but was still far under the 8000 spectators targeted by the Hungarian Football Federation (MLSZ) until 2020 (MLSZ, 2015).
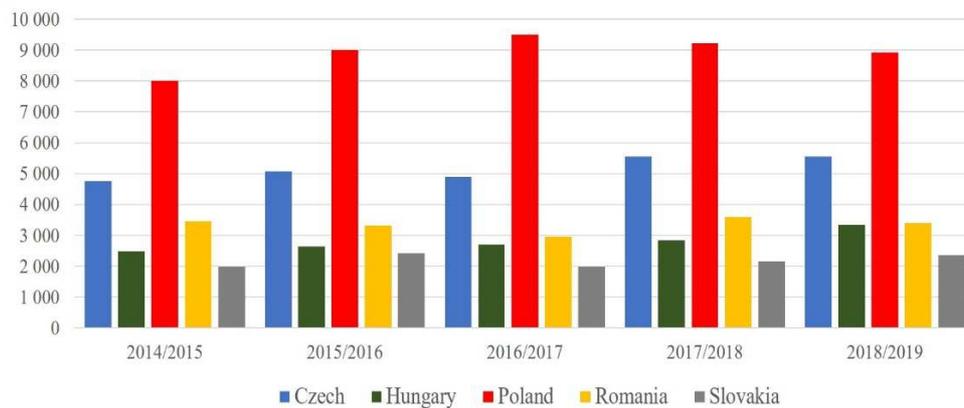
Figure 2: Attendances in V4 countries + Romania from 2014/2015 to 2018/2019
Source: Own editing based on worldfootball.net

The significance of football in business is clearly demonstrated by the fact that revenues in the Big 5 leagues (English, Italian, German, Spanish and French leagues) have been increasing exponentially in recent decades (Figure 3). While,

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for instance, revenues in the English Premier League stood at EUR 685 million in the 1996/1997 season, the 2017/2018 season saw an aggregate amount in excess of EUR 5550 million, and according the forecasts of experts the 2019/2020 season is about to approximate the EUR 6000 million watermark. Though the rates of increase tend to be less sharp in other leagues, tendencies are similar in the Italian Serie A, the German Bundesliga, the Spanish La Liga and the French Ligue 1 (Figure 3).
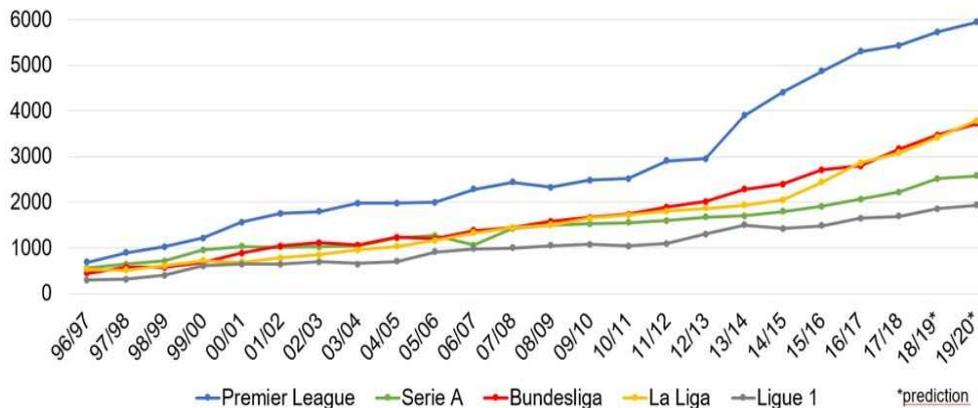
Figure 3: Revenues of Big Five European soccer leagues from 1996/97 to 2019/20 (million euros)
Source: Own editing based on statista.com

In the light of the huge growth of revenues in the Big 5 leagues, one could easily draw some incorrect conclusions in relation European club football. In the 2017/2018 season, the official football market in Europe could be estimated at a worth of EUR 28.4 billion, which is an enormous amount, still it seems to be useful to look behind this figure. When it is examined how the individual actors share this more than EUR 28 billion, the distribution of this amount suggests a serious problem. Nearly 2/3 of all the revenues is controlled by the first leagues and lower-level championships of English, Italian, German, Spanish and French football, while only 19% of all the revenues, approximately EUR 5.3 billion belong to the first leagues of the other 50 members of the Union of European Football Associations (UEFA) (Figure 4).

There are immense differences between the revenues of the Big 5 leagues on the one hand and the proceeds of the leagues in the Visegrád countries on the other. It can be claimed that based on the revenues of Western European leagues the budget of an average team (calculated with the use of the arithmetic average) boasts of a larger amount of revenues than the entire Hungarian first league, which – in addition to the Hungarian situation – also holds true for the Czech, Romanian and Slovakian leagues (Figure 5).

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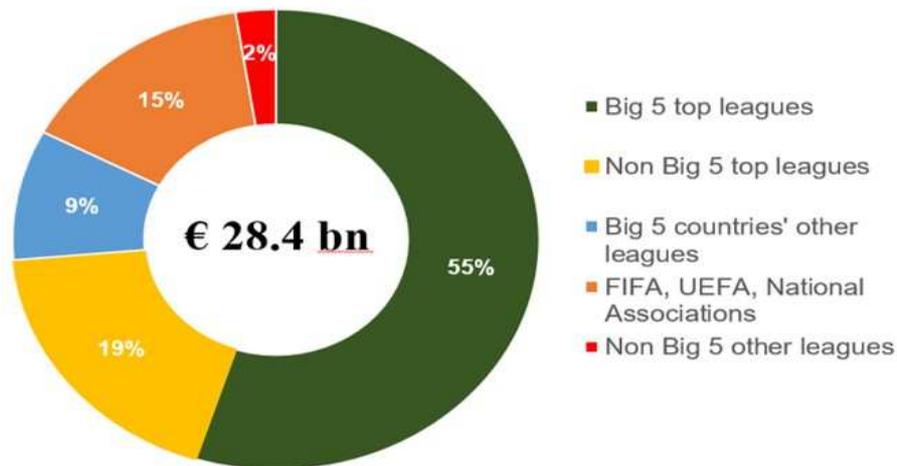
Figure 4: European football market size in 2017/2018 (billion euros)
Source: Own editing based on Deloitte 2019
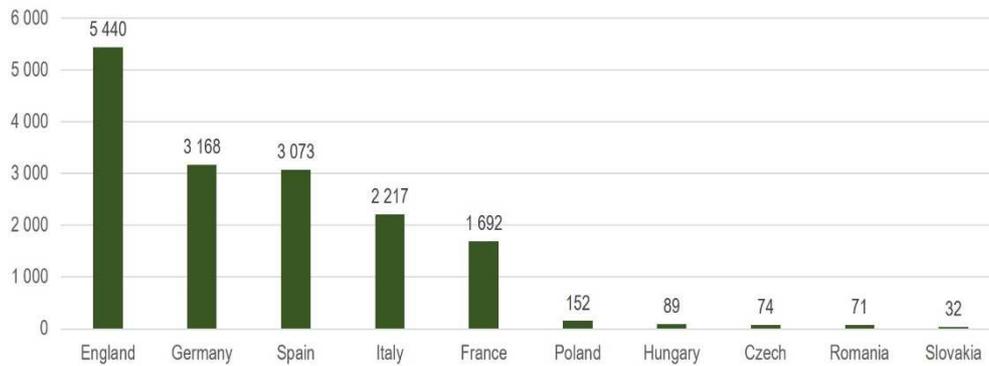
Figure 5: Revenues of Big 5 and V4 + Romanian Clubs' revenues in 2017/2018 (million euros)
Source: Own editing based on UEFA 2018

This huge discrepancy in revenues has its impacts on sports successes, as well as other professional aspects. For example, in the English Premier League the aggregated payroll costs of clubs is near EUR 3000 million, the corresponding amount in the German Bundesliga is EUR 1500 million, which means that the personnel expenditures at an English club, with the use of the arithmetic average, exceeds the revenues of the Hungarian league as a whole (Figure 6). Looking at the payroll costs of football leagues in Central Europe, it can be stated that with the

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exception of the Romanian league they follow the rule of thumb that personnel expenditures may not go beyond 70% of revenues, because this magic 70% rate needs to be observed by any football club to be able to operative on business grounds, in the long term (Figure 6). In the case of Hungarian teams, some progress has in fact been made after the previous years, as it was not infrequent that payroll costs were over 70% (Bácsné et al. 2018).
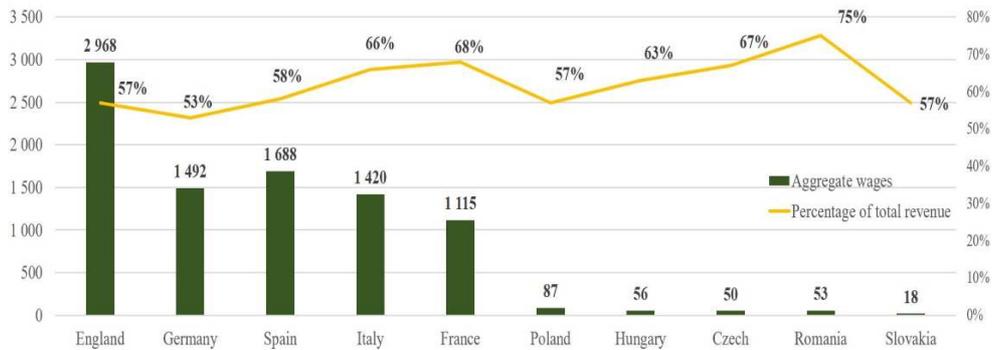
Figure 6: Wages of Big 5 and V4 + Romanian Clubs' in 2017/2018 (million euros)
Source: Own editing based on UEFA 2018

When the economic potentials of Western European football leagues and Central European championships alongside the revenues and payroll costs of clubs, it is to be noted that football clubs in Western Europe enjoy fully different opportunities; it may not be exaggeration to suggest that it seems that they were operating in some other sport. They are able to turn their professional accomplishments in sports into business success, which triggers enhanced consumer interests, yielding higher and higher proceeds. In the western part of the continent, football has become a part of the global entertainment industry. For teams, such as Real Madrid or Manchester United, it is totally indifferent in which corner of the world they sell their products, as they have supporters all around the globe, and these fans are willing to long hours and even thousands of miles to see the matches of the favourite squads in their own stadiums, venues. Each of these teams enjoys a consumer base literally embracing the entire world, with supporters being typically motivated by the show, the quality of sports performance and successes. It is clearly indicated by the fact that they are rather considered as consumers and not supporters in the studies examining their motivations (Trail and James, 2001; Funk et al. 2009). It was in the 1990s when European club football witnessed the emergence of the two distinct camps (Western Europe – Central and Eastern Europe), which is associated with the launch of two competition series, as well as the adoption of a rule that has had weighty influence on football as a whole. 1992 saw the kickoff of the English Premier League, already with business objectives, concurrently with Champions League, replacing the earlier European Champion Clubs' Cup. A truly far-reaching change came with the Bosman ruling adopted in 1995, stating that with their contracts expiring footballers could be

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freely contracted, while the license of any player with an effective contract had to be acquired against a transfer fee (Havran, 2016). With this rule coming to effect, smaller Central European teams were no longer be able to keep their valuable players, as in the hope of higher salaries they tended to make rational decisions, and concluded contracts with teams in the Big 5 leagues, which enjoyed better opportunities; consequently, world-class talents started to flow into and concentrate in Western European leagues. At the same time, in the 1990s, commercial television channels, including sports channels, were established in addition to the centralized national television channels of the ex-Communist countries. Owing to these sports channels, alongside other sports football made way to the living rooms of households, and therefore viewers could follow football encounters at the highest standards from week to week.

Central European football began to drop behind in the 1990s in a process that was further strengthened by the economic shock caused by the political and economic change, which was also reflected in the sliding living standards of people, the underfinancing of sports and abandonment of ports funding by economic actors (Sárközy, 2015).

The general explanation for the low level of consumer interests in football matches is the poor quality of sports performance, but it is to be noted that all the above-mentioned factors contributed to the substantial shrinking of average attendance figures after the political and economic changes, for instance, in Hungary. Therefore, it is useful to examine the factors that influence interests in passive sports consumption. It is also reasonable to divide it into two groups, because the motivational factors are absolutely different for spectators at the live venues and media consumers. In the case of spectators at the live venues, influencing factors indeed include the need for real spectacles and entertainment, as well as such sociocultural factors as the sense of belonging to a community or identification with the team (Table 1). With respect to media consumers, the wish to be part of the experience is expressly accompanied by factors associated with the television broadcast, for instance the personality of the reporter, the time factor or interactivity during the broadcasting time (Table 1).

Table 1: Motivation of spectators and media consumers

Spectators	Media consumers
Aesthetic	Getting experience
Entertainment	Well informed
Attraction	Commentary
Community affiliation	Time factor
	Sports betting
	Interactivity

Source: Balogh and Bácsné 2019, Madarász 2018

After the examination of motivations, it can be claimed that a football match tends to be a fully different product when being at the live venues or watching it in the

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television; similarly, expectations in relation to a match differ when it is seen from the grandstand or in the television. For spectators at the live venues, it is particularly important to have some attachment to the given club and the community around, whereas in the case of television viewers experience through the spectacle and sports performance has the priority.

In our opinion, spectators at the live venues can be best described as supporters, whereas followers via media channels are rather consumers.

4. In conclusion

Instead of the conventional approaches borrowed from economics, i.e. focus on ticket prices for the matches (Ferguson et al. 1991), the standards of sports performance (Pawlowski and Nalbantis, 2015), successfulness (Trail and James, 2001) or facilities (Yoshida et al. 2013), for football clubs in Central Europe it would be useful to lay the emphasis on such sociocultural factors as the sense of belonging to a community or identification with the team. The distribution of revenues in the European football market and the differing opportunities of Western European and Central European clubs all suggest that Central European teams should adopt a new way of thinking, philosophy and in this context, different marketing strategies. While Western European football is characterized by globalization, and success is expected to result from the global brand, in the Central European region local patriotism should be placed in the center of attention. There is no league or championship that could efficiently compete with the Big 5 leagues in the television with respect to the incredibly large differences in terms of the business and professional aspects of the sport that obviously also affect the quality of matches and the standards of entertainment, still filling the grandstands at stadiums is an issue that – even if with some difficulties – may be tackled. The actors of football in Central Europe should primarily aspire to build communities with reliance on local traditions and values, which can result in the emergence of a local supporter base with close links to the club. They are assumed to be less price-sensitive than one-time sports consumers (Madalozzo and Villar, 2009), the standards of matches are not of key importance for them, and would not abandon the team even if successes do not abound.

5. Acknowledgements

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THE IMPACT OF THE CORONAVIRUS ON THE SERVICE INDUSTRY - A CASE STUDY IS THROUGH ON THE EXAMPLE OF A HUNGARIAN BAND

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Abstract: *The dominance of the service sector is now unquestionable worldwide. In developed regions, its share in gross domestic product (GDP) and employment is around 70%. According to the European Central Bank, its share in the euro area in 2018 was 73.9%, in US was 80,2% and in EU-28 was 70,4% (ECB, EUROSTAT, 2020). The rise of services goes hand in hand with economic development (Szalavetz, 2008). Regarding the Hungarian data, in 2019 services accounted for 55% of GDP (including trade, vehicle repair, accommodation services and hospitality, totaling 11.3% last year) and received 65% of employment. The 5.1% increase in GDP last year was driven by the 3.5% increase in services, of which trade, accommodation and food service activities (11%) saw the largest growth (KSH, 2020). Due to the coronavirus, economic growth will decline in 2020, but the rate of decline is not predictable yet. Due to the limitation of personal contacts, the first affected group is service providers, which is why this study examines this sector, including one of the important segments of services, the music industry. In our study, the economic impact of the coronavirus is presented through the example of a Hungarian club band.*

Keywords: *service sector; coronavirus; music industry; case study.*

JEL Classification: *M21.*

1. Background

1.1. Music industry

The music industry is perhaps the most significant sector within the creative and arts industries, and it is still growing on a global and domestic scale. Examining the size of the sector, we can see that it plays a significant role both in terms of revenue and employment: in 2015, the light music industry generated total revenues of around 15 billion USD (i.e. 13,5 billion EUR) globally (Mahasz, 2016). Hungarian data show that in 2018 the total revenue of the music industry in Hungary was almost 20 billion HUF, i.e. 63,5 milion EUR (ProArt, 2019). In the entertainment industry is the most difficult to avoid human contact. Isolating people and canceling events mainly affects companies working in the service industry, causing a serious loss of revenue, so COVID-19 could easily jeopardize the survival of a service company. In the music industry it is not just talking about musicians or managers, but all the professionals working in the background, be it sound engineer, lighting technician, road, club owner, concert organizer, driver, chef, dancer but also related retail and wholesale suppliers, marketing companies or creative companies, as well.

1.2. Features of the services

Services, the consumption of services, have several characteristics that distinguish them from goods. One of the most significant specific in the present case is its perishability. Perishability reflects the challenge that services cannot be saved, their unused capacity cannot be reserved, and they cannot be inventoried. Unlike goods that can be stored and sold at a later date, services that are not sold when they become available cease to exist. For example, hotel rooms that go unoccupied for the evening cannot be stored and used at a later date. For a band as a service provider this means that on days when they don't have a concert, revenue is lost. The other peculiarity in terms of marketing is advertising, in the case of services the most important advertising is word of mouth. Consumers of services often rely on personal sources (e.g., friends, family, co-workers) of information more than nonpersonal sources (e.g., mass media) to reduce the risk associated with a purchase. Given the importance of nonpersonal sources, communications should be developed that facilitate the development of a word-of-mouth network (Hoffman – Bateson, 2010). Third, many service industries are often characterized by a high fixed cost to variable cost ratio. This can cause a significant problem of revenue loss due to missing services.

1.3. Economic characteristic of a band

It's worth reviewing what revenue and expenses a band can typically expect.

1.3.1. Costs:

Material costs: smaller consumables such as guitar string, pick, drum beat, but also larger equipment and machinery. In the life of a band, this usually applies to musical instruments and other technical equipment, stage elements, sets. Material costs are relatively high relative to revenue.

Services: These include, for example, a guest's performance fee, rehearsal room rental, consulting, accounting fees, or communication costs.

Personnel costs (wage and its contributions): staff members and musicians can usually count on an occasional but pre-determined salary, which they typically receive at the event.

1.3.2. Revenues:

Income from service: it means the concert itself. This is the main source of income for the bands

Sale of tangible assets: Mostly merchandise products, which are clothes, accessories or any kind of creative products made by a band, but nowadays physical sound carriers are also increasingly included here.

Performer royalties: In Hungary, Artisjus, Mahasz and EJI manage the post-performance royalty management and payment.

Aid, grants: The tenders announced by the National Cultural Fund of Hungary help light music performers the most but some other grant and aid are available in national and international sources.

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Sponsorship: From external organizations

Online sales: Revenues from listening on digital and streaming sites. Its significant is growing. (own data collection, 2020). Driven by fans' engagement with streaming – especially paid subscription audio streaming – digital revenues now account for more than half (58.9%) of the global recorded music market. Total streaming revenues increased by 34.0%. By the end of 2018, there were 255 million users of paid subscription accounts globally (IFPI, 2020). The Figure 1. shows the Revenue Distribution of the Recording Industry in 2019.
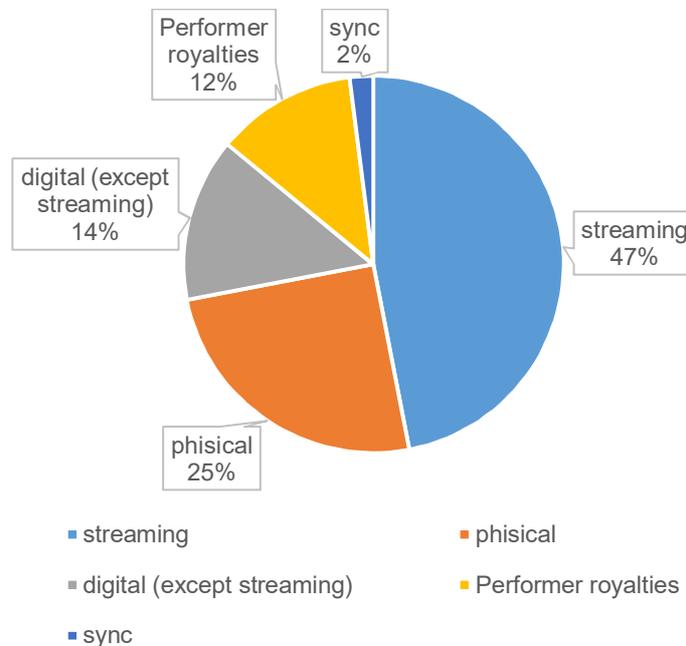
Figure 1: Revenue Distribution of the Recording Industry (2019)
Source: own editing by IFTI data 2020

2. Material and method

In this article, we examine the situation of the Hungarian service sector in the light of the measures and restrictions caused by the coronavirus. Within the service industry, we focus primarily on those "small" service providers that were primarily affected by the restrictions, as illustrated through a case study by a band.
By collecting the band's revenues and costs, we make a cost-income calculation for the last normal year, 2019, and then, taking into account the 2020 outlook, we prepare three scenarios that could be the band's results this year. Following this, we formulate proposals for the relevant service layer based on the examination of the effects of the 2008 global economic crisis.

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3. Results

Review of case: The band from Debrecen is a young, emerging band who play music while studying / working. The goal is to gain national recognition and become a professional band, ie to expand the orchestral activity as the main source of income. The band's main source of revenue comes from concerts, of which there were 34 in 2019. By the end of the year, its production value was 4760 EUR, of which 85.33% came from concert revenues. 14.67% of total income came from other related sources of income as royalties and the sale of goods. Regarding the main source of income, the concert, it is worth mentioning that they are not evenly distributed throughout the year, but following a seasonal trend. The main season runs from March to roughly November. In line with this, 60% of the concerts of the band were in the summer, during the festival season, in the period considered. This is important because the measures taken to control the coronavirus in 2020 should also cover the summer.

Most of the costs are the service costs, which accounts for almost 60% of the total costs, followed by the fixed cost, which in this case is the rent, this is 13% of the costs, and then the other direct costs, with a share of 12%.

Taking these into account, the band realized a positive income. The cost-income ratio was 20% in this period, ie 20 EUR income per 100 EUR cost (Table1).

Table 1: cost-revenue calculation

Cost-income calculation (EUR)	2019
Production Value	**5063**
Revenue	4320
Other income	743
Production Costs	**4218**
Direct costs	3653
Material costs	152
Personnel Costs	262
Depriciation	234
Service costs	2453
Other direct costs	551
Indirect costs	565
Net income (PV-PC)	845

Source: own data collection and calculation, 2020

Taking into account the possible scenarios for the year 2020, three scenarios were examined. Among these, only the number of concerts, which account for the largest

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share of the revenue, and the related variable costs were changed ceteris paribus, so costs other than the available grants were not taken into account. As a result, the following:

1, Pessimistic scenario:

In the case of a pessimistic scenario, there will be no opportunity or social need to hold group events in 2020. In this case, the number of concerts of the band remain the 8 concerts held until March 2020.

2, Optimistic scenario:

According to the optimistic scenario, the restrictions and the epidemic will end by the start of summer festival season, so the band can close the year with 40 concerts according to the preliminary growth rate.

3, Realist scenario

Based on the effects of the 2008 global economic crisis, a 25-30% decline in consumption can be expected, in which case 30 concerts can be expected by 2020. Figure 2 shows the calculated results of the scenario analysis.
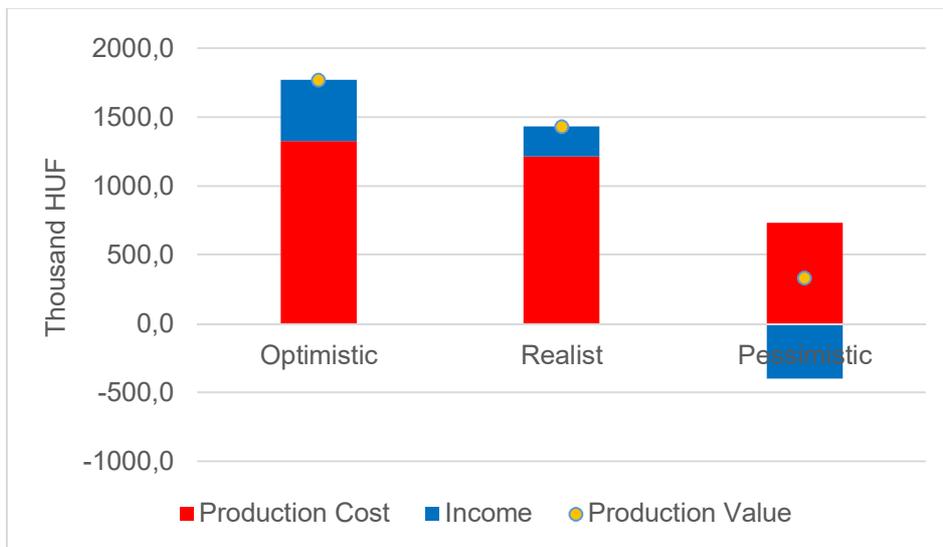
Figure 2: Results of scenario analysis
Source: own calculation, 2020

As shown in the Figure2, in an optimistic scenario, an income of 443 thousand HUF (1400 EUR) would be achieved, ie the income would increase by 63% compared to the base year. The cost-effectiveness in this case would be 33%.

In the realistic case, the year would still be closed with a positive result, but the income would decrease compared to the base year, it will be around 215 thousand HUF (682 EUR), which means a profitability of 17%.

According to the pessimistic scenario, the band would close the year with a significant deficit, which in this case would approach 400 thousand HUF (1270 EUR)

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which is equal to the income of 2 years according to both the base year and the realistic version.

A critical quantity of breakeven was also calculated, showing how many concerts would meet the the band's fixed cost.

In the case of the optimistic version, the band could cover its fixed costs from 16 performances, but according to a realistic and pessimistic scenario, their fixed costs would not be recovered.

4. Conclutions

After a brief assessment of the situation, it can be stated that the examined service provider would be in a favourable position due to the coronavirus only if the restrictions on virus protection were restored by a very short deadline, by the end of May. period. The chances of this are low, so the results of the 2 other, realistic and pessimistic scenarios are likely to occur. In this case, the band must come up with alternative sources of revenue from which to reduce their losses. Our proposal is to strengthen the online platform of the service; accordingly, the band would receive revenue as a result of listening to music online.

Another proposal is the sale of a "support ticket", two alternatives of which we have identified. In the first case, when buying a ticket, the buyer redeems his ticket for a later concert. This would improve the band's liquidity. In another case, the ticket is linked to an online concert, which in turn would increase revenue.

Another solution to improve production value is to apply for available subsidies and aid. As well as the use of subsidies and benefits provided by the government to alleviate economic damage. However, these two solutions are an independent factor for the company and are therefore uncertain.

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AI APPLIED IN RAISING CATTLE PREDICTION

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Abstract: *This paper presents the results obtained from the testing of an algorithm based on artificial intelligence applied to data on cattle breeding, over a period of several years. Following the application of this algorithm can be made predictions regarding the weight gain of cattle according to their age, their type, the input weight and the number of days we propose to keep him fattening. Prediction can help us make decisions about future sales contracts, simply by the fact that we can know a weight that we can achieve for existing cattle after a certain number of days.*

Keywords: *Artificial Intelligence; raising cattle.*

JEL Classification: *D83.*

1. Introduction

In livestock farms, where their purchase is made for fattening and subsequent sale, it is important to know when we make the purchase, depending on the breed, gender, age and weight of acquisition what the yield we can achieve for this calf in a period of time. Depending on this forecast yield we can also make a price offer for its purchase. Most farms currently use a price grid per kilogram depending on the type of calf and the input weight without taking into account the breed and age. By using artificial intelligence we propose that based on the data available in such a farm we can make predictions on the individual evolution of a calf.

2. Machine learning

2.1. Getting the data that participates in the learning process
It was started by identifying the objective, namely the prediction of the weight that a calf can achieve according to race, gender, input weight and age in a certain period of time, in order to refine the nomenclature used in their acquisition.
Following the identification of this objective, we continued with the identification, extraction and processing of data. In the first phase 72,225 cattle for which the date of birth is known, gender, input weight, weight at the time of sale and number of fattening days.
For each calf at the time of its acquisition, data on the date of birth, the birth-tag, the genus, the breed and its mass weight on the scale are processed. All this data is operated and stored in the database. For the calculation of the fattening period and the weight that the calf accumulated over a period of time, the date on which the calf was sold and its weight at the time of sale, obtained from a weight, were taken into account. This data was extracted from the sales invoice.

We continued with the identification of the cattle for which we have all the necessary data in the learning process, both inbound and outgoing. This data was included in a new database, in a backgammon, only with the necessary information: Veal Birth-tag, Date of acquisition (date of receipt note), Date of exit (date of sales invoice), Input weight (Weight weighed at the time of receipt), Weight of exit (weight weighed at the time of sale), Sex, Race and Date of Birth (from the animal's passport). The database was created using the Microsoft SQL Server database server.

Fig. 1. Processed data

We also tried to identify particular cases, since on the farm there were also animals bought not only for fattening. Some animals participate in the reproductive process, or are large enough to be resold directly, without the need to go through the fattening process. We also wanted to study how filtering this data leads to an improvement in learning and in what way. We started from the main objective of the company namely the purchase of cattle up to one year old and weights up to 300 kg.

2.2. Developing the software
To software developing we have used C# and the existing AI libraries. Not being a commercial software, we placed the necessary objects in a single interface. This Interface has two functionalities namely: Learning and Application of what we have learned.

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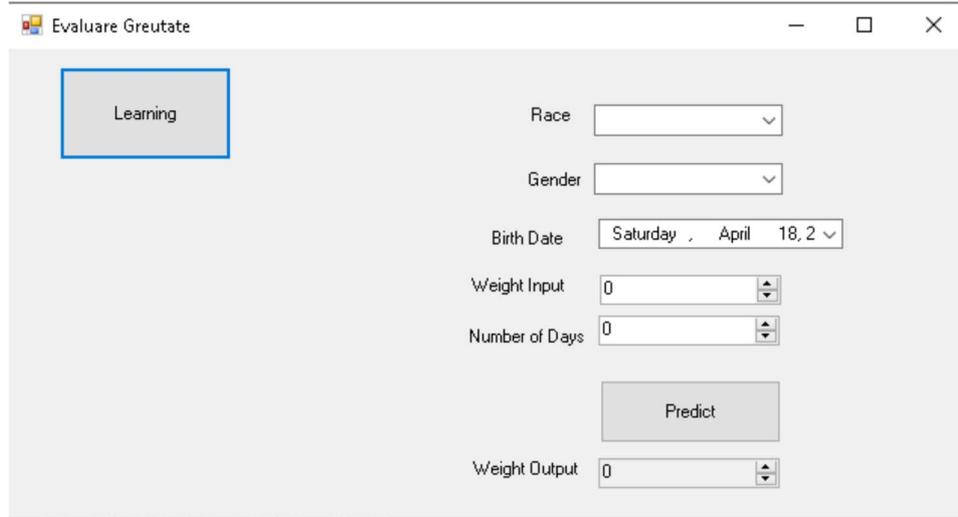
Fig.2. Interface used for learning and application of learning

On the left side we placed the Generation Model button which serves as an application and testing of learning. The right side is used to make a prediction based on the data specified here. It specifies the race, the sex, the date of birth, the input weight and the number of days we intend to keep fattening, until the moment of a possible sale. After completing this data, after pressing the predict button you get the weight that the calf will have at the end of this fattening process.

The algorithm chosen for the prediction was the FastTree algorithm. As can be observed some of the characteristics that will be taken into account for learning contain numerical values. These features are Entry Weight and Number of Days between the date of entry and the date of sale of the animal.

In the case of the date of birth, in order to convert it into a number we took into account the number of days obtained from the difference between the date of purchase and the date of birth of the calf expressed in days. Thus the date of birth was converted into a numerical value.

For the Gender feature that contains only two values, we used OneHotEncoding to convert data.

In the case of our data for the Breed feature because we have only two breeds of animals purchased we have also used OneHotEncoding to convert them into numeric values.

We have defined the Bull and WeightPrediction class as follows:

```
public class Bull{                          public class WeightPrediction
[LoadColumn(0)]                             {
public float WeightInput { get; set; }       [ColumnName("Score")]
[LoadColumn(1)]                              public float WeightOutput { get; set; }
public float WeightOutput { get; set; }     }
[LoadColumn(2)]
```

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```
public float DaysNumber { get; set; }
[LoadColumn(3)]
public string Gender { get; set; }
[LoadColumn(4)]
public string Race { get; set; }
[LoadColumn(5)]
public float DaysSinceBirthDate { get; set; }
public string DataIntrare { get; set; }
public string Datalesire { get; set; } }
```

As can be seen the characteristics of this class that participate in the learning process are WeightInput, WeightOutput, DaysNumber, Gender, Race and DaysSinceBirthDate.
Effective learning involves starting from an existing list of cattle in a list defined as follows: List<ModelDate.Bull> lstBulls = new List<ModelDate.Bull>();
The list of elements was initialized with the data obtained by reading from the database in a SQLDataReader object.The actual learning involves normalizing data, training data for learning and testing, applying the learning algorithm and then applying the testing to the test.

```
 var    pipeline    =    context.Transforms.CopyColumns(outputColumnName:    "Label",
inputColumnName: "WeightOutput")
   .Append(context.Transforms.Categorical.OneHotEncoding("GenderOneHot", "Gender"))
   .Append(context.Transforms.Categorical.OneHotEncoding("RaceOneHot", "Race"))
   .Append(context.Transforms.Concatenate("Features",    "WeightInput",    "DaysNumber",
"DaysSinceBirthDate", "GenderOneHot", "RaceOneHot"))
   .Append(context.Regression.Trainers.FastTree());

IDataView trainData;
IDataView testData;

var split = context.Data.TrainTestSplit(data, testFraction: 0.1);

//obtaining data used for trainning
trainData                                                                              =
context.Data.LoadFromEnumerable(context.Data.CreateEnumerable<ModelDate.Bull>(split.
TrainSet, reuseRowObject: false));
//obtaining the data used for testing
testData                                                                               =
context.Data.LoadFromEnumerable(context.Data.CreateEnumerable<ModelDate.Bull>(split.
TestSet, reuseRowObject: false));

//begin the process of learning
var model = pipeline.Fit(trainData);
//save the model
context.Model.Save(model, data.Schema, _modelPath);

//verifying
```

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RegressionMetrics   trainedModelMetrics   =
context.Regression.Evaluate(model.Transform(testData));
double rSquared = trainedModelMetrics.RSquared;

From the total amount of data we have user 10% for testing and rSquare calculation.

No.	Data set	Condition for data filtering				Records count	Dimension of output learned model	Learning time (sec)	RSquare
		Input Weight		Age in days at purchase time					
		Min	Max	Min	Max				
1	complete	-	-	-	-	72 225	82KB	4.5858125	0.77297
2	filtered	40	300	-	-	60832	82KB	4.2149553	0.75561
3	filtered	-	-	7	365	54491	82KB	3.8190093	0.71919
4	filtered	40	300	7	365	44734	82KB	3.7729948	0.67347
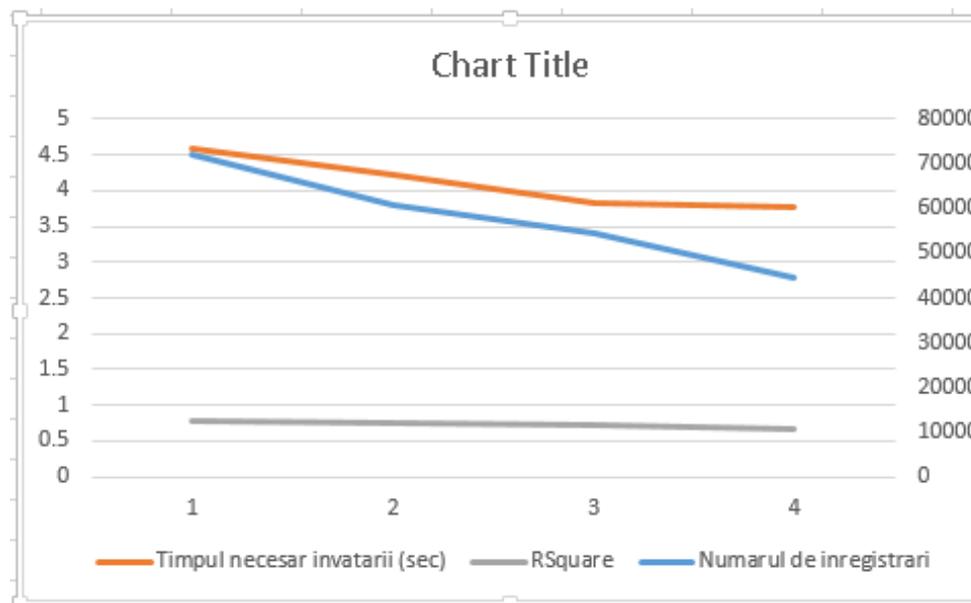
Fig. 2. Evolution of RSquare according to test data and learning times

2.3. Prediction

The realization of the prediction involves first loading the model obtained from learning.Then you will have to call with a breed, sex, date of birth, the weight that the calf has at the entrance and the number of days we expect for fattening.It will result from the prediction of the output weight after that number of days.

For example, a male bull, the BBB breed, born on 2 Jan 2020, having an input weight of 50 KG and which we want to increase his weight over a period of 100 days will have at the exit a weight of 185 KG.

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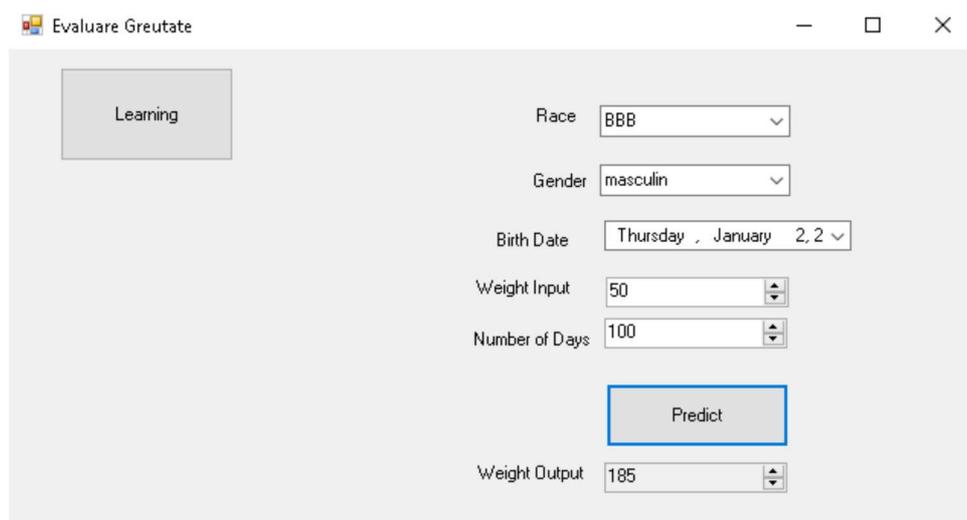
Fig. 3. Making prediction

Making the prediction involves first loading the learned model, reading the input data and applying the model to them in order to obtain the result. The following part of code does that.

```
DataViewSchema predictionPipelineSchema;
ITransformer predictionPipeline = null;
MLContext context = new MLContext();

MdelDate.Bull el = new ModelDate.Bull();
//after initialization of el object's properties we continue with load of the model and prediction
predictionPipeline = context.Model.Load(_modelPath, out predictionPipelineSchema);
//obtaining the prediction in the following variables
float InOutpurWeight = PredictieIngrasare(context, predictionPipeline, el);
```

3. Conclusion

The reduction in the number of records participating in learning did not lead to higher scores in the process of verifying the accuracy of learning but on the contrary. Therefore, filtering of learning data according to the company's objective was not necessary.

The decrease in the number of records has led to a decrease in learning time, but the size of the archive has not necessarily decreased.

Using the FastTree algorithm had very good learning times for our case.

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STUDENTS' ASSERTIVE COMMUNICATION SKILLS AT UNIVERSITY OF DEBRECEN

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Abstract: *Assertive communication has become a popular topic in nowadays organizations. Communication among employees is a key factor in the organization's operation. The information must flow from one person to the other, but the way we communicate with each other influences the quality of the given data. Why can assertiveness be important in the organizations? As almost all the companies work for gaining profit by their output (product or service), the organizations depend on the customers. It means that employees should communicate in a proper way to maintain clients. Moreover, communication style has an impact on the connection between the leader and the subordinates which means that managers also should know the way to be assertive. We can see that appropriate communication influences the effectiveness of the organizations in many fields. In my study, I used Rathus Assertiveness Schedule to research the assertiveness of the pupils at the University of Debrecen. My aim is to have an overview about the assertive behaviour of the students who will be new employees in a few years. 178 students participated in this research by filling a 30-item questionnaire and demographic questions. To analyse the answers, I used averages and standard deviations. The total achievable score in this test was between -90 and +90 and the answers were between -60 and 74 scores. Based on the results, men tend to be more assertive than women. 81 students of the total 178 are considered to be assertive. Among the male participants 29 people, while among the female students 52 people are assertive. "I strive to get ahead as well as most people in my position."; "There are times when I look for a good, vigorous argument." and "I enjoy starting conversations with new acquaintances and strangers." are the situations when they are most likely to behave assertively.*

Keywords: *assertiveness; assertive behaviour; students.*

JEL Classification: *D83; I23; M59.*

1. Introduction

People communicate with each other every day, in almost every situation. Speaking is an ability that makes us a human being, so we should take care about our way of speaking. People normally like experiencing kind manner and words from others. When we express ourselves in a polite and proper way, it is called assertive communication (Bolton, 1987). It helps us to share our ideas and thought in a proper

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way. In the organizations assertive communication plays a key role. Leader want to maintain the best workforce and companies want to keep the customers. To achieve this, employees should treat customers in a polite way, and leaders should learn to behave assertively with employees and vice versa. I think that leaders in the organizations may show an example how we should communicate with each other. As a lot of abilities are attainable, we can learn how to be assertive.

In the following, firstly I will give an overview of assertive communication and the way how to be assertive. In addition to this, I will list some methods that can help us to measure assertiveness. Secondly, I introduce my quantitative research which is based on the Rathus Assertiveness Schedule.

2. Theoretical Background

The research of Gergely et al. (2017) made in a sample of students shows that one of the background factors necessary for outstanding performance is the good communication skill. While as a general expectation this factor got an outstanding value, the students underestimated themselves in this field.

Why should students develop themselves in this field? Because according to the managers interviewed, the most important feature of verbal communication is that the employee has excellent speaking skills, and proper speech comprehension is also essential (Juhász, 2016). I think that learning assertive communication skills could help employees to reach higher performances.

Assertiveness does not have a universal definition. Different authors define it in many ways. In the following, I will collect some approaches to being assertive.

Ames (2009:112) said that "assertiveness is a characterization of how a person responds in a situation in which his/her positions and/or interests are, or could be, in conflict with others' positions or interests." He defines assertiveness as a reaction to different situations.

Lazarus (1973:697) divided assertive behaviour into four specific response patterns:
- the ability to say "no";
- the ability to ask for favours or to make requests;
- the ability to express positive and negative feelings;
- the ability to initiate, continue, and terminate general conversations.

According to Lazarus (1973) those people who have incapacities in one or more of the above-mentioned areas are incomplete in assertive communication.

Bolton (1987) determines assertiveness on the scale between aggression and submissiveness. Those who behave submissively neglect their own needs and rights. These people do not want to express their feelings, needs, values and problems. They use non-verbal features like the lack of eye contact, soft voice and hesitant speech. An aggressive person expresses his or her emotions, needs while hurting others. He or she always wants to win the arguments. This person can speak loudly and be rude and sarcastic. Assertiveness is somewhere in the middle of these two behaviour patterns. "An assertive person uses communication techniques that allow him to maintain his self-esteem, to seek happiness, and at the same time meet the needs, while protecting the rights and intimacy without exploiting or dominating

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other people (Bolton, 1987:87)." The most noticeable thing about assertive people is that they like themselves and live a happy life. But being assertive also implies that they will be vulnerable in the most important relationships.

Hadfield and Hasson (2010) describe assertive behaviour as a person who can tell others what he or she wants and what he or she does not want. They accept criticism and can decide whether or not to tell the others what they think. He or she has enough confidence and does not blame others if things go wrong. An assertive person does not want to prove to others but expects the proper treatment. An aggressive person is self-centred, often sarcastic and phlegmatic, while passive person is submissive, shy and sometimes confused. Table 1 summarizes the features of the assertive, the aggressive and the passive behaviour.

Table 1.: Features of assertive, aggressive and passive people

	Assertive	Aggressive	Passive
Attitude	Flexible Open optimistic supporting attentive	Hostile Prejudiced narrow-minded threatening	Pessimist Shy Submissive nervous
Behaviour	Problem solver collaborator constructive	self-centred phlegmatic destructive	helpless confused purposeless
Voice inflection	Calm Honest	Sarcastic Abusive	quiet monotonous
Typical sentences	"everything is alright?" "What do you think about it?" Thank you	"It is your fault." "Stop doing it." "I forbid…" "Do it right away."	Sorry "I do not know" "I don't mind." "It depends on you."
Body language	open gestures and smile	hard-shell does not respect other people's intimate space	Stoop Twiddle with sg

Source: Hasson and Hadfield (2010)

As we can understand for now, assertiveness is not the only way how we can respond to the different circumstances. Candice et al. (1994) characterized two main dimensions of Socio-Communicative Style: assertiveness and responsiveness. Assertive people are independent, dominant, aggressive, competitive, and forceful, in contrast, responsive people are helpful, sympathetic, sincere, and kind to others. Tóth-Márhoffer and Paksi (2011) characterized responsive communication skills, as being able to hear the problems of others, giving feedback to help self-reflection, and having developmental and supportive intentions.

Some authors approach assertiveness as a right that everybody has. Aguilar-Morales and Vargas-Mendoza (2010) list some rights, that contain assertiveness. They listed some examples:

- to have the right to have his or her opinions and convictions,
- to have the right to try a change,
- to have the right to make mistakes,

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- to have the right to ask for help or emotional support
- to have the right not to justify himself or herself to others,
- to have the right to say "no."

As it was mentioned before, Lazarus (1973) also described assertive people as those who could say "no".

In Table 2 we can see that there are many different methods to measure assertiveness. The Lazarus Assertiveness Scale served as a basic for many further researches. One of the first issues is the 30-item Rathus Assertiveness Schedule (RAS) which includes 17 reversed items. The Assertion Inventory examines different situations by two dimensions: degree of discomfort and response probability. The College Self Expression Scale contains 50 items which were modified from the previous work of Lazarus (1971), Wolpe (1969), and Wolpe and Lazarus (1966). The Personal Relations Inventory measure four types of assertiveness: social assertiveness, independence, directive and defense of rights. The Scale for Interpersonal Behaviour has 50 items, 46 of which are classified into the four categories of assertive responding. The Adaptive and Aggressive Assertiveness Scales consist of 19 scenarios that depict everyday interpersonal situations in which one might assert oneself.

Table 2: Assertiveness measurements

Year	Instrument	Authors	Features
1971	Lazarus Assertive Questionnaire	Lazarus (in Andrasik et al.)	20 items
1973	Rathus Assertiveness Schedule (RAS)	Rathus	30 items
1974	College Self Expression Scale	Galassi et al.	50 items
1975	Assertion Inventory	Gambrill and Richey	40 items
1980	Personal Relations Inventory	Lorr, More and Mansueto	80 items
1984	Scale for Interpersonal Behaviour (SIB)	Arrindell, De Groot and Walburg	50 items
2011	Adaptive and Aggressive Assertiveness Scales (AAA-S)	Thompson and Berenbaum	19 scenarios

Source: my own collection based on Rathus, 1973; Galassi et al., 1974; Gambrill and Richey, 1975; Lorr et al., 1980; Andrasik et al., 1981; Arrindell et al., 1984; Thompson and Berenbaum, 2011

3. Methodology

In my research I used the RAS questionnaire from the collection I showed before, because it is brief (30-item), practical and shows real-life situations. As I do this research among Hungarian students, I used the Hungarian version of the schedule which was used by other Hungarian authors (Erdősi, 2010; Vécseyné Kovách, 2014). The students filled the questionnaire according to their previous experiences. (i.e. "I enjoy starting conversations with new acquaintances and strangers"). The questionnaires were filled online and anonymously. I asked the participants to mark

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every item on a 6-grade Likert scale ranging from - 3 to +3. The values of the scale that I used for analysing the answers were:
- -3: very uncharacteristic of me, extremely nondescriptive,
- -2: rather uncharacteristic of me, quite nondescriptive,
- -1: somewhat uncharacteristic of me, slightly nondescriptive,
- 1: somewhat characteristic of me, slightly descriptive,
- 2: rather characteristic of me, quite descriptive,
- 3: very characteristic of me, extremely descriptive.

Students who achieved higher scores reflected greater assertiveness.

The questionnaires were completed in March 2020 by pupils at University of Debrecen. The total number of the sample is 178, of which 50 were from men (28.1%) and 128 from women (71.9%). The age of the pupils ranged from 18 to 35. The average age of the participants was 21.7 years. According to the deviation of the faculties the majority of student studied at the Faculty of Humanities (23.6%) and the Faculty of Economics and Business (26.4%), the other 12 faculties (i.e Faculty of Law, Faculty of Medicine, Faculty of Humanities, Faculty of Health etc.) represented the other 50% of the answers. The students attended the following courses: undergraduate students (73%), master students (10.1%), students at an undivided training, which offers a master's degree (14.6%) and PhD students (2.3%).

4. Results

The total achievable score in the test was between -90 and +90 and the higher the value, the greater the assertiveness. Those students who receive below +10 score are shy or non-assertive and those with a score above +10 are assertive. In my questionnaire the answers were between -60 and 74 scores. The mean score was 7.51 and the standard deviation was 25.17. The mean score of the male responders was 12.78 and 21.55 was the value of standard deviation, while the mean score of the female responders was 5.45 and 26.24 was the value of standard deviation. Regarding the courses: the mean score of the undergraduate students was 6.74 (St.D.: 25.7), the mean score of the master students was 6.18 (St.D.: 36.4), the mean score of the students at an undivided training was -1.52 (St.D.: 23.6) and the mean score of the PhD students was 11.33 (St.D.:20.84).

Table 3: Assertiveness among students grouped by sex

Assertiveness	Male		Female		Total	
	N	%	N	%	N	%
Assertive	29	58%	52	40.6%	81	45.5%
Non-assertive	21	42%	76	59.4%	97	54.5%

Source: own research

81 students (45.5%) of the total 178 received below 10 scores, so these students are considered to be assertive. Table 3 shows the assertiveness and non-assertiveness among students. Among the male participants 29 of 50 people (58%) earned more than 10 points, while among the female students this rate is 52 of 128 people (40.63%). The score earned by most of the students was 9 (by 8 people),

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which is interesting because of the fact the minimum 10 points are necessary to be assertive.

Regarding the statements, I list some of them with higher assertiveness. I show those statements which earned more positive scores from the participants, because it means that in those situations the students mostly behave assertively (Erdősi, 2010). In Table 4 the first member of each percentage pair next to each statement is the "rather assertive" and the second member is the "rather non-assertive" opinion.

Table 4: Results with high assertiveness

No.	Statement	"rather assertive"	"rather non-assertive"
5.	If a salesperson has gone to considerable trouble to show me merchandise that is not quite suitable, I have a difficult time saying "No".	70.22%	29.78%
6.	When I am asked to do something, I insist upon knowing why	83.15%	16.85%
7.	There are times when I look for a good, vigorous argument.	87.08%	12.92%
8.	I strive to get ahead as well as most people in my position.	91.57%	8.43%
10.	I enjoy starting conversations with new acquaintances and strangers.	84.83%	15.17%
14.	I find it embarrassing to return merchandise.	65.17%	34.83%
17.	During an argument, I am sometimes afraid that I will get so upset that I will shake all over.	69.10%	30.90%
21.	I am open and frank about my feelings.	80.34%	19.66%
22.	If someone has been spreading false and bad stories about me, I see him or her as soon as possible and "have a talk" about it.	82.02%	17.98%
27.	If a couple near me in a theatre or at a lecture were conversing rather loudly, I would ask them to be quiet or to take their conversation elsewhere.	64.61%	35.39%
28.	Anyone attempting to push ahead of me in a line is in for a good battle	70.79%	29.21%
29.	I am quick to express an opinion.	73.60%	26.40%

Source: own research

I list those statements which earned outstanding results at the rather assertive opinion. The situation in which most of the students behave assertively is the "I strive to get ahead as well as most people in my position". More than 9 of 10 students want to progress in the organizational hierarchy. "There are times when I look for a good, vigorous argument" reflects that they would like to express themselves convincingly. This statement got 87.08% rather assertive rate. "I enjoy starting conversations with new acquaintances and strangers" means that students are open to make conversations with others (84.83%). "When I am asked to do something, I insist upon knowing why" expresses that most of the students (83.15%) would like to know the reason for their actions. The less assertive response which is not shown in Table 4

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is "I complain about poor service in a restaurant and elsewhere". It may mean that these students stand for themselves and they are not afraid to express their opinion.

5. In conclusion

In my research firstly I gave an overview of assertive communication and listed some ways how to be assertive in comparison with being aggressive or passive. Secondly, I used the Rathus Assertiveness Schedule to examine the students' communication skills at the University of Debrecen. The results are not representative, but I tried to reach students at different faculties. 45,5% of the students are assertive and the results show that men might behave more assertively than women in the given situations. The standard deviations were relatively high, which means that the students are thinking in many ways. In the future, I would like to research more on this topic, to find other interesting results.

6. Acknowledgements

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HOW CAN WORK BE AN EXPERIENCE?

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Abstract: *Due to the fact, that there is a lack of workforce in the labour market, the importance of attraction and retention is becoming essential in corporate's operations. For ensuring the workforce which is needed for the operation, creating these activities and processes can be a key possibility from an organizational point of view. The aim of the study is to find out those everyday activities that make positive feelings on students of the University of Debrecen, Hungary. From the companies' perspectives it can be important to know those facts which cause positive impressions on students because of making purposeful action for achieving the potential target group in the labour market. Furthermore, it is essential to know these factors to strengthen organizational attractiveness and retention. The research was based on a questionnaire survey as a primary research. A significant part (67.8%) of the respondents feel that although their current lives are rather interesting and enjoyable this can be enhanced and they think that it is essential in terms of weekdays to be enjoyable and interesting. The survey exercise shows that in the examined target group the activity related to positive feelings was mainly due to sports, meals, learning, films, personal relationships, social media and computer activities. The most adverse feelings for students are caused by attending university classes, doing different kinds of housework and the commuting between the university and their residence. Based on the results of the examination we can identify those activities which rather support or rather block the creation of flow experience in terms of the students as the layer of potential employees. These factors can be well emphasized and developed in the case of an appropriate corporate strategy and can be supported by different HR activities and this way, the positive experiences by the company can be assured.*

Keywords: *Workforce shortage; flow; retention; attractiveness; happiness; satisfaction.*

JEL Classification: *J24; O15.*

1. Introduction

There have been several researches in connection with the factors defining workplace experiences (Harrington, 2019; AON, 2018a; PWC, 2017; IBM, 2016) the majority of which were looking to answer by what factors the organisation could have a positive effect on the employees. Such possibility is the creation of positive employee experience and because of the conscious application of which companies with a progressive approach can strengthen the existing employees' loyalty and retention in a way that in the meantime their performance can be increased (Jacob,

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2017). It is important because today's career starters have different expectations, they are already mobile andgenerally less loyal (Dajnoki – Kun, 2016). It also makes the company attractive to potential workforce since during the process there is a major emphasis on revealing what messages people looking for a job are most recipient to, where they would like to work and what they desire. Getting know the needs of potential employees can be crucial for HR as for the attraction and retention the company needs to know their motivation and the factors that can make them satisfied (Gergely & Pierog, 2018). The significance of the creation and sustainability of corporate attractiveness goes without question (Szondi & Gergely, 2019) in such an economic state when there is a workforce shortage on the labour market and it is especially difficult to provide quality workforce and in numbers which can be said basically about all areas of the labour market (Korn Ferry, 2018) and among others Hungary, too (KSH, 2018; Poór et al., 2018). However, in order to successfully integrate workers with unconventional needs into the labour market, it is essential to know the expectations of these workers (Dajnoki, 2014a).

The aim of the study is to give a comprehensive picture of the role of experiences connected to the workplace in the organisational operation. Our aim is to reveal how much the applied examination method supplies us with practical results and at what level we can identify and categorise the students' everyday activities. Our further aim is to see what kind of characteristics can be drawn on the basis of one segment of potential employees, the analysis of which can also be interpreted from a job environment perspective, too, as well as what possible alternatives corporations can provide.

To achieve these aims we used primary research. The basis of the primary research was a separate questionnaire survey.

2. The connection of flow theory to work

The flow experience is a state which gives a highly striking and extreme emotional gratification, to reach this state any kind of activity be helpful in which we can absorb while we charge ourselves from the happiness that comes from the activity itself. One of the renowned expert of the field is Csíkszentmihályi (2010:22) according to whom flow is "the phenomenon when we are so engrossed with the task at hand that anything else is miniscule that the experience itself becomes so enjoyable that we want to continue that activity at all costs just for itself". This feeling is described by the expert as the perfect experience which lends such a satisfaction that we want to reach it again and again. To reach this, the emergence of the optimal balance of the challenge coming from tasks to be done and the skills within the individual is needed (Csíkszentmihályi et al, 1987; Massimini and Carli, 1988). Another characteristic of the phenomenon is that it can be usually reached not in a passive state but on the other hand we need an active activity which we can experience even while we are working. In the 8-channel model of flow (Massimini – Carli, 1988; Ellis et al, 1994) the connection of the different level meeting of challenges and abilities can be well-tracked (Figure 1). In the case if the individual has a high-level of competency needed to perform the task and also the difficulty level of the task

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connected to it is also high enough – so it gives a right challenge – then the flow state can be reached. Though its condition is that on the one hand employee competencies should be revealed regularly and precisely and on the other hand the activities connected to certain jobs should be optimal so it would not pose a bigger challenge or a smaller one than the personal skills enable the individual. However, regular evaluation is crucial because the system of competencies can not be considered permanent. Individual's competencies can change, one of the reasons being that due to changing labour market and workplace requirements, the workforce needs to be continuously developed (Dajnoki et al, 2015), which also plays an important role in developed societies (Pierog et al., 2015).
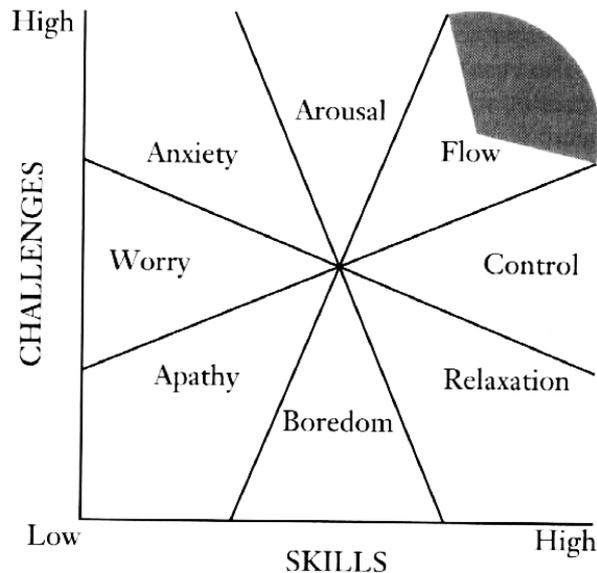
Figure 1: 8-channel model of flow
Source: Massimini and Carli, 1988; Csíkszentmihályi 2010

The significance of experiences emphatically affects behaviour at every generation (Törőcsik et al., 2014). Though its scale cannot be precisely defined but we can safely say that work has less significance in everyday life in the case of the younger generations and with this its interpretation is formed differently from the previous generations (Pyöria et al., 2017). Considering that thanks to the natural change of labour market the younger generations (Y, Z) are full members in the world of work thus it is important to deal with their characteristics and peculiarities to be able to understand how they operate since today's students will become the employees of tomorrow. The youngest people of the market are Generation Z employees who are mostly looking for experience, adventure and overcoming challenges during their activities (Deloitte, 2017; Skinner et al, 2018). At the same time; however, it is essential that work has to be useful, which is also one of the critical points of

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integration (Dajnoki, 2014b). Moreover, it is a great motivation also if people who have a disadvantage in the labour market get the chance to work and to prove, for example disabled people which often generates the feeling of "being a useful member of society" in the worker which helps to increase loyalty, as well (Dajnoki, 2015). But for Generation Y employees there are often different areas in the forefront, based on an earlier survey (Juhász – Terjék, 2014) for them salary, the leader and working hour schedule are more important. That is why it is important to reveal which activities appear in the average life of tomorrow's employees and which of these create a positive and which of these create a negative feeling in them. By examining the results we can identify those activities which because of their positive effects can be interpreted in a job environment and those which considering their negative effects can be minimised.

3. Material and method

To achieve the aim of the study we made primary research. The primary questionnaire survey was based on the pilot research experience and methodology (N=42) of Héder-Rima (2019) the original idea of which is from a Rogatko (2017) survey of the similar field.

247 university students took part in the survey which is discussed in this study, after the right filter and selection we could analyse 236 questionnaires. The survey was created with the help of comfortable sample which means that only those students took part in it who were open to fill in a questionnaire and were available in the survey period. The students examined make up only a tiny part (only 6%) of the stratum (4200 people) but the verification of the applicability of the method could be interpreted even with this proportions. Out of the people who responded 79 were men and 157 were women. 230 respondents could be classified in Generation Z. The people questioned are all students of the University of Debrecen, Faculty of Economics. According to their education level there were students who take part in higher-level vocational training, in BSc and in MSc trainings who study in seven different majors (at MSc: management and organisation major; BSc: business administration and management, international economy and business, economy and rural development, agricultural IT and policy administration, rural development agricultural engineer; higher-level vocational training: finance and accountancy major. Out of the people questioned:
- First-year student: 149 students in BSc training,; 33 students in higher-level vocational training; 17 students in MSc training
- Second-year student: 2 in MSc training
- Third-year student: 35 in BSc training

The questions were conducted personally and were done on a voluntary and anonymous basis. The data acquisition was made with the help of paper questionnaire where the questionnaire besides the general identification data (time of birth, gender, place of residence, education level) was divided into two professional units. In the first part, the students could mark on a 5-grade Likert-scale how important and exciting they consider their everyday life as well as how important

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for them to have an interesting and exciting everyday life. In the second part of the questionnaire they were free to describe those general activities (Maximum 10) which appear in their everyday lives and in connection with that they needed to mark what feelings are evoked by each activity. For the definition of the feelings Csíkszenthmihályi's (2010) 8-channel model served as a basis which means that they could choose from 8 separate feelings. Based on the pilot test experiences (Héder-Rima, 2019) further developing the earlier questionnaire the explanations of the different feelings could be found at the bottom of the questionnaire in order that the students could interpret and identify them more precisely. By each activity they could mark in minutes the average time they spent with the realisation of that activity. The examination is not representative so the consequences drawn from the results can be specifically interpreted for the participating sample.

4. Results and their evaluation

During the examinations we wanted to find answers to how much the people questioned considered their own lives enjoyable and what their opinions are, how important it is that the weekdays should be enjoyable and interesting (Figure 2). Based on the results, on the whole, students evaluate both their everyday lives and their expectations rather positively however, we can identify a difference in level.
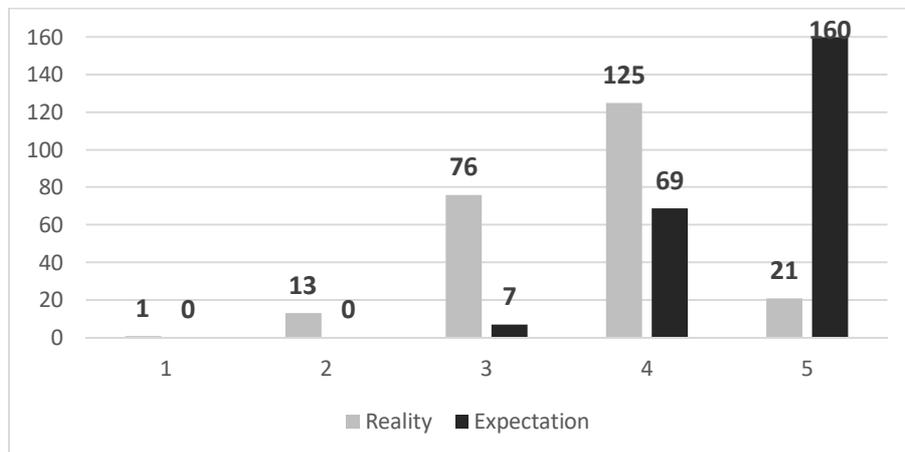
Figure 2: How experience appears at students' everyday life (person)
Source: Own examination, 2019; N=236 people

A significant part of the respondents feel that although their current lives are rather interesting and enjoyable this can be enhanced and they think that it is essential in terms of weekdays to be enjoyable and interesting. While the average of their evaluation on the current weekdays* is 3.64, the average on the expected weekdays** is 4.64, the variance is low in both cases (0.73* and 0.53** which points at the conclusion that the respondents' opinion was homogeneous for the question. We can assume that the students' expectations will not change greatly and suddenly

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so when the student becomes an employee they would represent similar value judgement. We can conclude that as long as the organisations try to react to these needs of future employees and they can provide the interesting and exciting weekdays for them then they have a better chance to attract and retain the target group. The research also included to reveal those areas which appear in the form of an average everyday activity in the case of the people participated in the research and clearly support or block the flow experience for them. By summarizing the results based on the 236 questionnaires 1707 activities were named which can be grouped around different tags (e.g. sport, housework, eating/cooking etc.). As a general experience we can say that although the students were allowed to name 10 activities only 64 of them took this possibility. Generally, similar activities were named and only few students mentioned unique activities. These results can refer to the facts that the students participated in the survey either live in a very similar way or theyhave little unique features so on the average they do the same activities.

The majority of the described activities (1340) assure rather positive feelings for the students and the proportion of those activities which create negative feelings is less (367).

Based on the results of Figure 3., most of the activities (636) which the students do in their weekdays contain tasks where the level of difficulty is not too high but the individual skills connected to it are there in an outstanding degree in terms of the students thus by doing these activities brings the state of relaxation for the students in which they feel confident. These are followed mostly by those activities (312) which either provide the flow feeling or support the experience of interest phase (305). At that time both the difficulty level of the task and the skills needed to solve them are high.

Although negative feelings appear at a smaller scale in the weekdays of the students based on the received answers we can say that they peak mostly in terms of boredom (199). At this time the difficulty level of the task to be completed is minimal though the existing skills are higher so it does not create a challenge but rather boredom to the task. The activities with the second highest negative feeling can be put into the group of apathy (80) where the difficulty level of the task, as well as the necessary skills are present only at a low level. By detailing the results we can draw up and highlight those specific activities which appear most often in the students' answers and which support the most the creation of flow in the case of the examined students (Figure 4).

Based on the results students experience the most positive feelings while studying for gaining knowledge, watching films and TV, doing different sports. After these the highest score was given to the different personal relations (relationship, family, friends) and the use of different social media (Facebook, Instagram, chat etc.) while eating, cooking browsing) also caused highly-positive feelings.

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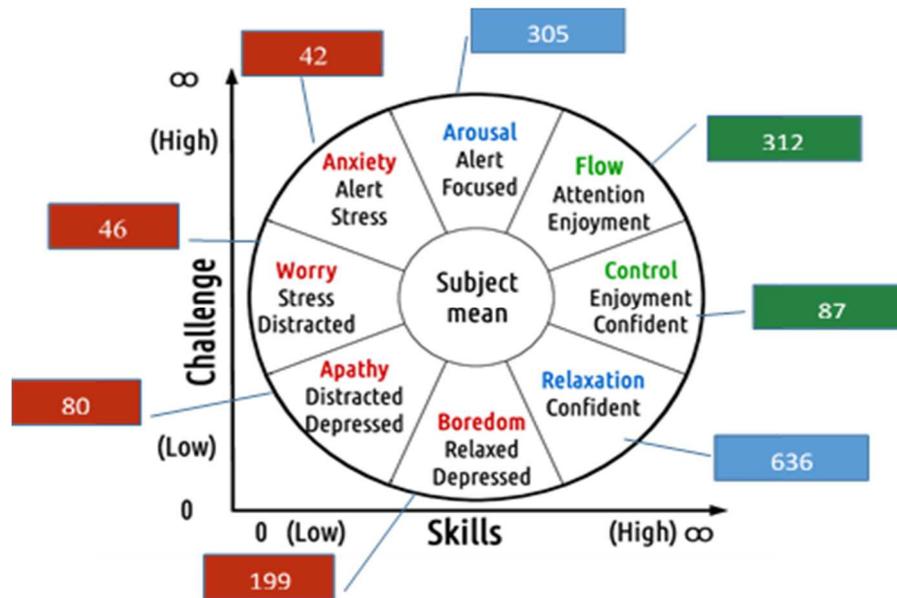
Figure 3: Introducing the types of activities done by students by the feelings connected to them
Source: Own examination, 2019; N=1707 activities

The activities which cause the most negative feelings according to the respondents are shown in Figure 5.
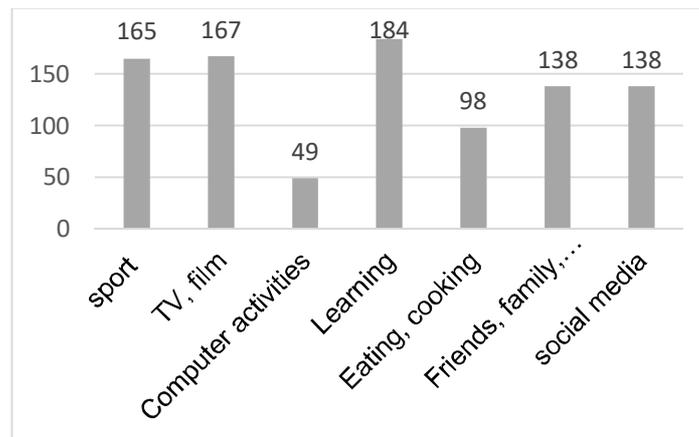
Figure 4: The activities that support most the creation of students' flow experience
Source: own examination, 2019, N=1340 activities

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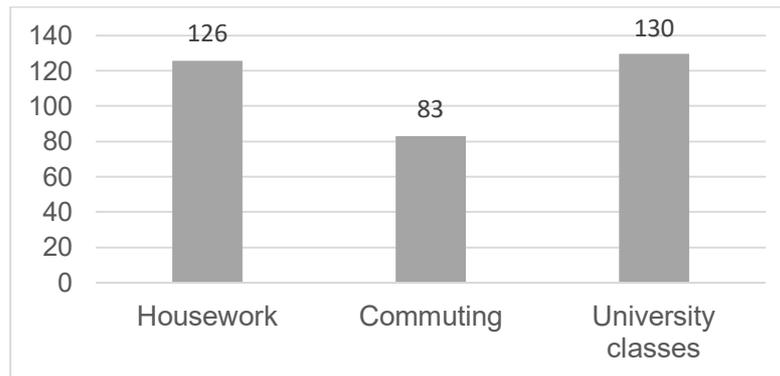
Figure 5: The activities that block the most the creation of students' flow experience
Source: own examination, 2019, N=367 activities

The most adverse feelings for students are caused by attending university classes, doing different kinds of housework (cleaning, washing, ironing, doing the washing-up etc.) and the commuting between the university and their residence besides that but in a lesser proportion there are other factors such as shopping; morning preparation; exams; writing tests but in a smaller degree internet usage and watching TV.

5. Conclusions and suggestions

The completed examination highlights that the everyday activities done by the students can be put into categories according to which cause them good and bad feelings and also these activities can often be interpreted in a workplace environment, too. Consequently, it is possible that the information gathered this way can be used by the organisations with the help of different HR functions for a conscious effort – attracting employees – that is to provide the right experiences in terms of the potential employees.

Based on the primary research results we can say that the majority of the participants consider in a general way their everyday lives interesting and exciting but in their expectations a need for a more interesting and exciting everyday life also appears which matches the global and international survey results available in the literature that is the expectation for an experience-based job appears in terms of the latest generation. If this employee need can be assured in a corporate environment by the employers then they can be attractive for the target group which from the HR side can be supported by HR branding and the retention of employees concerned can be more successful which put retention management more to the front. Based on the results of the examination Csíkszentmihályi's (2010) 8-channel model of flow can be interpreted from a job organisation point and with its help we can identify those activities which rather support or rather block the creation of flow experience in terms of the students as the layer of potential employees. We can state that the activities given by the respondents can be identified in a workplace environment,

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too. For generating positive feelings the development within the organisation – which from an HR view can be supported by human resource development and career management – furthermore, providing free-time and sports activities – which is most connected to the area of maintaining health – providing information through possible educational films/series, integrating social media in the work process can also be interpreted as highly advantageous opportunities. Moreover, an outstanding performance can be the strive to achieve the balance between work and private life where employees can spend enough time on their relations outside the work, too or providing different team-building activities where the common cooking or the introduction of eating together as well as by making it playful the different computer programs can also mean good alternatives. Besides providing a wide-scale of these factors it can be an alternative to minimise those factors in the job environment which can cause negative feelings, anxiety, impatience, apathy or boredom. Based on the survey results it could be recommended to develop the classic education methods in the job environment and change them according to changing needs since based on the examination although students prefer learning and gaining knowledge attending the lessons scored less. It could be necessary to find those possible development alternatives which provide the acquisition of the really necessary knowledge in a practical way. Furthermore, minimising and omitting all activities which can be connected to the classic housework (e.g. providing a dishwasher). It is also important for the company to be flexible in order to decrease the inconveniences of commuting which can be done with alternative working hour systems or distance work or flexible working hours.

6. Summary

This study, connected to students' flow activities calls for further research. It is important for companies to know clear the exact needs and preferences of future employees. It is sure that the central role of experiences appears more and more as a specific employee need in today's labour market. To reveal the needs of future employees can be a key in terms of the successful operation of companies. The surveys done among future employees help to create the work organisation, job planning and job environment by taking into consideration the needs they expect. Employee experiences define the connection to the organisation and also the performance, too thus the conscious formation of the area can be interpreted as a strategic question. By examining the individual needs the jobs can be personalised and the work groups synchronised. Based on the present research we can say that the students participating in the survey formulated those areas which support or block them in experiencing the perfect experience along well-distinguished activities. Based on the results we can note that there is an outstanding need for providing sports activities, acquiring knowledge which can be done more successfully by film or social media or in a playful way different from the classic education methods. From the point of view of healthy living and team-building it could be significant if the organisation provides eating possibilities, as well as providing the right balance of work and private life where enough time remains to

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maintain personal relationships. In terms of work organisation it is important to minimise commuting which blocks the flow experience significantly or optimise the time spent with this by providing beneficial activities.

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TRENDS IN EDUCATION 4.0

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Abstract: *In the modern world, we are facing with digitalization in all spheres of human life. Of course, digital technologies rapidly implemented in the education system. We can call this term Education 4.0 due to the school of thought that encourages non-traditional thinking when it comes to imparting education. Education 4.0 essentially uses technology-based tools and resources to drive education in non-traditional ways. Instead, with Education 4.0, you can have remote students that sign into their classrooms using the internet through modes like massive online open courses or video chat or dialling in through voice calls, to learn materials that are more dynamic in nature with peers who might or might not be learning at the same pace as them. At the present moment corporate and university circles understand that "Lifelong learning" has been not only a buzzword but vital objective for an opportunity to follow modern trends and stay competitive. An Unicon study reports that the number of corporate universities - which provide education in-house, on-demand, and, often, on the job - has exploded to more than 4,000 in the United States and more than twice that number worldwide. The first trend in the Education 4.0 is powerful trends reshaping the industry and fueling the emergence of the Personal Learning Cloud as a networked learning infrastructure. The second trend is the decline of standard classroom-based programs, such as those primarily offered by business schools and universities. The third trend is the rise of customizable learning environments, through platforms and applications that personalize content according to learners' roles and their organizations' needs. The dominant platforms now count millions of enrollees in individual courses and tens of millions of total users. These trends are linked and form a cohesive pattern. Our goal is to present these trends in Education 4.0 and the strategies, benefits and challenges of digital education.*

Keywords: *Education 4.0; digitalization; Lifelong learning; customizable learning environments.*

JEL Classification: *A23; I21; I26.*

1. Introduction

The history of the development of digital education begun at the end of the 20th century. One of the significant events occurred in 1969 when the Open University was founded in the UK as the first institution that augmented correspondence

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learning through mail and TV, with short residential courses and supporting classes at different physical locations. On the application deadline of August 4, 1970, the Open University received 42,000 applications for 25,000 places (Kaplan and Haenlein, 2019).

In 1989 the University of Phoenix launched its online campus, which offered an entire curriculum of bachelor's and master's degrees online. The term Massive online open course (MOOC) was coined in 2008 by Dave Cormier from the University of Prince Edward Island in Canada with regard to a course called Connectivism and Connective Knowledge. Later, the name would be appropriated by software developers, global universities and commentators to describe even larger scale implementations. Here are David Cormier and others reflecting on that appropriation (Blackall, 2016)

In 2011, Sebastian Thrun and Peter Norvig developed the open online course Introduction to Artificial Intelligence – a derivative of a course they would normally teach at Stanford University.

It attracted hundreds of thousands of participants, leading to the establishment of Udacity – a software and platform development that hosts and runs other such courses. Also out of Stanford would come Andrew Ng and Daphne Koller who ran open online courses in 2012, and who would then establish Coursera – another software platform development project to host yet more "open" online courses (Blackall, 2016).

We can see that the idea to study through online courses spread like wildfire so that 2012 was proclaimed ''The Year of the MOOC'' by the New York Times.

At the present moment corporate and university circles understand that "Lifelong learning" has been not only a buzzword but vital objective for the opportunity to follow modern trends and stay competitive.

The growing assortment of online courses, social and interactive platforms, and learning tools create spaces, which call "personal learning cloud". Organizations and teachers can select components from the personal learning cloud and tailor them to the needs and behaviors of individuals and teams. The personal learning cloud is flexible and immediately accessible, and it enables employees and students to pick up skills in the context in which they must be used. In effect, it's a 21st-century form of on-the-job learning (Moldoveanu Narayandas, 2019).

Strategies for education in the Digital Age

Like several other nonprofit and commercial industries, the education sector has been subject to a series of fundamental challenges in the past decade. Education used to be considered a public good, provided by nonprofit organizations that were unexposed to market pressure and had clear societal missions. Now, education is becoming a global service delivered by quasi-companies in an ever-more complex and competitive knowledge marketplace. To cope with these challenges, education institutions need an appropriate strategy.

Higher education has become a crowded global marketplace and, as such, is not immune to changes affecting 21st-century society – an increasingly global, digital, and dynamic environment (Pankaj, 2017). Universities have three basic missions:

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teaching, research, and public service. On the one hand, to survive, education institutions must behave like commercial organizations, prioritizing revenue creation. On the other hand, they must also serve as nonprofit organizations, prioritizing the public good and serving as providers of knowledge and a path for educational development (Council of the European Union, 2014).

Over the past decade, however, the field of education has undergone substantial deregulation, and as a result, the sector currently faces a stronger need to react to the competitive environment.

2. Materials and methods

SWOT analysis is extolled as an effective research methodology for strategic planning and strategic management. Methodology, as a research system, is the one that teaches us to use methods, according to the rigors of a methodology appropriate to the subject of research (Ristea and Franc, 2009).

The scientific knowledge of social facts, phenomena and processes are accomplished with the help of clearly defined concepts, using rigorous research methods and techniques, verifying hypotheses or following the objective description of social life (Chelcea, 2007).

SWOT analysis is a method, which can be used for gaining an overview of a social system (for example education) by assessing internal and external factors that affect the system and that allow highlighting its strengths and weaknesses in relation to the opportunities and the threats existing in the institutional environment (Daniela, 2017). Therefore, SWOT analysis can be used effectively to build competitive strategy. Multiple authors from different

3. Results

In accordance with the System Approach, education as a system are wholes and it interacts with their environments and consist of various sub-systems (Pahl and RICHTER, 2009).

In this sense, an education system exists in two environments, one being in itself and the other being outside. It is a necessity to analyses these environments to determine strategies for education in the digital age. Eventually, SWOT analysis is the most appropriate method of identifying the best strategy (Gurel and Tat, 2017).

Table 1 presents a high-level synthesis of eight trends, categorized within the format of a classic SWOT analysis.

Table 1: SWOT analysis of current key trends impacting education

Strengths	Weaknesses
An essential source for a society's talent and innovativeness - Institutionalized public service with a societal mission; - Important provider of knowledge and innovation;	**A substantial delay in entrance of business practices into higher education** - A tradition of being a public service financed and protected by the State

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Strengths	Weaknesses
National driver and global ambassadors higher education as a domestic resource, engine of growth and economic recovery; - International expansion and global knowledge dissemination	**Low responsiveness to changes within the corporate world** - Little adaptation of programs and curricula to recruiters' needs and job expectations
Opportunities	**Threats**
Fast-evolving educational environment through digital technologies - Development of new markets, potential productivity gains, and branding possibilities - Advancement of both general knowledge and the network society **Rapid transformation encouraged by sociodemographics** - Millennials seeking augmented educational experience - Growing and changing student population	**A continuous decrease in public funding** - A necessity for external fundraising and increased self-financing - Need for the marketization of education, potentially lowering academic standards and quality **Increasingly competitive environment** - Domestic deregulation leading to new market entrants - Globalization broadening competition to an international scale

In the era of globalization, knowledge, research, and innovation are becoming increasingly important resources, and these developments are influencing the societal role of universities (Välimaa and Hoffman, 2008). Furthermore, in a global market in which national economies compete with one another, educational institutions are key players in enhancing the positions and reputations of their respective countries by fostering innovation, supporting the economic growth their countries, from the one hand. But on the other hand, education institutions strive for internationalization, as a source of opportunities and resources. Moreover, for countries importing foreign students, international education is a lucrative business. This trend of internationalization suggests that we will observe increasing competition at institutional, national, and international levels.

To compete in the marketplace, education organizations are required to engage in increasingly complex marketing activities, encompassing multiple targets, media, and geographies. As a result of such marketization of the education sector, management approaches and practices that are typical to private sectors are increasingly being applied to universities. But these trends entail serious risks of decline in the quality of education and research. And this is the main weakness (Pucciarelli and Kaplan, 2016).

As we can see from the SWOT-analysis table digitalization gives the greatest benefits for the education system. The advancement of the digital environment is an enormous opportunity for those education institutions able to leverage digital technologies for their own benefit, for example they provide new channels for growth through borderless, virtual education, which can enable education institutions to address the increasing demand for education worldwide, a demand that cannot be fully met solely through offline channels (Friga et al., 2003). Digital solutions can also

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contribute toward cost reduction, as the transition from physical to digital solutions can improve efficiency and save costs EPRS (2014).

Another opportunity faced by the education sector relates to sociocultural and demographic trends, including an influx of tech-savvy students, and general growth in education demand and diversity in student populations. The strategies of education should address these developments.

The main threat to the development of the education system is decreasing public funding for universities. The deregulation of the education sector has increased universities autonomy, self-organization, and accountability (Hoecht, 2006), yet it has also facilitated some level of privatization of the sector and entrance of new players. This trend, coupled with the digitalization of education, has made competition in the education sector even more stringent. Universities need to compete in a crowded, global marketplace (Schofield et al., 2013), and the consequent need to market themselves to attract students, and thus to maximize revenues, has led many educational institutions to adopt a more consumerist approach, catering more to students wishes. This trend, however, has negatively impacted academic standards and threatens future academic quality.

So, a detailed examination of the strengths, weaknesses, opportunities, and threats suggests that the education sector must respond to the following three core challenges:

1. Enhance education institutions prestige and market share in a global educational market.
2. Embrace a deeper entrepreneurial mindset, with corresponding modus operandi and decision-making approaches.
3. Expand links, interactions, and value co-creation with key stakeholders.

Benefits and challenges of digital education

There are different benefits and challenges for the various types of stakeholders involved in digital education, such as education providers, businesses and employers, government and individual learners and students.

One of the most important benefits for education providers is that IT-technology makes education more efficient, scalable and accessible. Learning and training providers could reach more isolated learners and tailor the experience to the needs of the individual. Digital technologies could drive collaboration networks between providers, improving value for money, as well as innovating to meet specific demand. But the core challenge for the learning system and education providers is the lack of a political system, government regulation and standardization of the digital products will is likely to affect funding and to increase the costs of learning and that of education providers. Also, it will inhibit wide penetrating digital technologies into the traditional educating system.

On the flip side, there could be a high demand, but a lack of supply on the training provider side, with no learning or education provider able to provide the education that is required. Another challenge is the vested interest in keeping the status quo, particularly on the part of higher education institutions that have not yet embraced the opportunities offered by digital education.

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Concerning the benefits for business and employees, the following can be noted. A growing number of businesses and employers have better 'ethical awareness'; they are working to reduce the skills gap and developing employees' skills, which could directly improve their financial and production outcomes, drive down costs and help businesses and employers maintain a competitive advantage. Contemporary education technologies can support and help to overcome this loss of knowledge and experience. Businesses are also keen to incorporate innovation, which can be driven by digital education and can help to increase engagement with the market and customers locally, regionally and globally.

A key challenge for the businesses and employees that was raised is that businesses and employers will push for change in digital education only if it does lower costs or increases revenues. This includes any decision related to investing in either upskilling employees, infrastructure, or the content of digital education. Government is also considered as a part of the challenge, as it lacks understanding of the business models used by businesses. Another challenge related to the current lack of information on skills: businesses and employers do not have enough information about the skills gap to address it. However, in the future, it will become easier to map the skills that already exist and the skills that are being developed, in order to see where the gaps are.

Speaking about the benefits of digital education for the government, the following can be mentioned. Digital education provides the government with the opportunity to increase outreach to more isolated groups of people, to ensure equal access and quality of education, and, overall, to reduce the digital knowledge gap. Also, digital education has the potential to reduce costs by growing businesses and increasing tax revenues was also brought up; however, achieving cost reductions would necessitate investment into setting up an appropriate digital education platform. Engagement in digital education could give the government access to more data, such as the skills and educational attainment of learners, with the possibility of turning this data into feedback and insights for future education. However, the infrastructure that would be required to allow for this type of data usage does not currently exist.

But there are some problems with the current role of the government in facilitating digital education. And the main is the difficulty of bridging the digital divide due to a lack of awareness from policymakers about what is happening in the digital world, and the high speed of development of digital education, both of which impact the development of a holistic strategy, as it takes time to implement and evaluate strategies. For a better balance to be found between what needs to be done quickly and what needs more time to be developed correctly.

A key benefit for individual learners is how traditional and formal education can be transformed into more interactive, exclusive learning for different types of students. IT-technologies can be used to aid learning, also it could be a way for learners to discover the material they wouldn't necessarily have otherwise. New generation notice that using technologies helped them practice and revise. It should be marked also that high quality of digital learning as becoming an expectation because it is

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relevant to what learners use every day. The digital quality of learning technologies should be used as a basis for schools or institutions to improve their standards.

But at the same time, there are a lot of challenges related to raising such factors as skills level, buy-in, and exclusion. Not everyone in society has digital skills, the motivation to develop these skills, or an understanding of what they might gain from digital education. Young people can also be put off by the low-level technologies used in schools, compared with the high-quality digital content that they are used to outside school. More needs to be done to provide evidence regarding digital education and its benefits. Also one of the crucial challenges relates to the affordability of technologies, where exclusion can occur based on access to technologies (Grand-Clement, 2017).

While digital education can be a tool for inclusion with the traditional learning system, there are a number of barriers to inclusion which go beyond the use of, and access to, technology. For instance, the lack of digital skills prevents citizens from accessing digital education. Highly-literate people are more skilled with, and confident using, technology, compared with illiterate or people with limited literacy. The same people who are excluded from education, therefore, have a higher chance of also being excluded from digital education. At the same time, the lack of clarity around the value of digital tools results in a lack of motivation on the part of the individuals in considering or accessing digital education.

In adults, the impetus to engage in training and learning is often a desire to change something – for example, to upskill or to enable a change of job. Even though some adults are interested in education and technology, but they are rarely fully integrated into the digital education market.

4. Conclusion

The digital world is increasingly penetrating the education domain, with IT-technology gradually being used to deliver education, knowledge, and skills in new and innovative ways, for instance, such as personal learning clouds. This penetration is coupled with future changes to the model and pattern of work, which are themselves affected by the uncertainty market economic, as well as by political shifts. Given the increased use of fast-changing digital technologies in the workplace, new skills needs have emerged. The use of these technologies has contributed to transforming learning and skills development into a lifelong process.

Regarding the roles different stakeholders have to play in the field of education provision in this digital age, there is individual responsibility to continuously upskill and renew one's knowledge, as well as a wider responsibility across government and businesses in terms of making learning and the education system accessible, efficient and relevant. There is a need for digital skills to be better integrated into formal education and lifelong learning opportunities, in order to provide citizens with the tools they need to succeed in everyday life as well as in potential future careers. Many types of research pointed that younger generations are in the main more digitally literate than previous generations and because more and more information

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is now available online, the role of teachers is changing towards being more of a guide or mentor.

As for government and businesses, they have an important role to play in encouraging greater use of digital technology in learning. It is important to recognise that the future should not be driven by technology. Rather than being an end in itself, the use of technology should be a tool to improve learning and outcomes for individuals by making learning more adaptive and flexible. Further research is required to identify the skills needed today and to predict where skills gaps and shortages may develop.

In order to affect change in the era of digital education, government, businesses and industry need to work together to ensure that digital education, in the greater sense, facilitates accessibility and wider societal inclusion, so that every individual learner, of whatever age and background, has access to the opportunity for digital learning and the benefits which digital technology can offer.

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THE ROLE OF EMPATHY, ANXIETY AND PERSONALITY IN PURCHASING DECISIONS CAUSED BY ADVERTISING

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Abstract: *Today's trend in marketing research takes little into account the role of enduring personality traits and momentary emotional influence in customer decisions. This research is looking for an answer to the fact that consumers who, by their own admission, consider advertising to be an important factor in their purchasing decisions, the personality and the attitude of their emotional attitudes have the capacity to do so. The following results were given by filling out a valid personality and empathy test involving 965 people. Those who consider advertising to be important insecurity, shyness and vulnerability, as well as emotional instability, characterise individuals who feel uncomfortable and have anxious or live on the desire to help endangering themselves. In an empathy situation, elevated arousal causes high levels of anxiety, sometimes too much, but this is not only a momentary state, but these individuals are generally characterized by extreme emotional responses.*

Keywords: *empathy; anxiety; personality; purchasing decision; advertising.*

JEL Classification: *D83.*

1. Introduction

Theories that tried to categorize human nature according to a single trait, have not proven fruitful. Among these, is the simple theory of altruism, according to which, humans are driven by the desire to do something good, and help to each other without counting on any kind of repayment (Trivers, 1971).
Two large groups of later theories trace altruistic behaviour to internal and external factors relative to the individual. The former standpoint is represented by the psychoanalytic approach. According to this theory altruistic behaviour may occur in two ways: one way is a healthy identification with an altruistic figure, the other is turning anxiety and guilt into altruistic behaviour. The early relationship between the caretaker and the child is determinative in these two possible cases for the development altruism. The identification with the generous, helpful mother will develop the adulthood assistance, while the lack of help and gift in childhood will lead to the neurotic form of altruism (Nielsen, 2017).
Ethology gives an explanation for another internal reason for altruism. Altruism has a survival value, which does not limit to the individual, but extends to the family – for example the „selfless" parental help to the child – moreover the whole species: help for a stranger. So it is not the individual's but rather the genes survival is important (Dawkins, 2016).

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The situational approach to altruism is represented by the learning theory. Similar to the psychoanalytic theory, the presence of the altruistic figure is also important in the learning theory, who in this case acts as a model. The helpful attitude develops through the effects of the rewards and punishments and is dependent on the reactions of the individual toward these effects (Caprara et al., 2000).

During the turning point from the 70'-s into the 80'-s the interaction model started to spread about, which focused on the correlation between the inner dispositions and the outside factors (this way the model's structure resolved the earlier nature-nurture debate too). The internal emotional conditions, and the mood affects the helper's behaviour, at the same time the biological aptitude is influenced by learning and development, even the helper's behaviour is developing. So in an exact situation, another's tough situation evoke an increased internal state – an arousal – which in itself is not sure to lead to a helpful behaviour. A stimuli from the environment is necessary, which the individual will accept as relevant or reject as a result of a decision making process. The emotional and cognitive components create a dynamic, active unity. (Pervin, 1981).

Next we take a look at Martin Hoffman's theory (2000) about the development of empathy and Takie Sugiyama Lebra's thoughts of Japanese socialisation (Lebra, 1994).

Both author found that altruistic behaviour roots from the early mother-child relationship, but a striking difference is that the former approaches the development of empathy from the side of the child, while the later from the side of the mother, which also represents the fundamental difference in the two cultures.

In Hoffman's theory the child is based on the progressive seclusion of self-other and the empathy development progresses in parallel with it. In the first year of life at the sight of the other's suffering develops the pursuit of comfort. In the second year – at the start of the self-other differentiation – the other's and the self's tranquillization gets in focus. Along the cognitive line the child also experiences a duality in emotions, which is caused by the feeling of his or her own distress and it's reduction, and also the anxiety for someone else's distress. It is a precondition for the development of altruistic behaviour, that the child feels that his need for easing his and the others suffering is connected. This phase is a transition between the initial „quasi egoistic distress response" and the real compassion, what's base is the appearance of the tending to another after the second year.

In Japanese culture the omoiyari (the corresponding of empathy) is at the peak of the moral values hierarchy. Parents are consciously striving to achieve, that the sense of omoiyari takes root in their children. The mother in particular is an embodiment of empathy. She must be selfless and self-sacrificingly indigent. In child-rearing, the child is verbally encouraged to mimic empathy and to responding. She exercise the child, to feel just like her. If this is successful, the child will become susceptible to experiencing her mother's feelings, pain and desires. Then the mother can control him/her. In this way the child's previously uncontrolled, egocentric behaviour – which is otherwise accepted and allowed, as an age-specific attribute – gets under control through becoming the motherly empathy. The child

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abandons such behaviour that would hurt his/her mother's feelings or would make the parents be ashamed of.

Learning empathy also develops the child's social sensitivity towards his/her mother and through her towards others. Later in adulthood it reveals itself in a way, that the person feels obligated to avoid bothering someone else. So the child will become an autonomous being through the empathic upbringing, through the inevitable basis of identity development (Lebra, 1994).

Both theory start out from the mother-child dual union and puts a huge emphasis on the role of the development of empathic feelings in becoming an adult human.

To not just live in the world as a simple „information processing specialist", we need spontaneity, the ability of spontaneous empathy (Buda, 2012).

According to Kohut (1985) with the help of empathy the other person conveys and impression on us, which is similar to the unintentional, intuitive nature of face recognition. The similar nature of empathic tuning and the face recognition roots from the mother-child relationship according to Kohut, and this is where it starts to develop. The child's first experience is the mother's face, which represents empathy, reflection, and acknowledgment, ensuring the healthy personality development. Later the information analysis and cognitive stance develops upon this primeval empathic entity. Kohut calls the former primary thinking process and the latter secondary thinking process. In the individual's life both are present, both are working at the same time and neither excludes the other.

In Kohut's personality development theory the mother, as a reflecting self-object, helps in the transformation of the child's grandiose self-illusion. In Mahler's theory (Mahler et al., 1987) this phase is the omnipotent, shielded mother-child system, which gradually decomposes and the child with the help of the hatching process becomes an autonomous, healthy being through separation and individuation.

In the kohutian theory grandiosity is replaced by idealization. To the child the parent – especially the father – becomes and ideal, which helps develop the child's super-ego. To be similar to the ideal is called ambition. The ideal is an outer, while the ambition is an inner disposition compared to the individual. From these narcissistic sustenance needs (which is the mother's reflective behaviour) develops the transformed narcissism, which Kohut thinks consists of five components. The complex of creativity, empathy, the acceptance of finiteness, sense of humour and wisdom develops in the hope of overcoming self-interest. So the healthy personality carries within itself the childlike empathy, the ideals – like for example the subject of work – accepts the transcendent existence that is beyond the individual, the manifestation of internal relief and the acceptance of the superiority of values compared to death.

The ability of empathy is vital for the everyday life: according to Kohut we couldn't even interpret even the basic movements without empathy – and its psychic counterpart, the introspection. It is indispensable in healing, teaching, even the modern societies play upon this when presenting an advertisement or movie.

The social conditions of the 19th-20th centuries call forth the alienation of individuals. Everything is being automated and speeding up, so there is less time and energy to

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spare for human relations. In the everyday rush, it is the empathy, what can connect people and through connecting relations can provide safety (Davis, 2018).

The emotional state that is congruent with, and was triggered by another individuals' status is called empathy. The state in Batson and Coke's definition is basically the heightened arousal level. The two author's model (ref. Batson and Powell, 2003) is based on this, which distinguishes two phases of assistance. In the first phase the cognitive takeover of the viewpoint (perspective taking) increases the empathic emotional reaction. In an experiment quoted by the authors, the observers who were instructed to take over the viewpoint of the target displayed higher physiological arousal than those who were instructed to watch the movement of the target. Moreover, the former observers labelled the high arousal congruent to the perceived state of the target.

In the second phase the empathic emotion increase the motivation for assistance. In a related experiment the leaders of the experiment varied two recordings. The test subjects listened to a radio broadcast about a girl's sad fate. The task of one group was to empathize themselves into the girl's position, the other's to pay attention to the technique of the broadcast. In the other recording, the test subject's received a soothing, or rather stimulant placebo. As expected, the test subjects who linked the heightened arousal levels to the girl's emotions were the ones who were instructed to emphasize and thought they had received a stimulant.

So the sight of another person's suffering creates a physiological reaction, which the individual will label congruent to the observed person's feelings, which will then result in a motivation to reduce the victim's suffering.

Batson et al. (1981) in an earlier experiment tested the theory, whether aid is motivated by egoism or if genuine help exists. According to Hoffman's empathy theory both have a basis in the early personality development. Experiencing one's own distress – in other word the observer's own arousal – can result in the observer trying to reduce it using aid only as a tool.

So in the case of egoistic motivation the goal is to reduce distress via aid or escape, which was caused by the sight of the suffering individual. The former is chosen by the observer, if the latter would invoke more negative emotions like distress, like guild or shame. So if we increase the intensity or number of negative consequences of escape then the degree of wanting to aid will increase as well. But if we decrease the consequences, the will to help will decrease as well. Altruistic motivation on the other hand is independent from the consequences of escape, because in this case the observer want to reduce the other's suffering.

Batson et al. performed to experiments related to this topic. In the first experiment the test subject had to watch a girl being electrocuted. The leaders of the experiment varied two conditions: the similarity vs. dissimilarity between the observed individual and the test subjects and the easy vs. difficult escape condition. In the case, when the test subject was informed, that the observed individual was like him/her, the result was altruistic help, while the variation of the other condition had no effect on the test subject. But in the other case, when the test subject and the observed individual were different, which called forth an egoistic motivation, the sight of the

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observed individual's bigger pain (more electrocution – harder escape condition) resulted in help.

In the other experiment instead of the similarity condition, they varied the condition of empathic concern attributed as placebo or the condition of distress. The results supported the claim of the first experiment: in the case of the distress condition, where the motivation was egoistic, the rate of aid given was lower in an easy escape situation than in a hard one.

Starting out from the aid motivated by egoism and altruism, relating to Hoffman's empathy development, newer research of empathy resulted in a multidimensional approach (Davis, 1983).

Global empathy can be characterized by its four aspects:

- uptake of perspective, which means taking on another perspective for example in an argument,
- fantasy, during which the individual imagines him- or herself in the situation of a hero from a film or novel,
- empathic concern, which expresses sympathy toward another, and
- personal distress, which grabs on the individuals discomfort and anxiety in a tense interpersonal situation.

Davis worked out the Interpersonal Reactivity Index (IRI), in which each of the four component makes up a subscale. In his investigation he analysed the relationship of the four IRI scales and the 5 constructs related to it: social competence, self-assessment, emotionality, sensitivity toward others and – only with an intention to orient – intelligence. These relate to the IRI scale through theoretical or logical ways. Taking on a perspective correlated positively with social competence, self-assessment, the understanding of others and negatively with self-centred sensitivity (which means, what impression the individual creates in others). The fantasy indicator correlated positively with verbal intelligence and emotional reactivity, and in the case of men with sensitivity. The empathic concern correlated positively with the understanding of others and emotionality. The distress correlated positively with timidity, social anxiety, the emotional vulnerability and the self-centred sensitivity toward others.

One of the factors influencing purchasing decisions is the personality of the customer. There are models present, which describes and analyse customer decisions as communicational process (Pólya, 2019), but also others which put family on the forefront (Horváthné et. al., 2012), or operationalized research which takes one aspect of personality into account (Agárdi, 2019, Korpás and Szabó, 2019, Szentesi, 2007, Szakács, 2016) However little is said about customer personality, or it is interpreted one-sidedly in general, with little attention payed to the deeper psychological analysis of the personality.

In marketing research the examination of empathy appears in two areas. One of these is personal selling, where the effect of the empathic attitude of the ones acquiring service or merchandise, and the providers on the sales process is being examined (Delpechitre et al., 2019, Bahadur et al., 2019, Zerbini et al., 2019, Umasuthan et al., 2017, Máté, 2011).

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The other area is the area of the charity ads which build upon empathy at its foundation (Weiss and Cohen, 2019, Bartsch and Closs, 2019, Keskin et al., 2017). This investigation was inspired by Kohut's realization, that empathy is an indispensable condition in everyday life, which advertising takes advantage of. The inquiry is based upon three additives. First, the emphatic arousal (Pervin, 1982) and the statement that the higher arousal will result in a higher degree of aid (Batson and Powell, 2003) Second, linking to this, Hebb's known diagram (Hebb, 1975) about the correlation between arousal levels and the effectiveness of behaviour governing stimuli: the increase of the arousal level above the optimal will cause an emotional disturbance. Third, Davis's results in personal distress correlation (Davis, 1983).

The questioning is this, does the emotional instability of everyday life situations go hand in hand with the personal distress (the heightened arousal created by the experience of another human's suffering) of individuals, who consider the advertisement as an important shopping factor on themselves. In other words: in the case of the individuals who consider ads important, is it the high arousal which seems to be the effect of the situation that is creating the personal distress or the appearance of empathic anxiety, or can it be considered a stable personality trait, which would mean a generally occurring response in situations that require empathy.

2. Materials and Methods

2.1. Test individuals
In the first stage of the research was taken up a questionnaire with 1864 adults. According to the test results the individuals were divided into two groups, the first group professed, that they do not feel ads a decisive factor during their shopping decisions, while the other marked it as an influencing factor. In the following the paper will present the process of examination and the results of this group. The number of elements in this group is 965 individuals.

2.2. Tools
To measure empathy and anxiety was utilized Davis' IRI scale (Davis, 1983) The test individuals had to decide about 28 questions how much it applies to them and indicate this on a five degree scale (0 = doesn't apply, 4 = applies much). The questionnaire contains both direct and converse statements. The score given for the statements equals the numbers given by the individual. The subscales must be summarised separately. Each subscale contains seven statements, so 0 to 28 points can be given.

The personality was measured with the Big Five personality test (Caprara et al., 1993). The questionnaire contained 132 items, and answers were required on an agreement scale of 5, the scoring was the same as previously. The five personality factors were divided into subscales of two by the authors, and they also added a scale measuring desirability, which shows the test person's tendency, to distort his

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or her own self concept because of the desire to be approved by others. Each scale consists of 12 items.

2.3. Procedure
Test individuals filled both the questionnaires on the same occasion, first the Big Five, then the IRI. There are instructions on both the questionnaires, and the tested person fills the answer sheets alone.

3. Results

The test individuals' average results and standard deviation are the following:

Table 1: The test individuals' averages and standard deviations for each subscale

		Average	Deviation
IRI	Fantasy Scale	14.5	6.75
	Perspective Taking	17.05	5.13
	Empathic Concern	18.05	6.32
	Personal Distress	17.45	6.27
Big Five	Dynamism	36.6	5.97
	Dominance	36	5.87
Dynamism + Dominance	Energy (Extroversion)	72.6	10.24
	Cooperation	44.3	4.84
	Gallantry	40.4	5
Cooperation + Gallantry	Agreeableness	84.7	8.67
	Accuracy	39.4	8.13
	Endurance	40.3	7.54
Accuracy + Endurance	Conscientiousness	79.7	13.14
	Emotional Control	44.15	11.15
	Impulse Control	38.6	9.7
Emotional + Impulse Control	Neuroticism	82.75	18.83
	Openness to Culture	41	6.99
	Openness to Experience	39.95	6.62
to Culture + to Experience	Openness	80.95	12.33
Social Desirability	Social Desirability	38.2	4.53

Own source, own editing

There was also correlated the IRI questionnaire's subscales with the Big Fives' subscales. The correlations turned out to be the following between IRI and the divided Big Five subscales:

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Table 2: Correlations between subscales

	Fantasy Scale	Perspective Taking	Empathic Concern	Personal Distress
Dynamism	0.145072	-0.01477	0.275429	0.017721
Dominance	-0.01197	-0.02446	-0.18878	-0.20031
Cooperation	0.072596	-0.08543	0.311216	-0.1401
Gallantry	0.454077 *	0.14066	0.450781 *	0.146761
Accuracy	-0.10838	-0.1719	0.057953	-0.27
Endurance	0.073451	-0.10916	-0.02463	-0.15441
Emotional Control	0.337662	0.096419	0.612521 **	0.645136 **
Impulse Control	0.127894	0.113519	0.375607	0.338103
Openness to Culture	0.158492	-0.3168	0.14418	-0.18857
Openness to Experience	-0.11486	-0.19808	-0.05905	-0.25425

(+ $p<0.1$, * $p<0.05$, ** $p<0.01$)
Own source, own editing

The correlations between the IRI subscales and the five personality dimensions and also the Social Desirability:

Table 3: Correlations between Personality traits and Empathic characteristics

	Fantasy Scale	Perspective Taking	Empathic Concern	Personal Distress
Energy	0.077728	-0.02263	0.052392	-0.10447
Agreeableness	0.302511	0.033481	0.433779 +	0.006491
Conscientiousness	-0.02494	-0.1691	0.021746	-0.25581
Neuroticism	0.265803	0.115564	0.556143 *	0.556134 *
Openness	0.02816	-0.28601	0.050026	-0.24348
Social Desirability	-0.12754	-0.44208 +	-0.32972	-0.41137 +

(+ $p<0.1$, * $p<0.05$, ** $p<0.01$)
Own source, own editing

For the sake of orientation the correlation was also looked at between the subscales in both the questionnaires. In the IRI between the Fantasy Scale and the Empathic Concern, and also between Fantasy Scale and Personal Distress the correlation is significant. In Big Five the most significant correlations were between Energy – and in it Dynamism –, Conscientiousness, Openness – and in it Openness to Culture – and Social Desirability subscales.

4. In conclusion

It can be seen from the table of those who consider advertisement as an important factor, that there is a significant positive correlation between Neuroticism – and within it the lack of Emotional Control – and the Empathic Concern, furthermore the

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Personal Distress. So this means that in situations that require empathy, the use of altruistic or egoistic empathy depends on – and comes with – how high the observing person's neuroticism is, so in general, in emotional situations how much he/she gives into his/her emotions without controlling them.

The correlation between the Gallantry and the Fantasy Scale and Empathic Concern scales is significant, and tendentious between Friendliness and Empathic Concern.

The Perspective Taking and Personal Distress correlates negatively with Social Desirability. The observer who cannot really take over his opponent's point of view in an argument, or feel less anxiety at the sight of another's suffering will take social demands in consideration much more. Society demands attention and the facing of those in need, so it would imply, that there is a positive correlation between Social Desirability and Perspective Taking. It is also possible, that someone who lies, lies exactly that he/she doesn't feel anxious, in order to protect him- or herself. Such distortion is imaginable in favour of self defense. The result is strange, but the relationship is tendentious. A new survey would perhaps yield a different result.

Summarized: looking at the personality factors and the IRI scales, Social Desirability shows a negative tendency toward Perspective Taking and Personal Distress, also tendentious is the relationship between Agreeableness and Empathic Concern. In accordance with the expectation a significant positive relationship can be detected between Neuroticism and Empathic Concern, and Neuroticism and Personal Distress. We have to be careful with the interpretation, because we can easily make a mistake by taking the high degree of neuroticism as a cause for altruistic or egoistic empathizing. The results only show that the two empathic approach comes hand in hand with emotional instability.

In the case of those who deemed ads important, next to uncertainty, timidity and vulnerability also instability describes those individuals who at the sight other's suffering will feel discomfort, anxiety or by even putting themselves in harm's way experience the desire to help. In an empathic situation the heightened arousal cause high – at times too high – levels of anxiety, but this is not just a momentarily state, rather these individuals are prone to extreme emotional reactions.

5. Acknowledgements

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AN INNOVATIVE EDUCATION SYSTEM AT THE UNIVERSITY OF DEBRECEN

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Abstract: *The paper seeks to summarize opportunities offered by the University of Debrecen (UD) for the further development of students' innovative ideas to enter the marketplace, and to identify the essential links of the university's innovation ecosystem resulting in mutual benefits at local, regional, national and international levels. As a part of this programme in 2010 the innovative Finnish higher education system (Tiimiakatemia – Team Academy) was launched at University of Debrecen Faculty of Economics and Business, which was also awarded by OECD and has been run at JAMK University of Applied Sciences in Jyvaskyla since 1993. In this system, we create team entrepreneurs who must work together in teams. Our Team Academy Debrecen's mission is to provide business training that develops entrepreneurial mindsets and self-awareness through practice-oriented and innovative approaches to the requirements of the modern age, creating opportunities for individual fulfillment, responsibility for themselves and the community. During the training, we focus on developing the following skills and abilities: developing team entrepreneurial skills, being able to teamwork, adapting to new environments, being able to co-create to build communities. Team Academy Debrecen learns new approaches and methodologies by putting them into practice take full responsibility for their actions and decisions learn from their mistakes, be open to new ideas. We believe they can learn faster and more through international cooperation. Author of this study work as team coach in Team Academy Debrecen. In the last 8 years, we have worked with several teams and experienced how group dynamics present at the teams and change through the learning process. We have faced with great storming period at different teams and managed to build high performing entrepreneur teams as well. Our experiences are introduced as case studies, after analysing, consequences will be concluded. As in the EFQM model we can find that to survive in the global competitive markets companies need the best teams for the best results.*

Keywords: *high performing teams; Team Academy; higher education; learning by doing; innovation in education.*

JEL Classification: *I23.*

1. Introduction of our University

The University of Debrecen is more than four hundred and fifty years old, it is Hungary's oldest higher education institution operated continuously in the same city and as one of the largest educational centres of the country it is a central player in Hungarian higher education. It has outstanding educational, research, and innovation capacities in international comparison as well and based on these it plays

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a major role in the realization of objectives of national strategy. It is also one of the top 500 universities in the world. The student community of 30,000 can study in 14 faculties, in institutions of excellent scholarly standard. As a leading university it is known in Hungary as an intellectual centre providing the widest spectrum of educational programs while also closely cooperating with the private sector, the business sphere, and the local government.

Background

We will inevitably meet countless groups and teams throughout our life. We begin to experience this as early as childhood, but then instinctively drifts unconscious. Feelings of loneliness are constantly alternating inside, as the effects of the accumulated environment are processed and the desire to connect to a subsystem where information, experiences and feedback from our environment are constantly being collected. As we become more and more interchangeable, we find ourselves in a variety of artificial (school, sports, neighbors, etc.) and natural (family, established friendships, etc.) systems, and we become increasingly aware of the need to belong somewhere, since man is basically a social being. The consequences and results of these connections are basically determined by the effects and feedbacks on the person, since the positive effects, the comfortable environment basically provide reinforcement and encouragement, while the negative effects, the panic zone is the feeling of security, absence, withdrawal from the participants.

As a university lecturer, we work with ever-changing smaller and larger groups. In these groups, the nature of the relationship is relatively unimportant, in fact less intriguing to the educational process is that in a well-established supportive environment, it takes place in a frontal way for knowledge transfer or for a completely disruptive group. Over the past 20 years, the quality of these relationships has changed considerably, separating students into smaller clicks. Typically, the unanimity and harmony of the groups disappeared, and the quality of community life drifted in that direction.

The change of the education system into mass education, somehow automatically involved this transformation. In our opinion, the effects of this will also be reflected in quality. It is very important for the motivation of the students that, in fact, individual performance is mostly just one piece of data that has no impact on the community. The developed credit system is quite flexible and gives students the opportunity to get used to the confusion. Typically, written accountability is possible, which relies on lexical knowledge and less on creativity, innovative thinking, and individual attitudes.

The above has become quite contrasting to us, as at the Faculty of Economics of the University of Debrecen we had the opportunity in 2010 to participate in the introduction of a new training system, which is currently being introduced as Team Academy Debrecen. It is a Finnish method of education (original language: Tiimiakatemia, founded by Professor Johannes Partanen in Jyvaskyla, Finland in 1993), which is largely based on Peter M. Senge's Principle 5 on the Design and Functioning of Learning Organizations. Senge, 1994). The system basically means

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training university students into team entrepreneurs. In this system, the individual skills and abilities of the students are emphasized, the development of which is an essential aim of the teaching method. The development of teams is a prerequisite for the operation of the system, where a joint venture will be established during the training period. This educational system is severely interrupted by traditional university education. Students in this system are called team entrepreneurs. The individual creativity and innovative thinking of the students is extremely important. About Innovative Thinking Professor Ikujiro Nonaka and friend Hiroaka Takeuchi carried out a research project in 1970 that looked at innovation processes at Japanese companies. They concluded that the innovation process is essential not only for managing information but also for creating, using and maintaining knowledge (Nonaka & Takeuchi, 1995). This is what we are trying to bring to the forefront of our training system, allowing space for members to develop this ability. We are trying to establish and support teams of students, who work hard on different projects beside the university. This is a real learning journey for them.

It is important to make it clear what is the difference between group and team. Rudas defines the group as a kind of cooperation between members who perceive each other directly, and they do interactions with each other regularly (Rudas, 2016). While the team consist of persons who have common tasks and aims, and they dependant of each other mutually from the aspect of information, resources and capabilities. They integrate their strengths to fulfil their common goals. The roles and rules are known and accepted by everyone. The boundary of the team is clear for all the people in or out of the team (Horváth - Szabó, 2017).

Teams work side-by-side on their own business ventures and projects, not in classrooms, but in open offices. The focus is not on education but on learning, so it is not the trainers but the team coaches who help / support the work and the acquisition of knowledge. The focus is not on learning theoretical models, but on executing real business / projects that they manage themselves. The self-development of individuals is in everyone's interest, as their team and their businesses can only grow, succeed and succeed along these lines. Sharing this knowledge in the form of dialogue, and then crystallizing it and trying it in one's own business, is essential to fully realize the principle of 'learning by doing', which has a synergistic effect (Nonaka & Takeuchi, 1995; Lehtonen, 2013).

Building and developing teams is essential in this training system. The boundaries of the team need to be defined quite precisely as it is essential for the participants to know who is in the team or who is not.

Team coaching has been defined by many in recent years. According to Goldberg, team coaching contributes to improving team efficiency by generating immediate and better results through practical action-based interventions (Goldberg, 2003). While Clutterback believes team coaching is a learning intervention that raises the ability and performance of the group or team. For this, team coaching applies the following principles: assisted reflection, analysis and motivation for change (Clutterback, 2009; Berne, 1996; Horváth, 2012). Team coaching is a development process where we work with the entire team to make them more efficient.

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Team Coach has a key role to play in this regard, which requires continuous monitoring, data collection and interventions based on the data collected. It is important to keep track of which of the 5 steps Tuckman defines and what can help the team to advance to the next level (Tuckman, 1965). What kind of environmental influences affect the team that can result in changes in the team's performance. The effects of changes affecting each team on performance and results. Throughout the training, we want to develop individually performing, well-performing teams in which outstanding individual performance can determine and synergistically reinforce team-wide results. The system's built-in self-evaluation, feedback, and Tem Academy Q47 quality control method provide sufficient motivation for teams to continually improve. When researching teams, we try to take into account the structure and aspects of the model as a result of the university's research on "Extending the Toolkit for EFQM Model Criteria and Possibilities for Model Development" (Gályász et al., 2016).

In this study, our aim was to explore how we can harmonize this innovative new training with the newly built dual education system.

2. Innovation in Education

Innovative higher education presents fresh ideas in higher education in a clear and readable way. Describe and evaluate the characteristics of innovations and provocative new ideas relevant to action beyond the immediate context of higher education. It also focuses on how these innovations affect teaching and students. Innovative Higher Education also includes a variety of scholarships and research methods, while maintaining flexibility in the choice of topics that are considered appropriate. It creates a balance between practice and theory.

Innovation in education involves working with colleagues on a continuous basis - redesigning the teacher's lesson plan at the last minute, because there was something else you just had to try, the direction of the class changed, because the students are leading the education. "Innovation in education occurs when educators ask," How can I make this real, relevant, interesting, student-centered, and personalized?

2.1. Basic Components of Innovation:
Here are the basic components of innovation:
- the purpose of change: development
- change will positively influence current practice
- direction of the changes: Innovation is essentially a bottom-up
- innovation and network are mutually exclusive categories
- important component is partnership, interaction
- in innovation, change is legitimized by success, utility, or result
- the evaluation, which is almost continuous in the case of innovation

All but one of the core components mentioned above can be found in our educational system mentioned in this article.

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2.2. Why is the innovation important in the education?
Numerous studies by the OECD have identified the need for innovative approaches to education. The OECD position on the role of innovation in education can be seen below:

- in an innovative, inclusive and supportive education systems are higher standards of teaching
- innovation has the effect of increasing efficiency
- providing students with skills that will equip them for entry into the labour market - this is the key to competitiveness (OECD, 2019).

The Finnish-based education system is fully in line with the OECD requirements. The following describes how the adapted education system can be harmonized with the new dual education model in Hungary.

3. Team Academy Dual Educational System

3.1. Our Mission
Team Academy Debrecen's mission is to provide business training that develops entrepreneurial mindsets and self-awareness through practice-oriented and innovative approaches to the requirements of the modern age, creating opportunities for individual fulfillment, responsibility for themselves and the community.
Our tools are to develop team entrepreneurial skills, to become capable of teamwork, adapting to new environments, working together, building communities. In Team Academy Debrecen we learn new approaches and methodologies by putting them into practice. We are looking for new challenges. We take full responsibility for our actions and learn from our mistakes. We are constantly developing our skills and abilities to be open to new ideas, to take responsibility for our decisions. We learn faster and more through international collaboration.

3.2. Our vision
Make the University of Debrecen the center of modern business education and leadership training.

3.3. Our target group
Our target group are primarily citizens of the University of Debrecen, including students from different faculties, teachers, researchers and employees. Second, the growth companies around us, the lifelong learning thinkers, the modern management aspirations.

3.4. We are not…
It is important to emphasize the areas where Team Academy does not work alone and thinks with its partners. Team Academy does not give a profession, it does not give a comprehensive and in-depth knowledge of a field, because the accredited

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courses and other courses at the University of Debrecen are perfect for this. Team Academy is not a start-up incubator, it's not our goal to build international success stories, but team entrepreneurship training is a tool for acquiring the knowledge that we have.

3.5. Dual training program as a Future Leadership Program

Team Academy training can finally be combined with an excellent educational format. Dual Masters allows students to acquire competitive skills in university education from Monday to Wednesday, which they can not only try but also live and deepen on Thursday and Friday as part of their own team business. This way you can work on building successful companies by the end of your training, or by living the experience of your own business, they can be valuable leaders in any industry.

3.6. Skills provided by the Future Leadership Program

Our program focuses on developing the following skills and abilities:
• Teamwork (teampreneur): In the real world, you always have to work in teams, whether in leadership or subordinate roles. Formal university education is less prepared for this, so it is perfectly complemented by our education. Everyone tries and puts himself in teamwork, knows how comfortable he is in leadership and what he needs to develop to become an even better team leader.
• Owner mentality: helping the joint venture and fulfilling the commitments and roles it has for the team as a whole.
• Test leadership roles: constantly changing positions during the 2 years of training.
• Presentation skills: Report regularly on team and team progress on a personal and team level.
• Importance of lifelong learning: We develop a number of international business books during our training, the reading and daily use of which is incorporated into graduates' lives.
• The students improve their strategic thinking.
• They have the possibility to try out the decision-making, and different type of decision-making methods.
• We give them continuously feedbacks.
In our program, they also can experience the coaching based leadership.

3.7. Educational structure of the program

• Monday through Wednesday, students are in the majors of their dual master's degree program.
• Thursday and Friday morning IOC training by Team Academy coach instructors or external trainers.
• Working on their joint venture on Thursday and Friday afternoons and at any time during the week in the IÖK community office space.
• Quarterly milestones are reported to the Team Academy Supervisory Board.
• Teams regularly test themselves at various idea competitions.

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3.8. Team Academy Supervisory Board (TA FB)

A monitoring committee of university and external experts would be set up so that training teams could regularly present themselves and their achievements, reporting on progress and the usefulness of the training.

3.9. Mentoring

The 2-year masters course would be supplemented by a weekly 2x4 workshop, plus 10-20 hours a week to build their joint venture. In addition to the workshops, there would be regular external and internal mentoring.

Internal mentoring: Team Academy coach coaching classes have the opportunity to bring in individual problems and team-level team coaching sessions monthly.

External Mentoring: involvement of a mentoring network and periodic meetings and mentoring between successful entrepreneurs and students in entrepreneurship training

Alumni Mentoring: As Team Academy training has a history in Debrecen, we would occasionally provide teams with the opportunity to learn, ask, and chat with our alumni who have had successful careers with us.

4. In conclusion

In line with our experience of the past 8 years, team coaching has a place in university-level education. Team entrepreneurial skills can be excelled through team coaching tools. There are many examples in the world, as the team academy training system, established in Finland in 1993, has been successful and has now been introduced in more than 10 countries.

Due to the nature of the university environment and the fact that the participants in the process are university students, this is a slower but much deeper learning process compared to business life.

Recently, a Bsc-level training system at the University of Debrecen has found that 1.5 years is not enough for this type of skill development, as teams can only progress to the "norming" phase in Tuckman's team development phases and thus have no chance of performing. stage to benefit the teams. The efficient and effective support of a team coach is essential for the teams to progress through each phase.

To become a true team, trust, credibility and coach stability are essential. It is essential to create a safe environment for participants, which can help to clarify the framework.

In our training system, the storming phase occurs in the second semester when things get serious, especially when they are already out of the first setback. Here, tensions within a team can arise if individual members put their individual interests ahead of the team.

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INDUSTRIAL ENVIRONMENT SELECTION BY SOURCING STRATEGY IN THE CASE OF NORTH AFRICAN COUNTRIES

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Abstract: *As companies struggle to increase the number of customers, their strategic sourcing plays a vital role in the maintenance of their improving performance. The paper attempts to determine those macroeconomic factors (i.e. energy consumption, climate change, political stability etc.) for the international industrial companies that can contribute to the required quality and price of the goods produced in each examined countries. The indicators proposed are based on the World Bank's competitiveness and governance pillars. In this study, the valuation of the listed factors based on automated ICTs technology. The assembly of the Robotic Process Automation (RPA) system is concentrated not only to collect the current information it is needed to compare the relevant aspects of the selected indicators but can support decision making or forecast trends for suppliers. Results clearly indicate which countries are recommended for the investments or searching of potential suppliers. The findings of this study also should make an important contribution to the field of supply management to identify future trade routes*

1. Introduction

As companies struggle to increase the number of customers, their purchasing and supply chain management (SCM) plays an important role in the maintenance of their improving performance. Investigating the supply and value chain is a continuing concern within the market competition in the case of industrial firms. The procurement management is able to translate corporate objectives into specific supply chain goals contributing to corporate strategy. However, these goals serve as a crucial driver for both strategic supply processes and detailed categories, such as specific action plans that are achieved through business relationships with suppliers (Monczka *et al.*, 2016).
However, SCM is influenced by different disciplines, i.e. bits and items of industrial and systems engineering; supply, procurement and operations management; data technology, etc. The issue has grown in importance in light of recent effects of recent (ICTs) industrial revolution when dealing with the supplier's effort to implement total quality management principles, and its capacity to adapt changes in the customer's requirement, etc. (Bevilacqua and Petroni, 2002) flexibly.

In recent years, there has been an increasing interest in defining a corporate purchasing strategy is meeting quality, cost and delivery (QCD) requirements (Berk, 2010). QCD analysis as novel management approach originally developed to support firms within the British automobile sector is used to assess different components of the production process and provides feedback in the form of facts that aims managers to make logical decisions. If one of these three conditions is inconsistent with each other, then the level of customer satisfaction will be compromised. For instance, if the delivery costs are on an appropriate level, but the quality is not adequate as it is expected, then customer satisfaction can be violated (Tabor J, 2014). Thus, if the quality and price are accurate, but delivery delayed or not carried to the right address, it will have resulted in the loss of customer confidence. However, a major problem with this kind of application is to maintain this crucial balance, which should be a priority when developing a purchasing strategy (Nair, Jayaram and Das, 2015).

The majority of the European companies procure some of their raw materials and semi-finished products from Asia to obtain these goods at a more favourable price level than local commodity prices (Rosenau-Tornow *et al.*, 2009). The quality of products from the eastern supplier has already required more attention during the initial procurement period. Nevertheless, closer cooperation is also recommended to support the firms' requirements for the expected quality. The quality cannot be easily achieved and maintained by uprising suppliers. Consequently, delivery times may not be kept, because of a long sea shipping time, delivery risks which depend on the involved transport companies (Kovacs and Kot, 2016). In many cases, the schedule of the vessels is purely indicative and cannot be enforced extra costs and losses due to the delivery delays.

The findings of this study should make an important contribution to the field of strategic sourcing of supply management could be the 21st Century Maritime Silk Road (MSR) as the future trade route (Figure 1). In the long run, MSR as an economic corridor can be the sea route part of the new Belt and Road Initiative which is a Chinese strategic initiative to increase investment and foster collaboration across the historic Silk Road with the main goal of improving trade relationships in the region primarily through infrastructure investments (Bhattacharjee, 2015). One of the incentives is that improving Trans-Eurasian infrastructure could bolster global trade to the Europe-China economic corridor.

The paper attempts to determine those macroeconomic factors of strategic sourcing is one of the key processes for the international companies that can contribute to the required quality and price of the goods produced in each examined countries. The rest of this paper is divided into subsections. The next section gives a brief overview of the conceptual frameworks for selecting data criteria and the implied Robotic Process Automation (RPA) methodology. The third section presents the findings of this unique research. Finally, the paper ends with conclusions and implications stemming from the results.

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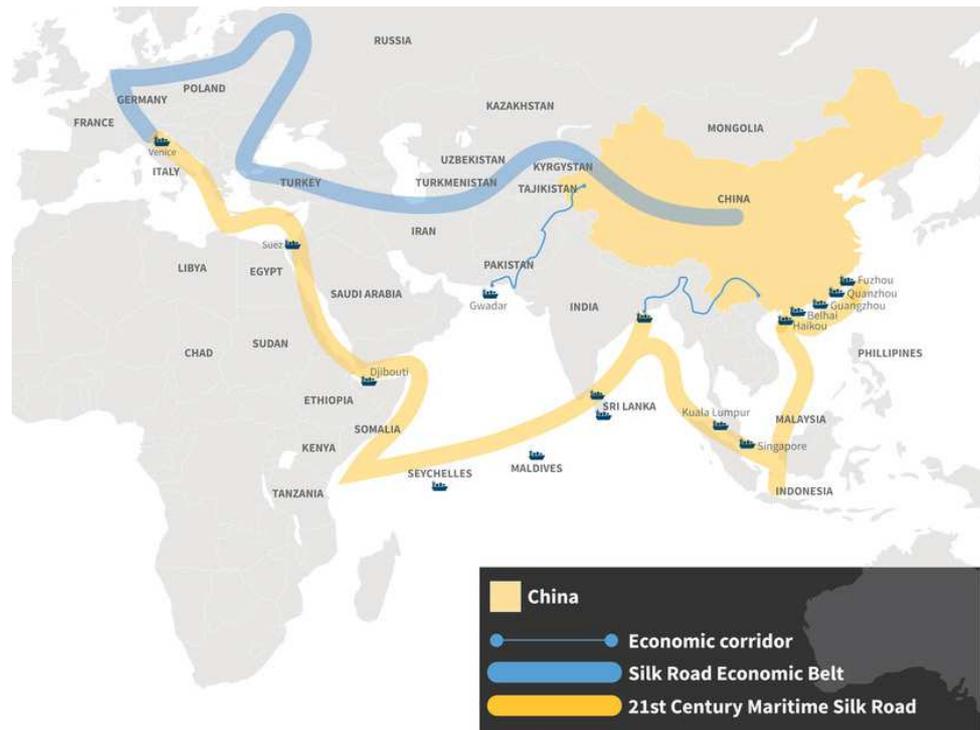
Figure 1: China's New Silk Road (One Road One Belt)
Source: authors' compilation based on Image of Lowy Institute

2. Determination of Data Selection and Implied Methodology

The vital base of business and strategic purchasing is public procurement. More attention that is recent has focused on the provision of procurement as having a strategic influence on the management of the public resources. However, it was mainly treated as a process-oriented 'back-office support function, often implemented by a non-professional staff of the procurement agencies (Zheng, Roehrich and Lewis, 2008).

Strategic sourcing is one of the crucial processes for companies to determine the quality and price of the products. Strategic decisions are also influenced by several local factors need to be taken into account. The indicators proposed in the study are based on the following factors of governance and competitiveness criteria (The World Bank, 2020), (The World Bank, 2019). All data in the analysis reflect on the last available status 2019 (Q1) before making any strategic purchasing decision. Criteria for selecting the subjects were as follows:
Pre-selection criteria:

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1. ***War (battle-related deaths):*** the wage of war within a country or with other countries, it has a significant impact on the economy. Certain products may be subject to embargoes, export or import bans.

2. ***Healthcare/Disease expenditures (% of GDP):*** another competitiveness pillar of social and social security. The provision of healthcare and equipment is of paramount importance in the region. The question is what kind of care and prompt treatment a person can receive in the event of an epidemic or illness.

3. ***Corruption index (%):*** the extent to which acts of law or public morality in a particular country are significant. In exchange for money or other benefits, some individuals or companies gain unauthorized benefits, and market competition cannot be sustained.

4. ***Child in employment (% of the population aged 7-14):*** The International Labor Organization (ILO), which takes action against child labour, declares that goods produced in this form support the black economy.

5. ***Existing Industry:*** in a given country, there is already a company in the industry, it means that there is an experience in that industry with a workforce with the appropriate professional knowledge.

Relevant location factors:

6. ***Political stability:*** the index of Political Stability and Absence of Violence (Terrorism) measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means.

7. ***Personnel costs (Compensation of employee):*** the price level of the minimum wage or salary can have a significant impact on the production price of products in a given area.

8. ***Social and emotional skills:*** denotes social and cultural competence, rules of behaviour, work organization, gender equality, communication, tolerance.

9. ***Foreign direct investments:*** it is one of the most decisive signs of confidence on the part of an external operator, which may increase the willingness of foreign investors to invest*.*

10. ***Economic growth (annual %):*** expected gross domestic product market is crucial for forecasts.

11. ***Education attainment:*** the level of education in the area and the existence of industry-specific expertise.

12. **Population growth (%):** the rate is decisive for long-term labour supply and future demand of each country.

13. **Unemployment rates (%):** the number of unemployed in a given country, with data on age composition, education and, where necessary, retraining by profession.

14. ***Living our values:*** conduct the local, national standards that may apply to products, facilities, life, health, physical well-being and the human environment or workplace, technical requirements, tests, qualification criteria and definitions and specifications of services.

15. ***Logistics performance:*** index measures, i.e. the inland transportation (shipping) costs, warehousing costs, material handling and inventory costs*.*

16. ***Logistics infrastructure:*** index coordinates the organizational and technical tasks of transit in the knowledge of the relevant transport and connecting infrastructure at the time of sale of the goods so that the consignment reaches its destination in the fastest, safest and most economical way.

17. ***Telecommunication infrastructure:*** in the transportation industry, it is essential to have up-to-date information or even an online connection, which requires appropriate infrastructure and a high bandwidth internet connection.

18. ***Real interest rates (%):*** is the amount of interest payable for a specified period. If the supplier invests in new machines, it can be significant*.*

19. ***Inflation index (%):*** highlight the extent of the fiscal deterioration affects the predictability and equilibrium of the economy.

20. ***Exchange rates and prices:*** demonstrates the official currency of a country.

21. ***Energy consumption:*** essential to produce a given product are, i.e. electricity, water, gas, costs depend on the country's power plants and maybe from traditional, nuclear or even renewable sources, if not in sufficient quantities from external sources.

22. ***Research and development (R&D) expenditures (% of GDP):*** the presence of scientific research and development in a given place can have a significant favourable influence on the decision.

Additional control factors:

23. ***Research and development (R&D) expenditures (% of GDP):*** the presence of scientific research and development in a given place can have a significant favourable influence on the decision.

24. ***Customs and other import duties:*** imply a tax liability imposed by states on goods crossing their customs frontiers.

25. ***Subsidies and other transfers:*** are economic stimulus incentives that may have a positive impact on investment, financial or tax incentives, or in the case of greenfield investments, the handover of an area.

26. ***Environmental pollution:*** denotes the country-specific regulations, standards, industry emissions of pollutants, air, water and soil pollution. In a heavily polluted city, living conditions are also affected by environmental pollution.

27. ***Tax revenues (% of GDP):*** the amount of regular taxes and other contributions payable by the state or municipality vary from country to country and are governed by local law*.*

The next step of the analysis is to identify potential targeted countries. In order to minimize transportation costs, North African countries investigated. Namely, Algeria, Benin, Burkina Faso, Ivory Coast, Egypt, The Gambia, Ghana, Guinea, Guinea-Bissau, Cameroon, Cabo Verde, Chad, Liberia, Libya, Mali, Morocco, Mauritania,

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Niger, Nigeria, Senegal, Sierra Leone, Sudan, Togo, and Tunisia. From the North African region, Ceuta and Melilla deliberately dropped out of the study. Ceuta and Melilla is an autonomous city of Spain, the governmental area of which is located on the Moroccan coast in North Africa, but from the scope of this study, it has no strategic or economic importance.

In this study, the valuation of the purchasing listed factors based on an automated ICTs technology that deals with the application of machines and computers to the production of goods and services (Lysenko, Shikov and Bochenina, 2019). The availability of technical capabilities for the aggregation of large amounts of data in corporate information systems leads to the possibility of constructing predictive models of supplier behaviour on the history of their activities (Huang and Vasarhelyi, 2019).

Robotic Process Automation (RPA) has been widely adopted in many industries, to automate well-defined and repetitive tasks. It can be used from automated supplier communication through the production area for order handling, control of maintenance and quality audit documentation, but can still be adopted in the financial and accounting area to allow strategic decision-making more informed (Struckov *et al.*, 2019). The assembly of the system is concentrated not only to collect the up-to-date information it is needed to compare the relevant aspects of the selected indicators but can support decision making or forecast trends for suppliers. Nowadays, not only industrial robots facilitate production, but also business processes can be executed with automated software solutions for repetitive, rule-based, administrative tasks. However, as ICTs advances, they will become more widely available and be combined with artificial intelligence to perform complex tasks (Naveen Reddy *et al.*, 2019). The different examined criteria and the potential automation of sources can be taught by an RPA System (UIPath), to collect data from a particular database and create sequences.

Hence, Robotic Process Automation (RPA) enables automating business processes using software robots. Software robots interpret, trigger responses, and communicate with other systems just as humans do. Robotic processes and intelligent automation tools can support businesses to improve the effectiveness of services with lower cost (Srikanth, 2018). RPA is a software equipped with artificial intelligence and capabilities of machine learning to handle high repeatable tasks that required to be performed by humans before.

3. Results of RPA System based on Selected Location Criteria

A case study approach was used to analyze each of the selected variables and allow justifying validity of results, concerning which countries can be considered as potential suppliers:

1. *Egypt* belongs to the so-called 'Next 11' countries, and will probably become some of the World's largest economies in the 21st. In this country, the proportion of private companies has increased significantly in recent years, that means investor confidence is growing. Automotive suppliers are already present in the country, in the manufacturing (automotive) industry direct

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suppliers must meet stringent quality requirements. For instance, the International Automotive Task Force (IATF) No 16949, which is a global Quality Management System Standard for the industry. IATF incorporates the structure and requirements of the ISO 9001 TQM standard with additional automotive customer-specific requirements (Gruszka and Misztal, 2017). The major employers in the automotive industry are Daimler AG, Leoni, Kia and General Motors (GM); In 2018, Egypt ranked the 21st largest steel producing country with a production of 7.8 million tons.

2. *Algeria* has strong manufacturing perspective in the field of energy (oil and gas) processing and iron and steel industries. PSA concern (Citroen, Renault and Peugeot) already have assembly plants in Algeria and are currently planning to extend. Algeria has many diversified industries that contribute to meet local and import demands. Nevertheless, Algeria has become the second-largest car market in Africa (after South Africa) in recent years; The mechanical industry has existed in Algeria for a long time, with the state-owned company SNVI being the largest producer of buses and industrial vehicles in the African region (European Commission, 2020a).

3. *Tunisia* has been rising steadily for more than 20 years and is considered to be one of the most competitive countries in Africa. However, the crucial branch of industry is the textile and leather industry, mechanical and electrical engineering is becoming increasingly important. Thus, Tunisia is one of the European Union's most established trading partner in the Mediterranean region and ranks as the EU's 30th largest trading partner (European Commission, 2020b).

4. *Morocco* firmly focused on the internal market, but foreign markets are gaining importance and have a rising market for metal and plastics processing and motor vehicle construction. Morocco also has joined the OECD Vision for Education in Morocco 2015-2030 program to improve the education level (OECD, 2020).

Together these results provide important insights into these countries need to evolve with technological progress in order to be attractive to the investors. The forthcoming globalized (COVID-19) crisis is strongly influencing the corporate strategies within the sourcing strategy. However, it is sure that companies will work carefully with investments until they do not realize prosperity. Inside the companies, it is a basic expectation for the ICTs that continuously supports the progress of business activities (Marciniak, 2013). It means that those firms that are operating in the trade environment should become more international. There is constant pressure on collaborating projects via business progress or novel applications to improve the performance of industries (Sipos, 2019).

4. Concluding remarks

In business, almost all processes take place much faster. The smallest time loss can also be the choice between success and failure. Nowadays the importance of information is speeding, supported by the Internet of Things (Nagy *et al.*, 2018), the

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acquisition and speed of this information is not the only achievement is an excessive advantage for companies (Cygler and Sroka, 2017). Responding to specific segments of the industries, it needs to focus on developing digital knowledge in the examined region. For example, the critical barriers to the uptake of e-Procurement are unreliable supply, low level of awareness among people; and the lack of opportunity to exchange ideas, etc. (Kovacs and Kot, 2016).

The most interesting finding of the study was to identify those competitiveness and governance criteria of each North African countries on which industrial sectors related to investment/supplier perspective. Finally, a number of important limitations need to be considered. First, these factors can be reduced, expanded or weighted at any time. Thus, the empirical results are able to confirm a few features of strategic sourcing. Meanwhile, other elements, i.e. in the event of a severe epidemic, health considerations may be further expanded or be given more burden. Hence, the validity of conclusions is restricted by the omitted bias of data.

New investments will strengthen the economic stability of the North African region and may provide a solution to reduce the unemployment in the region, and as a result, the desire to reduce emigration pressure. It also generates marketable evidence in this perspective, if the living conditions of the people in the area improve. All this can be a long-term solution, as opposed to international assistance, which is not only a temporary result. The RPA results can facilitate not only strategic purchasing but also support future investment decisions. In this country-specific approach, further research could be fruitful in these directions. Additional latent indicators should also be taken into account related to the role of corporate governance, food security and sustainable development, etc.

5. Acknowledgements

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EFFECTS OF BORROWED WORDS AND DIFFERENT WORDINGS ON THE EFFICIENCY OF MARKETING COMMUNICATION MESSAGES - THEORETICAL BACKGROUND OF FUTURE RESEARCH

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Abstract: *The aim of this paper is to collect and introduce the related theoretical background, models, and scientific goal of my future research. My aim is to reveal at a further stage of my studies how linguistic snobbery and different wordings influence consumers when choosing specific products. In my research, I will discuss the role of borrowed words in marketing communication and the communication effect of different wording of a message with the same content. A further aim of the research is to find out how consumer relates to borrowed words, whether the consumer is able to decode a communication message that contains a word of foreign origin, and what factors influence the interpretation of the message. There has been relatively little research in Hungary examining the effectiveness of communication messages, and the use of borrowed words has been considered a general linguistic issue in previous researches and has not been considered a paramount factor in communication messages. Specific literature background on the effect of different wording is not available, therefore the related theories and models should be based on several disciplines (neurolinguistics, psycholinguistics, rhetoric, communication and neuromarketing), which will function as the theoretical background for my research. One of the most crucial backgrounds of my research is the integrated marketing communication model, the main pillars of which include the target group, channel focus and results orientation, and the other is Jacobson's language communication model. Roman Jacobson tries to explore the meaning of linguistic communication, characterizes the elements of linguistic communication, assigns functions to communication factors, and communicates with the functions he defines. The basis of my primary research - questionnaire survey, focus group analysis and in-depth interview - includes he integrated marketing communication model: target group, channel focus and efficiency. In terms of the impact of wording, word order and borrowed words on communication effectiveness, I recommend FMCG (Fast Moving Consumer Goods) sector to be examined, as this sector generates the highest advertising expenditure. In terms of target group, I examine the effect above among the LOHAS consumer group (Lifestyles of Health and Sustainability) committed to sustainable consumption. It is expected that, depending on the results of the research, I will be able to make a proposal for communication optimization, and the studies may be adequate to develop a new measurement methodology.*

Keywords: *marketing; marketing communication; IMC; LOHAS; FMCG.*

JEL Classification: *M31.*

1. Introduction

Specific literature background on the effect of different wordings and borrowed words is currently not available, therefore the related theories and models from several disciplines (neurolinguistics, psycholinguistics, rhetoric, communication and neuromarketing) need to be analysed, which will function as the theoretical background of my research.

Approaches are available to define the concept and target system of communication. The interpretation depends particularly on the field.

During communication, the message appears in a creative way and can reach the recipient. Supposing the message reaches the recipient and the communication noise is low. In this case, the following questions need to be answered: How will the recipient interpret and translate the message? What influences its interpretation and translation? How to stand out from communication noise? What are the tools to reduce its impact?

The number of researches on the topic in Hungary is relatively low and the use of borrowed words has been considered a general linguistic issue in previous researches and has not been considered a paramount factor in communication messages. In terms of the impact of wording, word order and borrowed words on communication effectiveness, I recommend FMCG (Fast Moving Consumer Goods) sector to be examined, as this sector generates the highest advertising expenditure. In terms of target group, I examine the effect above among the LOHAS consumer group (Lifestyles of Health and Sustainability) committed to sustainable consumption.

2. Literature background

2.1. Communication and linguistic effects

The conceptual clarification of communication depends on the field we focus on. According to a general approach by Veres and Szilágyi (2004), communication is a process that creates thoughts or unity between the sender of the information and the recipient. The approach of Balázs et al (2013) focuses on individual fields, according to which sociology is interested in how information is transferred between people in the given systems of society, while regarding linguistics communication means the exchange of ideas. With respect to my research field, Fazekas and Harsányi (2000) have a definition: 'marketing communication is a set of planned actions that fit into marketing system of the company, aims to introduce the product, service, brand or company, raise awareness, promote sales, etc., by communication tools.'

Raátz and Fercsik (2006) draw the attention to the following basic communication problem: during the development of communication, communication noise developed, which entered the process as a communication factor. Noise refers to things and phenomena that act as an inhibitory, distorting, or hindering function in the process of sending and receiving messages. These include physical phenomena, mental, linguistic, and intellectual factors. In this sense, the level of

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communication shifts upwards, as more and more people intend to communicate by different means and the goal for everyone is to improve the efficiency of communication at a given expense.

In marketing, researchers have focused on linguistic effects in terms of consumer behaviour, branding, slogans, and other marketing communication aspects. If we consider the research of consumer behaviour to be a relatively new discipline, the theory-based linguistics that examines consumers can be considered as a very rudimentary field. The first scientific research on the subject was written in the 1990s (Koslow et al, 1994).

From a linguistic point of view, there may be numerous research questions on marketing, such as how grammatical mistakes affect consumers in memorizing an advertising slogan (Got Milk?, I'm lovin 'it, or in a Hungarian advertising on cheese: *Medve Sajt, mert szeletem,* where the word '*szeletem*' literally means 'my slice' however the advertising intends to suggest the following message by grammatical mistake in Hungarian: *Medve Sajt, mert szeretem. 'Szeretem'* means I love it.) or how certain sounds, syllables repetition (luxurious lather or the advertising slogan of Cappy Smoothie in Hungarian, '*ahol az eper leteper a mangó tangót jár*) influence brand perception and which language may be a better choice for targeting bilingual consumers (David et al, 2004)

The brand name of 7-Eleven international retail store network, for example, refers to extended opening hours, the message of which is successful beyond U.S. borders only if people have at least minimal English language knowledge in the target country. This will not cause any problems if the particular brand remains in the local market. At the same time, for most businesses, international sales and international branding are becoming increasingly important, therefore it is also essential to consider the linguistic context of a brand (Jean-Claude Usunier and Janet Shaner, 2002).

Creating an international brand involves the introduction of a local brand into the international market or can be classified here as the creation of an entirely new brand intended for the international market from the beginning. Choosing a good brand in any of the above cases may save a company millions of dollars over the life cycle of a product because it has meaning, expresses the benefits of the product, and helps differentiate the product from the products of competitors (Stern, 1983). In addition, standard international brands reduce advertising and storage costs, and those who cross borders can easily identify the product (Onkvisit and Shaw, 1989).

2.2. Rhetoric

'Rhetoric is the science of speaking well,' as stated in in Quintilianus's Oratory (Quintilianus 2008: 2, 15, 34). Under the concept of classical rhetoric, the author means good speech both a professional and moral manner. Rhetoric is based on grammar, as this science itself is the art of language. (Adamikné 2013: 27)

One of the most popular rhetorical trends these days is media rhetoric (cf. the Rhetorical Lexicon with the article Media Rhetoric, Adamik Tamás (ed.) 2010: 763–764), which focuses on media messages and their effectiveness.

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It was Ivor Armstrong Richards first who focused on meaning in work *Meaning of Meaning* with Charles K. Ogden, and then in *The Philosophy of Rhetoric*. In his theory, he focuses on context and suggests that people react to the effects on the basis of their past experience. Richards' theory of meaning is thus based on context and the process of selection. Accordingly, words do not have a permanent, independent, objective meaning because everyone has different past experiences. The process is expressed adequately in metaphor; therefore, Richards considers metaphor as the basis of the language system. Metaphor is created during the contact and interaction of thoughts: a transaction between thoughts, and since thinking is metaphorical and progresses through comparisons, this is also the basis of linguistic metaphors.

2.3. Neurolinguistics, psycholinguistics and sociolinguistics

Based on the summary of Bánréti (1999), neurolinguistics delves into the relationship between the structure of human brain and the structure of grammar in human language, as well as the connections between brain function and the system of speech production and speech comprehension. According to Ahlsén (2008), there are some basic questions: What happens to language and communication due to various brain injuries? How did the ability to communicate and use languages evolve with evolutionary development? How can this development be linked to brain development? How do children learn to communicate? How do they learn to use the language? How can the brain process that is part of language and communication be measured and visualized? How can linguistic and communication models be developed to help present a linguistic phenomenon? How to create a simulation of language processing, acquisition and language loss?

The subject of neurolinguistics is the study of brain processes related to human language, its task is to explore the brain equivalents of each language level, to study the process of language production and understanding, to explore the relationship between linguistic and nervous system development, to study intact and damaged language use. It also draws from normal language development, congenital and developmentally impaired language development, and acquired disorders (aphasias). (Bánréti, 1999)

The first theoretical writing on linguistics (*Child language, aphasia and phonological universals*, 1968) was carried out by Roman Jacobson (1968) in which he examined the relationship between child language and aphasic mechanisms. He concluded that changes in the language system are tightly regulated and operate according to the same mechanisms during mother tongue acquisition, language stumbling, and aphasic speech (Jacobson 1968: 18). Few linguists followed neurologists who operated on linguistic concepts in aphasia research that time.

According to the modular definition, neurolinguistics studies the connections between the structure of human brain and the structure of grammar of the human language, as well as the connections between the functioning of the brain and the system of speech production and speech comprehension (Bánréti 1999: 7). In a holistic framework, neurolinguistics studies the relationship between language and

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communication in its contexts with different aspects of brain functions (Ahlsén 2006: 3).

Psycholinguistics itself is a special field of research that is considered as a field of psychology (Carroll, 1994). In a research on psycholinguistics by Shi Zhang et al (1998) it is highlighted that language plays a unique role in consumer behaviour, including grammatical elements. They emphasize that the above-mentioned characteristics appear as influencing factors in the marketing stimuli perceived by the consumer.

The language style used in the provision of services can be examined through sociolinguistics. For example, a polite tone towards customers does not mean that they will not complain about poor quality service, but that the style of the customer's complaint is different from that of customers who have experienced the opposite tone (Lerman, 2006b).

The essential role of a language in consumer perception, judgment and decision-making is supported by Hunt and Agnoli (1991), Luna and Peracchio (2001), Schmitt et al. (1994), Schmitt and Zhang (1998), Tavassoli (1999 and 2001), Tavassoli and Han (2001) and Zhang and Schmitt (1998).

2.4. Neuromarketing

One of the new directions in marketing research is neuromarketing. With the rise of the Internet and technological advances, not only consumer habits have changed, but advertisers have also had increasing expectations against market researchers. The process of market research is also complicated by the fact that consumers tend to avoid advertisements. (Piskorski, 2011; Ha - McCann, 2008; Richards, 2015; Economist, 2015; Greencard, 2015).

The changes above have also had an impact on market research practice, with technological advances making it possible to use new software and tools that have been used in other fields so far. (Ariely - Berns, 2010; Morin, 2011). This process resulted int the development of a new research method, called neuromarketing.

In the international arena, neuromarketing is applied by businesses to understand how consumers react to campaigns related to a particular brand or product. (Bercea, 2012a; Boksem - Smidts, 2015; Ohme et al., 2009; Perrachione - Perrachione, 2008; Pouw et al., 2012). Varga (2016) emphasizes that in neuromarketing research, several disciplines need to be coordinated to obtain valid results: neuroscience, psychology, and economics. Neuromarketing provides significantly more information in research (Plassmann et al, 2007) than traditional research methods (qualitative and quantitative methods such as focus group interviews, projective techniques, or different interview methods) because neuromarketing by technological tools examines the subconscious underlying decisions (Ramsøy, 2014; Zurawicki, 2010).

2.5. Target group and product group

I aimed at examining the impact of wording, word order, and borrowed words among the LOHAS consumer group committed to sustainable consumption. According to Ramirez (2013), it is difficult to define the lifestyle of a group along demographic characteristics, as personal values shape their commitment to sustainable

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consumption in their cases. According to the research of Kreeb et al. (2008), sustainable consumption can be realized if a consumer is committed and chooses consciously.

According to Grunert and Juhr (1995), the choice of values influences the group in decision-making, and its study therefore has a prominent role in consumer behaviour research. Based on the writings of Ray et al., It can be concluded that LOHAS lifestyle is organized around value categories: authentic values, health-conscious values, and ethical values. Szakály (2011) reveals that in addition to the limited resources and environmental challenges, the rapid spread of civilizational diseases resulting from the unhealthy lifestyle of individuals has led to the emphasis on sustainability. Based on the results of the research of Lehota et al. (2013), LOHAS consumers who prefer a hybrid lifestyle represent 8% of the Hungarian population, and the proportion of the most committed is 4%. Rácz (2013) estimates the size of the group at 20% of the Hungarian population over the age of 15, and their expenditure on food is close to HUF 300 billion a year. In general, the group has the following questions before decision: to what extent does the product contribute to environmental protection? Is it an organic product? Is it worth the higher price? (Ravi Chandra, Dr. D. Srinivas, 2017)

I recommend FMCG (Fast Moving Consumer Goods) sector to be examined, as this sector generates the highest advertising expenditure.

3. Models and methods for future research

One of the most important bases of my research is the integrated marketing communication model, the main pillars of which include the target group, channel focus and results orientation (Bernschütz, 2011). Duncan and Caywood (1996), which is the most cited definition, integrated marketing communication is a process that strategically directs and influences the messages produced by a company, supports targeted communication to create and facilitate profitable relationships with consumers and other stakeholders.

In addition to increasing global market competition, technological advances, and rapid information gathering, it has become an important corporate goal to be able to impact the target audience and the target market more effectively than before. Integrated marketing communication is one of the outstanding pillars of the process (Sisodia and Telrandhe, 2010).

In addition to technological changes, the increase in the number of brands has further increased the advertising noise perceived by consumers - in the 1960s and 1970s, there were eight thousand, now more than thirty thousand brands (Keller, 2001), therefore the proportion of those rejecting advertising also increased., as noise increased the positive reception of advertisements (Kátai, 2008).

The concept and practical significance of the IMC was mostly studied by foreign researchers using the methodology of a questionnaire survey and an in-depth interview. Over the years, there have also been researchers, who have doubted the unity of the model or highlighted its deficiencies. Cornelissen and Lock (2000) lacked consistency of the concept and found that there is no single measurement system

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by which the effect by IMC can be measured. They suggested that the application of the method became mostly a fashion at a managerial level.

A second base of ma research is Jacobson's model of linguistic communication. Jacobson distinguishes six types of factors: sender, recipient, message, code, context, and contact. The advantage of the model is that it highlights the definitions of effective communication, names the basic functions of linguistic communication (emotional, conative, phatic, metalanguage, poetic and referential).

I will obtain data from primary and secondary data sources. During primary data gathering, I will receive information and data directly, including in-depth interviews and focus group surveys as qualitative methods, as well as questionnaires as a quantitative method.

During my secondary research, I will apply various databases, and then I will analyse them by statistical method.

My research will be based on statistical methods, numerical data, and trends; therefore, the use of quantitative methods is essential. Among the quantitative methods, I will choose the large-sample questionnaire: in the framework of a nationally representative survey of 1,000 people, i.e. on the basis of a small group of the Hungarian population, I will infer the results and accept or reject my hypotheses. In the questionnaire I focus on consumer habits and the system of preferences.

On the basis of a qualitative method, I will conduct in-depth interviews with experts from 4-5 companies assigned to this task, where I will record what has been said and then analyse it. A focus group survey is the most appropriate method for commenting, accepting, or rejecting hypotheses as well as concepts. During the group exchange, participants can share their own experiences, insights, and comment on the results. To conduct the focus group survey, I will select the appropriate people for the task, create the structure of the group, and then do the work.

4. Conclusions

Specific literature background on the effect of different wording and linguistic snobbery is currently not available, so related theories and models from several disciplines (neurolinguistics, psycholinguistics, rhetoric, communication and neuromarketing) need to be analysed, which will serve as the theoretical background for my research.

The main basis of my research will be the integrated marketing communication model as a different corporate mindset, which has been established by media fragmentation, brand dumping and advertising noise over the last 15-20 years.

During my literature review, I have repeatedly referred to communication noise, which can occur in my research if the target group in a given sector is unable to decode the different wording or borrowed words as built-in marketing communication elements. Noise also appears as a communication factor in the concept of the IMC model, but this is mostly reflected in the effect of advertising noise. As a result of the research, I will be able to a proposal in a narrower sense for a more effective

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formulation of a given message, and in a general sense, the results should be suitable for developing a methodology for the optimization of communication messages.

In order to be measurable, the goal is to measure the effectiveness of online communication where the reactions can be well quantified and achieved cost-effectively and can be well matched to the approach of integrated marketing communication.

The scientific aim of my future thesis is to reveal how linguistic snobbery and different wordings influence the consumer when choosing products. The following questions have emerged in connection with the topic: what emotion does the consumer associate with borrowed words and different wording? Can the consumer identify the product? Is the consumer influenced by borrowed words and wording at all? If borrowed words and different wording influence the consumer what is the direction of the decision and perception?

I will classify the expected results into 2 groups: from a practical point of view, I make suggestion for the optimization of communication message, and I define my scientific suggestion, for which I carry out domestic testing of certain parts of the integrated marketing communication model. As a result, the model may be supplemented, and depending on the results, it is possible to conduct an independent communication model. In addition, the studies will allow the development of a new measurement methodology.

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PERSONAL BRANDING IN TEAM SPORTS MARKETING

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Abstract: *Nowadays, there is almost no event, no advertisement, without a face of at least one famous person. The involvement of a consciously built personal brand in the promotion is almost inevitable, whether it be a medicine or eyewear brand, or a complete political party. Marketing also plays an increasingly important role in sports. Recently, several researchers have focused on building a personal brand for athletes. The primary purpose of my current research is to demonstrate how a sports team can pursue a marketing strategy based on personal branding. I would like to examine the change in the number of followers, the profitability of conscious selection and subsequent brand building, and the relative effectiveness of its steps. During my empirical study (a 21-day test period), I posted 9 personal branding posts on the Facebook page of the University of Debrecen's Athletic Club's Hockey Team, which were promoted by paid advertisements. To measure the results, I used data from the site and compared them to the metrics of the three 21-day cycles prior the experiment. After the period under review, the number of hockey team's followers on Facebook has more than doubled. Even taking into account the organic impressions (The number of times any content from/about the Team's Page entered a person's screen through unpaid distribution.) alone, the increase was still more than 120%, and the standard deviation of these appearances fell from above 100% on average to below 50%. The number of engaged users (The number of people who engaged with the Team's Page. Engagement includes any click or story created.) peaked and rose on average and became more balanced. Earlier research and my empirical study confirm that a strategy based on the players' personal branding is rewarding and can increase both the follower base and the commitment to the team.*

Keywords: *sports management; sports marketing; strategy; communications; personal branding.*

JEL Classification: *Z29; M31; M37.*

1. Background

In addition to increasing performance, the focus is on increasing brand equity as well in sport. Nowadays, there is no athlete who has no social media profile and the number of people who would not follow others on at least one of these platforms is insignificant. In addition to sponsors and partners, researchers also strive to continuously monitor and evaluate the factors influencing brands. In particular, a quantitative ranking already exist which contains the most influential names in the sporting world; investigating teams, agencies, brands and players on an ongoing

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basis. The presence of more individuals on this list proves that it is profitable for athletes to pay attention to their personal brand, and that this is also in the well-understood interest of the affiliated companies.

Geurin-Eagleman - Burch (2015) observed the private appearances of Olympic athletes on Instagram. Their results show that most comments by their followers are triggered by more personal posts, but in terms of the number of likes, pictures related to their sporting life have triumphed. One of the most important statements made by the authors was that it is worthwhile for athletes to produce content on a variety of topics, but they should devote particular attention to their own sport and profession. And that only increases the effectiveness if they are in the picture themselves. Strategically building an athlete brand will not only result greater commitment to the athlete, but can also be rewarded at sports organizations and events through ticket sales, memberships and partnerships. While in the past, the image of athletes has been dominated by mainstream media, athletes and sports organizations now have a unique opportunity to build their own public figures and brands through the „new media". There is also an increasing tendency for the influence of top athletes to go beyond sport. Not only are they present as a kind of intermediary medium between major brands and customers, but they themselves become "brands". As a result, there are a growing number of agencies dedicated to managing the personal brand of athletes, coaches, leaders and prestigious sports organizations. This type of brand building is also a critical issue for most athletes because their performance is unpredictable, so they want to rely on their brand value well before the end of their careers but at the latest then. It seems obvious to build the brand on winning games and records, who wouldn't cheer for a successful athlete?! However, it is inevitable that these results do not start to decline cyclically over time, so other branding strategies should be considered.

The term personal branding cannot be called completely new, but in order to define it we need to review the basic concepts associated with it. The brand itself is a name, sign, symbol, design, or a combination of these, designed to distinguish a product or service from its competitors (Kotler - Keller, 2006). And branding means creating this brand (Moore - Reid, 2008). Already in the last century, reference was made to the personal brand as "the brand called you" (Peters, 1997). Building this is the planned process of bringing the people's brand value to the market (Brooks - Anumudu, 2016). In this regard, Shepherd (2005) stated in the early 2000s that individuals should develop their own branding strategies along the lines of those recommended for companies and products. The "extract, express and exude" principle is also associated with his name when it comes to personal branding. First it is worth summarizing what the individual is really good at, what sets him apart from his peers, then he/she has to disclose these traits, and finally he/she has to start leaking that information about him/herself. Narrowing the term, "athlete brand" has been defined as "the athlete himself or herself, who has his or her own symbolic meaning and value using his or her name, face or other brand elements" (Arai et al., 2014).

Pifer et al. (2015) emphasized that while it is important to research stadium attractiveness, logos, head coaches to understand what engages viewers and loyalty, it is time to turn our attention to star athletes. The unexploited nature of this

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research area is puzzling given that professional teams spend a large part of their budget on salaries and contracts (Deloitte, 2018). By distinguishing star players by virtue of their excellent abilities, they themselves are considered to be brands and are able to translate their brand value into the overall identity of their team. While it may seem clear that the best players are differentiated from mediocre players by their unique qualities, their personality traits vary from star to star. For this reason, the authors investigated through a questionnaire survey the impact of "Hero Athletes", who were stars due to their performance on the pitch, and "Celeb Athletes", who gained their reputation outside of the track. They were interested in the effect these players had on the team's image, perceived quality, brand equity, brand loyalty, and brand reputation. "Hero Athletes" can build on their individual performance, leadership skills, special talents and contribution to team performance when it comes to their own brand, while "Celebrity Athletes" rely on their charisma, attractiveness, cultural significance and celebrity lifestyle. The results showed that managers with a "Hero Athlete" type player in their team are preferred because their attributes are more likely to be transferred to the team's brand value. However, the most profitable players are the ones who are "Hero Athletes" and "Celeb Athletes" at the same time.

On the other hand, performance on the track was a particularly strong indicator of brand equity. After all, winning a match, while bringing valuable points to the team, also builds the brand. But this requires not only getting the best players, but also keeping them. This was the case with Cristiano Ronaldo. It was a big blow when they announced his departure from Real Madrid and his new contract with Juventus. Not in vain, in the days of the justification there were already eloquent numbers in the news. For example, several online sports magazines have dealt with the 10% increase in Juventus shares as a result of Cristiano's arrival, which is even low compared to social media. In the days around the announcement, 1.5 million people followed Juventus on Instagram, 1.1 million on Twitter and half a million on Facebook (Rawal, 2018; Castellanos, 2018). Real Madrid, on the other hand, lost 1 million Twitter followers within 24 hours of the news (Griffee, 2018).

This case highlights two things. On the one hand, even a single person's career performance can influence the financial position of the entire team and the expectations of their performance. On the other hand, some fans will remain loyal to the player and follow him even after a transfer. But all of this suggests that as long as the team has just one such star, it has to capitalize on its potential as it builds brand awareness and fan base.

2. Goals and Assumptions

In my own empirical research based on the literature, I wanted to ascertain the theoretical assumptions. My goal was to increase the number of followers of the DEAC (University of Debrecen Athletic Club) Hockey's Facebook page by 1.5 times thanks to my strategy and budget.

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3. Materials and methods

During the processing of the topic I conducted primary and secondary research. During the review of the literature, I mainly worked with scientific articles, but due to the actuality of the topic, various online sports and marketing articles were also part of my research. During my empirical study, I posted 9 personal branding posts on the DEAC Hockey's Facebook page over a 21-day test period. I chose Facebook to measure engagement because it's one of the oldest social media platforms ever since. 71% of internet users can be found here (Duggan et al., 2015). More than 50% of social media users interact with brands on social media; follow them or join their social network (De Vries, Gensler, & Leeflang, 2012). Not only did I get posts on the site during the test period, but only those with such content were shared by me. The promotion of the posts as well as the site itself was sponsored by paid advertising. This was because at the start of my investigation the site did not even reach the 1000 fan base and as a result of Facebook's new algorithm about 2% of the followers can be reached organicaly (Digiday, 2018; Falcon, 2018). This would have hindered not only the efficiency but also the representativeness of my research. During the analysis and evaluation of the results, similarly to Geurin-Eagleman and Burch's (2016) research, I also analyzed Facebook data (like, comment) and drew conclusions from the results. Pronschinske et al. (2012) also emphasized the importance of using Facebook data for sports teams and athletes, as this method allows us to obtain obsessive data about actual user behavior (eg. likes). I was able to retrieve my contact information from the DEAC Hockey Facebook page thanks to Facebook's Business feature. Then I analyzed the information obtained with descriptive statistics. The comparisons were based on the data of the three 21-day cycles (7.23 to 9.23) preceding the test period, and compared with the 21-day interval when the posts I wrote were posted on the page (9.24 to 10.14).

In my empirical research I started from the study of Pifer et al. (2015) and I was looking for a player in the DEAC Hockey team who can be both a "Hero Athlete" and a "Celeb Athlete". On the advice of this article, I have already made posts about the fact that he joined the team, and I specifically emphasized what this contract means to DEAC and what it adds to the value of the team. It was essential that the player's value system and out-of-career life represented what the team needed. Therefore, in the posts I have written, I have also highlighted the goalkeeper's studies, his tradition-loving, and family-centric nature, so in addition to praising his productivity at the games, the private posts have also been emphasized. The authors also mentioned the problem that fans who value performance on the pitch more will be loyal to the athlete, and those who are interested in the player's "celebrity lifestyle" will rather be loyal to the team. That's why I thought it was crucial to transfer some of the elements from the star athlete's merits to the team's brand value so that they can be retained even if he leaves. For example, in several posts I indirectly built the brand of the University of Debrecen community (hence the DEAC team) by mentioning that the star goalkeeper not only plays in the colors of the university but also learns there. When evaluating the matches, I paid particular attention to the

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actual effectiveness of Zoltán Hetényi and made the fans aware, as the research of Pifer et al. (2015) proved that the performance of a single person can influence the expectations of the fans towards the team.

4. Results and discussion

Figure 1 shows the evolution of the DEAC Hockey Facebook Page's followers. The start date of the research can be well predicted due to the surge in growth. Before the test period, 980 people liked the page, and 21 days later, there were already 1506 followers, surpassing the 1.5x increase in my goals. Of course, the effectiveness of paid advertising also contributed greatly to this, with 340 out of 534 adhering to the page. 194 followers, on the other hand, came unpaid, which is a good indicator because the number was 94 on average during the three 21-day cycles preceding the study. Compared to this, the page performed more than 100% better during the test period.

Figure 1: Net followers
Source: DEAC Hockey Facebook Page

One of the primary goals of teams on Facebook is to appear to people as often as possible. This can be measured by the number of impressions which is the number of times any content from/about the Team's Page entered a person's screen. This category includes every post, ad, login, or anything that our friends share about that page and it will appear on our timeline. *Figure 2* shows the evolution of this metric and how much of the daily data is due to paid advertising. This is important because paid advertising can only perform well if the content is relevant, but the number of unpaid impressions is a better indicator of the success of a strategy. The numbers have risen sharply since the beginning of the test period, especially when looking at the cumulative value. However, the change is also noticeable in unpaid

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appearances; There was a 40% increase from the previous period, but this rises to 124% when we compare it to the 3 months preceding the test period. Although the start of the season meant great values in previous cycles, this was far from being matched by a balanced number of appearances. The test period also made a difference here, as the standard deviation was 125%, 113% and 68% before, but now this value has fallen below 50%. So not only has the number of impressions increased, but the page has even more consistent performance. While this data is closely related to Facebook's algorithm, which determines to whom and what it makes visible on the timeline, this indicator has proven to be a good strategy for personal branding, and we can achieve greater results than without using the method.
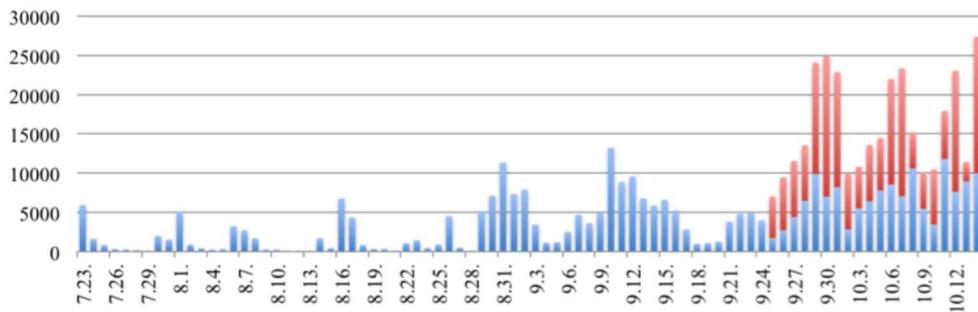
Figure 2: Impressions (pcs)
Source: Own editing

Figure 3 shows the change in the number of daily engaged users, which is perhaps a more talkative indicator of the success of a campaign, because it is not just about getting on the screen, but the human factor is included in the formula due to interactions. This number shows the number of people who interacted with the page each day by clicking on one of their content or by creating a story (temporary content) that mentioned the page. The trend line shown in the figure is created owing to the 7-day average of daily data. The first highs in the last four cycle are attributable to DEAC's first match and then the second wave due to the season opener news conference on the 7th of September, and the season debut in the Erste League on the 9th of September. Then, a downturn followed by a brief stagnation is observed which, starting from the first day of the test period (09.24), starts to increase again and peaks within 21 days without significant decrease.

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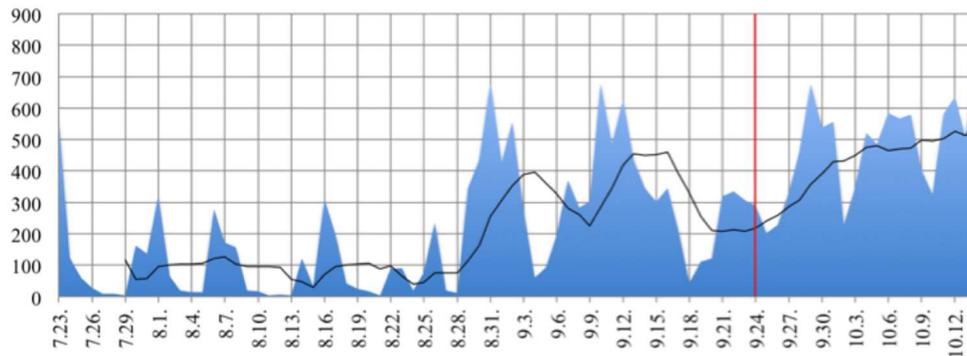
Figure 3: Daily engaged users (per person)
Source: Own editing

These page interest metrics support the assumption that using a personal branding marketing strategy will lead to meaningful interaction with people, broaden your follower base, and increase the frequency of impressions.

5. Summary

In addition to results, marketing plays an increasingly important role in sport. Recently, several researchers have focused on building a personal brand for athletes. The primary purpose of my current research is to demonstrate how a sports team can pursue a marketing strategy based on personal branding. After the period under review, the number of followers on the DEAC Hockey team on Facebook has more than doubled. Even taking into account their unpaid impressions alone, performance has increased by more than 120%, and the standard deviation of these appearances has fallen from an average of over 100% to below 50%. The number of daily engagements peaked and rose on average and became more balanced. Earlier research and my empirical study confirm that a strategy based on the players' personal branding is rewarding and can increase both the follower base and the commitment to the team.

6. Acknowledgement

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DISINCENTIVE FACTORS IN ORGANISATIONAL KNOWLEDGE TRANSFER

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Abstract: *Nowadays, it is a grand notion that organisational knowledge and human resource are significant strategic capital and investment towards the future. Keeping the competitive advantage is the target of all companies; thus, the accumulated knowledge must be created, collected, shared and applied efficiently. By the expansion of companies due to globalisation, new dimensions have opened up for employees. The role of human capital has become more critical; more and more companies spend time and money on improving and training their employees. By the preliminary preparation for the challenges, human resource creates a serious value. Employees gain experience and knowledge, for example, during an international assignment in the adaptation and utilisation of which HR plays a vital role. Due to globalisation, the expansion of companies towards the international level gives more challenge for both the employers and employees. Human resource management narrowly deals with the process of employing, developing and rewarding people in the frame of organizations. The role of human capital progressively gains ground, and more companies spend money and time to develop and train their employees to create value. Employees get experience and knowledge by being on an international assignment also, which means that HR has a huge part in adapting and utilising the added knowledge. Transferring the knowledge gained during work has a positive effect on the total performance of the employees and organisational learning. If the gained knowledge cannot integrate into the organisation later on, then the knowledge capital gets lost and will not be available for later generations. Managing organisational knowledge is thus a complex and hard task. In addition, to highlight the efficiency of knowledge transfer, the main research objective was to examine the disincentive factors. In the research, we examined the opinion of employees of various companies (from different sectors) using a questionnaire, which was analysed by statistical methods. Obstacles related to knowledge sharing have appeared in some form in all companies, and also the lack of managerial support appeared in the questionnaire. The transmission of acquired knowledge has a positive effect on the employees overall performance and organisational learning, therefore, it needs to be tackled.*

Keywords: *knowledge transfer; organisational knowledge; disincentive factors; knowledge management; human resource management; managerial support.*

JEL Classification: *J24; J53; O15.*

1. Theoretical fundamentals in knowledge management

According to Stiglitz (1999), knowledge and intellectual capital can be extended infinitely, and they are inexhaustible. We must be ready for the continuously emerging changes, the technological development and the appearance of competitors on the market since only that company can survive in the long term and be successful. Which consistently creates new knowledge and makes it widely available within the organisation and utilises it during the development of new services, technologies and products. Drucker (1969) uses the term "knowledge society" in the book "The Age of Discontinuity" which refers to the central role of knowledge which is the base of economic and social actions.

In the first generation technology played the central role. Knowledge appeared as an information source and products which can be recycled (documents, databases, etc.) (Nonaka-Takeuchi, 1995). This generation was present simultaneously with the appearance of web-based search systems and Intranet on the company level. The connection between the expansion of IT toolbar and the development of knowledge management became unquestionable. We can put into the second category the differentiation between the explicit and tacit knowledge. A new way of thinking spread during the second generation in which the real knowledge of the organisation was identified with its human resources (Anklam, 2005). Data sets which can be recorded, collected, edited, easily-passed on, learned, objective and rational and be expressed by words and numbers, too could rank among the area of explicit knowledge. Tacit knowledge, on the contrary, can be a kind of intellectual idea or a conviction, idea, our personal opinion about something, experience, technical skill mostly subjective-based. It is founded on experience, the ability of action, and it is in close connection with the real owner of the knowledge; thus, its transfer can face difficulties. According to Polányi (1966), a person's knowledge can be compared to an iceberg; its part above the water contains explicit knowledge while the part below the water contains the tacit knowledge. For organisations, it is recommended to rank among its strategic targets the handling of collective organisational knowledge thus the totted knowledge of human resource can become a part of company capital (Davenport – Prusak, 1999). In its study, Abubakar et al. (2017) summarize the possible processes of knowledge on the organisational level. First, he names the creation of knowledge which has to be consistent and efficient. The second step is recording, the adaptation of new content the substitution of the existing ones and the reception of explicit and implicit knowledge. Thirdly, he deals with the knowledge sharing processes, structures of the organisation and the selection and evaluation of knowledge. Then he moves on to talk about storage and the theory of organisational memory. Spreading and availability is the next point in which the creation of communication channels plays an important role. Last but not least, the importance of technology appears, the termination of communicational obstacles, collaborative learning the knowledge search.

The energy invested in knowledge management raises competitiveness since by summarizing and processing knowledge the speed of development can be

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accelerated, and it results in adaptation towards customers in order to achieve successes (Adams – Graham, 2017). The main aim of programs creating a knowledge base is to embed the knowledge in documents and put them into bases from where knowledge can be easily retrieved and can make an inventory of it. The owner of the knowledge and its possible user stands in focus. We have to find the interface between the person and the other individual who owns information essential for the former. Thus, the process of knowledge sharing can be established between them.

2. The framework of knowledge transfer and its disincentive factors

There can be several factors influencing the effectiveness and process of knowledge transfer. The sender and the recipient both have a significant effect on the steps of the knowledge transfer process, primarily because of their relationship characteristics. The performance of knowledge transfer is created by the aggregated results of the factors (Demeter et al., 2017).

The success of knowledge transfer is highly dependent on the characteristics of the relationship between the two parties (competition or cooperation). The former can diminish the motivation for transferring knowledge or can affect the scale of effort, too (Szulanski, 2000). The key to success, in many cases, the reliability and credibility of the transferring party. It has a more significant effect on the recipient side if the transferring person has functional abilities and shows confidence (Zander – Kogut, 1995). On the other hand, management, the right knowledge and information are also vital if one wants to follow a career route within the organisation, if the individual wants to see his/her future plans and the tasks and activities needed for it (Héder et al., 2018)

Husted and Michailova (2002) have collected several reasons which can be disincentive factors at knowledge transfer:
· The individual protects his/her competitive advantage and emphasizes the maximization of his/her performance
· Regrets to spend time on transferring and is tight-fisted with it
· The individual is afraid of the so-called knowledge parasites who do not share their knowledge but exploit others'
· The owner of the knowledge does not want to be in the centre of attention (e.g. lecture) and is afraid that in public it can turn out if he/she does not know something or does not know well.

Gulyás (2007) names the following ones as the most disincentive factors in connection with knowledge management based on the study made in the professional sphere:
· No time for knowledge sharing
· Knowledge management supporting culture is missing
· The lack of knowledge stemming from this
· The lack of appreciation and motivation of knowledge sharing
· Difficult to access others' knowledge
· Too much information towards colleagues

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· The lack of expertise connected to knowledge management
· Knowledge is not shared because of power concerns
· The lack of management support
· The lack of mutual trust
· The lack of financial resources supporting knowledge management
· The lack of technology supporting knowledge management

Human resource management practices also play a role in the knowledge transfer of the person making the transfer. There are different factors which can cause problems such as abilities, formulating knowledge differently by language knowledge, the transferring ability of tacit knowledge. The process requires resources thus the dedication and the inclination in different individuals can be different and the harmony between the company and the employee can differ in terms of organisational targets (Minbaeva – Michailova, 2004).

The knowledge processes created between organisations can be influenced, can be tailored for the person by applying the tool of knowledge guidance (Foss, 2007). Knowledge sharing must be examined on different levels (Minbaeva, 2013). The practices drawn up human resource management are specified on the organisation level but truly realised on the groups level. It is followed by the individual's knowledge sharing behaviour. The results are affected by the individual's motivation, the possibilities are given by the organisation and also if the targets are in accord with organisational targets and strategies. To measure the effectiveness of knowledge transfer, we have to measure knowledge itself, too if we want to measure in figures the knowledge strength enrichment of the recipient. Knowledge can be measured along with several factors:

· Taking the knowledge of organisational members as a basis
· along with the applied practices and routines in which knowledge integrates
· by the changes appear in the performance characteristics (for example punctuality, speed, which shows the scale of acquired knowledge)

as well as with the products, services and clientele of the organisation (Argote – Miron – Spektor, 2011). Knowledge guidance happens on an organisational level, its primary target is to form knowledge processes, but the processes happen through the individuals. By gaining specific knowledge, the organisational knowledge stock grows proportionately, too. The organisational performance is more affected by the knowledge owned by the human resource than the value of the organisation itself (Cohen – Olsen, 2015). Minbaeva and Pedersen (2010) examined three primary knowledge guidance mechanisms which affect the individual's behaviour intention (attitude, subjective norm and the control perceived by it) and thus affect the attitude towards knowledge sharing. The mentioned mechanisms, for example, external incentives (promotion, salary raise), mutuality (appreciating contribution, reputation, professional and personal development) and the communicational tools (informal, formal, forums, meetings, conferences). In their study, they describe that the external awards correlate less with the boost of knowledge transfer their effect is slightly negative. Beyond intrinsic motivation also those knowledge guidance human resource management mechanisms focusing on the individual skills and possibilities

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need to be examined to receive a more comprehensive picture on the effect of knowledge guidance projected on knowledge sharing.

3. Material and method

The material of the examination was provided by employees who work at Hungarian companies. During the primary research, we created a questionnaire while in the secondary research, we processed the relevant literature on this topic. The size of companies, and positions within the sector, demographical data of the employees are shown in Table 1. The sample taking has been going on continuously since 2017 with a snowball method. The current element number of the sample is 118. One of the objectives in the research was asking the employees' opinion of as many companies as possible so from each organisation, only 3-5 people included in the sample.

Table 1: Socio-demographic data of the questioned

Demographic factors	Total sample (n=118) (%)	Demographic factors	Total sample (n=118) (%)
Genders		**Operational size**	
Female	53	*Small enterprise*	47
Male	47	*Medium enterprise*	29
Operational forms		*Corporation*	24
Small and medium businesses	46	**Sectors**	
cPlc.	25	*Profit*	71
Local government	14	*Public sector*	29
Educational institute	15		

Source: Based on own data collection, own editing 2020.

Based on the identification data (Table 1), we can say that more than half of the people who filled-in the form were women. Based on their operational forms we can make four groups, the highest proportion was that of small and medium enterprises then cPlc-es, educational institutes and the smallest proportion of those who filled in the form come from local governments. It can be a distorting factor that the employees have mixed positions so they can look at the characteristics of knowledge sharing from different perspectives.

The applied method during the research was the form of a questionnaire in order for easier comparison and to reach a more significant sample. The questionnaire used for the research was built on those factors which blocked the knowledge transfer and were formulated in Gulyás's (2017) and Husted – Michailova's (2002) studies. The questionnaire, besides those points construed in the literature, also contained demographic group formulating questions. For the measurement of disincentive factors, a 6-degree Likert scale is used in which 1 stands for "very disincentive", and the meaning of 6 is "not disincentive at all".

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The research target that we had drawn before the research was to map the most common disincentives of knowledge sharing. A research question emerged whether the lack of leadership support appears in terms of every organisational unit in the sample.

4. Results

The success of knowledge transfer can be affected by several factors. The findings are related to the covered sample based on the employees' evaluation. Considering the proportion of genders, it is interesting that while in the profit sphere the number of men is a little bit above that of women in the public sector the proportion of women is significantly dominant (Table 2.) A further research direction could be raised whether, during knowledge transfer, there is a difference between the genders in terms of information sharing, in terms of effectiveness and attitude. The reliability of the questionnaire is confirmed by the 0.84 indicators of Cronbach Alpha.

Table 2: Gender-related data (n=118)

Operational forms	Genders				
	Female	**Male**	**Total**	**Proportion Female (%)**	**Proportion Male (%)**
Small and medium businesses	23	31	54	43%	57%
cPlc	13	16	29	45%	55%
Local government	11	5	16	69%	31%
Educational institute	16	3	19	84%	16%
Total	63	55	118	-	-

Source: Based on own data collection, own editing 2020.

We continue to analyse the disincentive factors of knowledge transfer. The statements were made during their research by Gulyás (2007) and Husted – Michailova (2002) the summary of these factors was based on these (Table 3). The average figures show the results and evaluations of the 6-degree Likert scale (1 – very disincentive); 6 – not disincentive at all).

The average figures shown in Table 3 are found in the middle of the 6-grade scale. The lowest average figure was received by "The lack of appreciation and motivation of knowledge sharing, which means that for the people who filled in the questionnaire, this factor is the most disincentive one. The highest average figure is represented by "The lack of technology supporting knowledge management" which means that this is considered to be the least disincentive factor.
To analyse the hidden context between the disincentive factors, we revealed correlational connections which are shown in Table 4.

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Table 3: The average and standard deviation values of disincentive factors (n=118)

Statements	Average	Standard Deviation
No time for knowledge sharing	3,53	1,217
Knowledge management supporting culture is missing	3,53	1,418
The lack of information on the advantages of knowledge management	3,55	1,400
The lack of appreciation and motivation of knowledge sharing	3,38	1,358
Colleagues are flooded with too much information	3,67	1,433
Colleagues do not share their knowledge because of power concerns	3,63	1,579
The lack of management support	3,71	1,486
The lack of mutual trust	3,73	1,442
The lack of financial resources supporting knowledge management	3,73	1,545
The lack of technology supporting knowledge management	3,79	1,637

Source: Based on own data collection, own editing 2020.

Table 4: Correlational connections between the disincentive factors

1st statement	2nd statement	Correlational modulus*
Knowledge management supporting culture is missing	The lack of information on the advantages of knowledge management	0,724
The lack of financial resources supporting knowledge management	The lack of technology supporting knowledge management	0,705
The lack of management support	The lack of mutual trust	0,660
Knowledge management supporting culture is missing	The lack of appreciation and motivation in knowledge management	0,607
Colleagues do not share their knowledge because of power concerns	The lack of management support	0,568
The lack of information on the advantages of knowledge management	The lack of appreciation and motivation in knowledge management	0,520

*p<0,05
Source: Based on own data collection, own editing 2020.

All connections showed correlation at a $p<0,05$ significance level, which we are going to analyse in the order seen in the table. The 0.724-strong correlational modulus shows a marked connection between the statements "Knowledge management supporting culture is missing" and "The lack of information on the advantages of

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knowledge management. Based on this correlation, those who see difficulties in the culture also realised a lack of information on the advantages of knowledge management. The 0.705 rate also shows a high correlation and a marked connection between "The lack of financial resources supporting knowledge management" and "The lack of technology supporting knowledge management" so based on the people's answers the problem of missing financial resources and the technology supporting knowledge transfer. Since the company which cannot afford to invest part of its budget in technology, then it will have trouble creating a modern IT database for the storing and sharing of knowledge.

The "Lack of management support" and the "Lack of mutual trust" shows a 0.660 rate which is a medium correlation, a significant connection between the two statements. Management appreciation needed for knowledge sharing and building up a supportive atmosphere help to form and maintain trust between the colleagues and the organisational hierarchy levels. Based on Brix (2017) and Baksa – Báder (2020) organisational knowledge affects the individuals and the ones working in groups in the process of creating knowledge. Inkinen (2016) confirms the research results that knowledge sharing needs a modern perspective from the management's part, which builds on the intellectual abilities of the workers and the appreciation of their knowledge. In Gergely – Pierog's study (2018) diligence, aptitude and the colleagues' support also appear as a determining factor besides knowledge necessary for the promotion within the organisation. The modern leader pays more attention to the creation of a knowledge-friendly organisational culture which is built on trust, foreshadowing the formation of knowledge base according to organisational targets. This is further strengthened by the 0.607 medium correlation between the statements "Knowledge management supporting culture is missing", and the "Lack of appreciation and motivation of knowledge sharing" as well as the 0.568 rate medium correlation between "Colleagues do not share their knowledge because of power concerns" and the "Lack of management support". Labafi (2017) revealed several factors in his research in connection to the problems of knowledge sharing in particular about knowledge hiding. However, he notes that the deliberate hiding of knowledge from others is not always harmful and does not have a negative effect.

The 0.520 rate between the "Lack of information on knowledge management" and the "Lack of appreciation and motivation in knowledge sharing" shows a medium correlation just like the previous ones and shows a significant connection which is supported in the literature by Mousavizadeh's et al. (2015) study which examined the definition of knowledge management organisational rate through the disincentive and supportive factors of knowledge transfer, the process of knowledge transfer, management support and organisational culture. The results examined in different sectors showed a connection between management support, organisational culture and the organisational value of knowledge. In the case of other factors, the supportive attitude towards knowledge management by the top management of the company is also considered crucial.

Yesil et al. (2013) examined the innovative ability of those companies which apply knowledge management. Knowledge transfer and sharing in the organisation has

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become one of the main competitive advantages which help the creation of innovative ideas and activities greatly.

The analysis of the answers given to the mentioned research question (Does the lack of management support appear in connection to all organisational sizes in the examined sample?) is displayed in Table 5.

Table 5: The connection between the lack of management support and organisational size

Disincentive factors	The averages and standard deviations of different organisational sizes					
„The lack of management support."	Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.
	Small		Medium		Big	
	3,95	1,654	3,69	1,391	3,51	1,397

Source: Based on own data collection, own editing 2020.

By the received rate we can say that if we compare it with other factors though not in the most prominent extent that at the small (1-50 employees), medium (51-250) and big (over 250) companies this disincentive appeared on the same level (Table 5). The initiative of the development of a knowledge management system depends on the company management if the plan and the targets are there with the right distribution of resources the operation can start. We can hardly find a correctly operating system. However, many factors are discussed in the literature and the research conducted in different sectors, scopes of activities with the help of which the company can get one step closer to form a well-operating system.

5. Summary

By examining the processes of knowledge transfer, the literature specifies several well-separated steps. The process does not stop at the creation of organisational knowledge and the solution of storing it since the most significant emphasis is on establishing the sharing, availability of knowledge. The stocked knowledge in the organisation, the experiences and the information increase the value of the company because of the labour market advantages associated with human capital. The well-established knowledge management system can be affected by many factors, the examination of which is needed to be done from time to time within the organisation. The incentive factors of knowledge transfer include the following: the lack of management support, the lack of establishing the right culture, technological and financial resources, the information withheld because of power concerns and the lack of mutual trust. During the research, we experienced secure and significant correlational connections between the factors which confirm the connection between the factors and their effects on each other. None of the disincentive factors showed an outstanding result among the employees of those organisations examined (n=118). However, most of them were situated in the middle of the 6-grade scale based on the average figures so we can say that at all companies which entered the sample a temporary revision of the system is needed. Further research directions

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are possible, for example, if we outline the advantages of knowledge transfer and its method from the management towards the employees as well as the differences between the formally and informally operating systems. Regular feedback on the efficiency of knowledge sharing process is useful both for the members of the organisation and the management since the most direct way to reveal errors in the personal consultation based on which the areas of the process to be developed could be mapped and solved sooner.

6. Acknowledgements

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

ITALY – THE COUNTRY WITH THE LARGEST NUMBER OF ROMANIAN EMIGRANTS

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Abstract: *This paper aims to highlight aspects that led to the migration of Romanians to Italy, their number in the peninsula, and their distribution by geographical areas. Italy needs workers in almost all sectors of activity. Thus we find Romanians working in agriculture, construction, tourism, but also in the health system. From the statistical data published for the last 3 years, we notice that the number of Romanian residents is constantly growing, which shows us that Romanians are satisfied with the conditions they find in this destination country. We will highlight here that at this moment, in Italy we are talking about migration for the whole family. In this sense, we find families who have reorganized their lifestyles, adapting to everything that the host country has to offer. For most of them, these were very important and played a decisive role in the choice made. Thus, the health system, the education system, the social system, and not only are considered to be much better than those in Romania. Romania being part of the EU offers Romanian workers from other member countries and not only, the opportunity to benefit from capitalizing on the years they worked in another country, contributing to the public pension system. Thus, using the pro-rata principle, the years in which the taxpayer has completed a contribution period, regardless of the country, for the opening of pension rights are totaled, following that each country will grant a pension for the actual contributions to its budget. The Italian authorities have a social system ready to provide benefits to all residents so that they can continue their lifestyle acquired during work and retirement. We will make a short presentation of a program launched by the Italian state for its citizens and residents, which can be accessed from 01.02.2019 to 31.12.2020, Quota 100.*

Keywords: *migration; emigrants; work force; pension system; quota 100.*

JEL Classification: *J61; H55.*

1. Introduction

With the fall of the communist regime, after 1989, Romanian citizens started looking for jobs in economically developed countries. In all the countries of Western Europe there is a large number of Romanian citizens, but most of them went to Italy and Spain.

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Immediately after the 1989 Revolution, endless queues were formed at the County Employment Agencies. They brokered contracts between Italian and Spanish companies. Romanian workers left with legal forms of employment, during seasonal periods, in agriculture and construction.

Starting with the date of Romania's entry into the European Union, the labor legislation has been simplified. Therefore, any citizen of the EU has the right to work in the territory of the Union. Romanian citizens left alone to find work. Thus, migration for work, for a better life, is the main reason behind the decision to migrate. The recipient countries have experienced economic growth due to the influx of migrants into understaffed areas. Migrants are young people, active in the labor market.

2. Literature review

Migration is a complex process that began in ancient times, with the formation of states. Over time, this process has expanded and undergone changes in both form and approach to the concept. The migration phenomenon is now present all over the world. Thus, some countries, recognized for the large number of accepted emigrants, are culturally enriched by ethnic diversity. Soon the notion of multiethnic state will be more and more common.

Migration is a complex phenomenon, which consists in the movement of people from one territorial area to another, followed by a change of residence and / or employment in a form of activity in the arrival area (Rotariu et all, 1998).

Ernst Georg Ravenstein, a German geographer, is considered the father of migration theories because he set out the first laws of migration.

Although they are considered to be very inflexible and of a generally valid nature, they are fundamental to the following theories of migration: migrants usually travel short geographical distances; those who travel longer distances go to large industrial and commercial centers; the direction of migration is as follows: from agricultural to industrial areas; the population of large urban settlements is increasing due to migration and not due to the positive natural increase; the volume of migration increases with the development of industry, trade and transport; each migration flow will be followed by a decrease in the migration volume; women predominate in migration processes, at least in short-distance migration, and men represent a majority in international migration processes; the major causes of migration are economic (Haruta, 2018).

The migration process is considered to be a complex of migration, emigration and return of an individual or a group of individuals, from one space to another, caused by various factors, such as economic, social, psychological, religious. We mention the "push-pull" model (Ravenstein) which highlights the factors that attracted the "pull" in the destination country and the "push" factors, which push from the country of origin.

"Pull" factors refer to: more jobs, well-paid jobs, a different lifestyle, religious and sexual freedoms, a favorable climate and security.

The "push" factors refer to: lack of jobs, very low paid jobs, political, religious persecution, corruption, natural disasters and economic instability (Fieraru, 2011).

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3. The situation of the Romanian emigrants in Italy

For the Romanians who left the country, the most important aspect was the economic one. Romania had not been able to offer jobs to its citizens, economic and financial stability, political and social stability. Thus, the situation that the country offered, "pushed" the citizens to other countries. One of the countries that attracted the Romanians and was able to offer them well-paid jobs was Italy.

According to statistics, Italy is one of the countries that hosts the most Romanians. In the first emigration scenario, it was the economic factor. Then the large number of Romanians in the peninsula was given by the unification, the reunification of the families.

Thus, we will focus our attention on the Romanian population in this country, its distribution on the 20 areas, the main activities carried out by Romanians, as well as remittances. We will also highlight the benefits that the Italian state offers to its residents. One of them is "quota 100", a program launched in January 2019, valid until 31.12.2020.

The main sectors of activity in which Romanians work are construction and agriculture, where men generally work. In the field of services, housekeeping, hotel industry, restaurants, elderly care and trade, we find mostly women. Romanians went in search of a job, so that about 80% are workers, carrying out execution activities, but there are also those who had the courage to set up businesses, especially in the field of construction. In 2018, 7000 companies were active. The children born in Italy to Romanian parents become businessmen in fields where their parents began working as emigrants after the 1990s.

The passing of the years, the simplification of the legislation through free movement and the right to work made us have a large community of Romanians in Italy. Those Romanians who have not lost their values, who work for a better lifestyle. Being a large community, Romania has in Italy not only the Embassy in Rome, but also other Consular Offices, in order to meet their needs.

In the following chart we will present the number of Romanian residents in Italy, distributed by areas.

In the graph we notice that most Romanians settled in the center and in the north. Thus, the regions of Lazio, Lombardy, Piedmont, Veneto, Emilia Romagna and Tuscany have the largest community of Romanians, which has grown steadily in the last 3 years.

We notice an increase in the number of residents in 2017 by 1.49% compared to 2016, in 2018, by 1.84% compared to 2017 and in 2019 by 1.42% compared to 2018.

The number of Romanian citizens in Italy is growing steadily, not very high, between 1 and 1.5% compared to previous years.

Table 1 presents the number of Romanian residents by gender, between 2010-2019. The number of Romanian female residents has been constantly increasing since 2010. We are thus witnessing the "feminization of migration". The growth trend is also present in the male gender, but the total share is kept by the female part, throughout the 10 years analyzed.
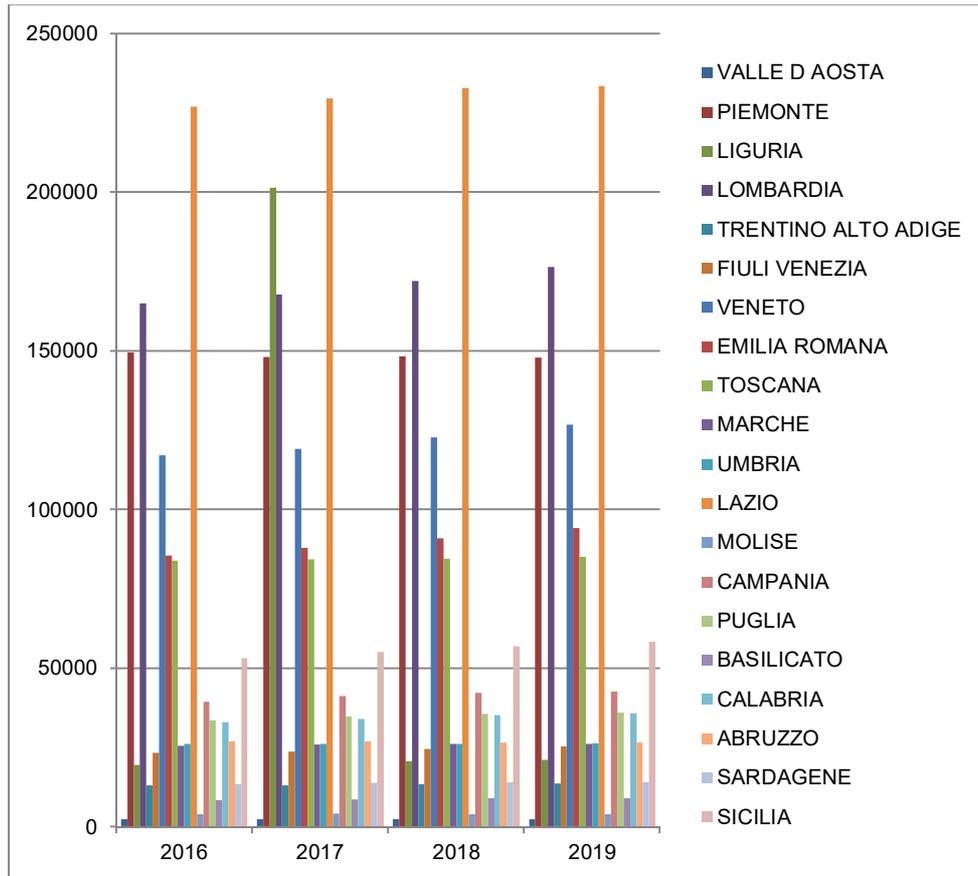
Figure 1: Total number of Romanian residents in Italy, distributed by areas
Source: http://mae.ro/

Table 1: The number of Romanian residents in Italy by gender between 2010-2019

Year	Male	Female	Total
2010	409.464	478.299	887.763
2011	439.311	529.265	968.576
2012	361.440	473.025	834.465
2013	402.766	530.588	933.354
2014	467.630	613.770	1.081.400
2015	487.203	644.636	1.131.839
2016	492.737	658.658	1.151.395
2017	497.577	670.975	1.168.552
2018	505.961	684.130	1.119.091
2019	513.289	693.649	1.206.938

Source: www.dati.istat.it

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Table 2: The situation of Romanian residents in Italy by gender and region, on 01.01.2019

Region	Male	Female	Total	Percent (%)	The share in the total number of foreign residents
Lazio	105.009	128.460	233.469	19,3	34,16
Lombardia	79.608	96.974	176.582	14,6	14,94
Piemonte	64.675	83.241	147.916	12,3	34,57
Veneto	56.396	70.516	126.912	10,5	25,33
Emilia Romania	38.719	55.553	94.272	7,8	17,22
Toscana	32.321	52.774	85.095	7,1	20,39
Sicilia	23.870	34.610	58.480	4,8	29,24
Campania	17.778	25.030	42.808	3,5	16,14
Puglia	13.694	22.396	36.090	3,0	26,00
Calabria	15.743	20.108	35.851	3,0	31,70
Abruzzo	10.772	15.884	26.656	2,2	29,85
Umbria	9.724	16.785	26.509	2,2	27,18
Marche	9.040	17.167	26.207	2,2	19,14
Friuli Venezia	11.025	14.517	25.357	2,1	23,01
Liguria	8.587	12.517	21.104	1,7	14,42
Sardegna	4.564	9.578	14.143	1,2	25,30
Trentino –Alto Adige	5.704	8.106	13.810	1,1	14,13
Basilicata	3.580	5.541	9.121	0,8	39,29
Molise	1.571	2.510	4.081	0,3	29,36
Valle d Aosta	908	1.567	2.475	0,2	29,84
Total	513.289	693.649	1.206.938		23,0 %

Source: www.tuttaitalia.it

We are analyzing the situation of Romanians residing in each region of Italy, as well as the share of Romanians in the total number of foreign citizens.

In the Lazio region we identify the largest community of Romanians. Their share in the total number of foreign residents is also among the highest. Analyzing each region, we notice that the number of women resident in Italy is considerably higher than that of men, with a percentage of 14.9%. In recent years, many women have gone to work in the health field, especially in the care of the elderly, in specially arranged centers or at their homes.

Regardless of the field in which they work, it is certain that these workers achieve considerably higher incomes than in our country. Thus, they constantly send money home for the family left in the country. These sums of money, called remittances, have a major impact on the national economy. According to statistics, Romanians in Italy send large sums of money annually, amounting to millions of Euros. In 2018, they sent approximately 730.74 million Euros.

The 600,000 Romanians aged 18-64 who work and pay contributions in the peninsula bring an important contribution to the revenues from taxes and duties of the Italian state. On the 2nd place after the Romanians, there are the Albanians. The

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contribution of Romanians is 0.75 billion Euros to the Italian economic system.

The Italian state is well aware of the major contribution that residents make to Italy's economic system, including social security. In order to meet them, in January 2019, the government launched the "quota 100" program, through which residents are entitled to other social benefits, in conjunction with community agreements on the pension system. This program can be accessed until 31.12.2020.

4. Quota 100

European citizens working in Italy and contributing to the pension fund are entitled to pension benefits (old-age, early retirement, sickness and survivor's pension), fulfilling the same conditions as the Italian citizens.

According to the European legislation contained in the European regulations on the pension system, the periods spent by a citizen on the territory of the Member States are totaled, with each country granting a pension for the actual contributions to its own budget, and the Community pension being established according to the "pro-quota" system.

The standard age in Italy is 67 years for both men and women, with a contribution period of at least 20 years. At the date of the request, it is mandatory for the activity to cease.

Starting with 01.02.2019, resident persons who cumulatively meet the following conditions may apply for registration. Thus, the applicants must be at least 62 years old, either men or women, at least one year of experience in Italy, at least 38 years of contribution in Romania or another EU member state of which 35 years representing only the period actually worked. Cessation of activity before submitting the application, prohibition of the right to carry out activity on the basis of an employment contract until reaching the age of 67 are mandatory conditions. In order to achieve the 38 years, the periods in which they have completed their military service, attended university courses or benefited from medical leave cannot be taken into account.

5. Conclusions

Italy received the Romanians who wanted to work, it offered them not only a job, but also a lifestyle. The large number of Romanian residents gives us the image of citizens who have adapted very well to the conditions, have found enough reasons to stay in Italy and not to choose another destination country.

Given that this country offers social benefits for either young people or their families, free school for children, social benefits for the elderly, we wonder how it is that in the context of the COVID-19 pandemic, many fellow countrymen returned home. The main reason would be "undeclared work". Thus, not having legal employment contracts, not contributing to the social insurance and health budgets, they could not receive any help from the Italian state. In the current context, emergency care was received only by those who needed hospitalization. The rest had to remain isolated in the house, and the money saved did not allow them to do so. They had to return. It is easy to understand that the Italian state needs seasonal Romanians for work in

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the field of agriculture, in the field of construction but also in tourism, including hotels and restaurants. Italy's economy must be restarted, and the Romanians will contribute through their work, because everyone wants everything to return to the situation before the COVID-19 pandemic.

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WATER, CORPORATISM AND DEMOCRACY

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Abstract: *The paper aims to help the reader to see how a doctrine could sustain, serve and promote globalization, bringing with it seemingly unlimited possibilities, but in its background coming with wealth dispersion and capital concentration, and creating schemes for payment for a vital resource. High development in communication technology has supported economic globalization; but to promote it there was needed a doctrinal and institutional framework. Neo-liberalism, promoting a smaller role for state in economic affairs overlapped with institutional efforts carried on under the multilateral negotiations' GATT/WTO umbrella. Globalization of rules concerning foreign investments and services' providing focused on the possibilities to invest in business having as focal point a vital resource: water. The debate of state versus market is one of the longest and tensioned in the history of civilization. Reducing the role of state in economy, there has been created the possibilities of seemingly unlimited gains, but it brought not only that, but economic convulsion and environmental decay, too. Water and investment connected to this resource have made no exceptions. Global players from soft drink and food industry areas stepped into the lucrative bottled water's industry, while giants specialized in building great infrastructure projects headed to gain access on administrating big cities' network of water pipelines and pumping or cleaning stations. Huge profits started to pour into their pockets, but with them came in many cases higher costs for piped water, lower water quality, and hardship for poor to gain access to what is a vital resource. Large investments determined by the globalization of concrete revolution resulted in damming almost all rivers of the world with huge impoundments, strongly harming natural habitats, coupled with population's relocation together with a peculiar life-style's losing. International credits needed to finance such projects created an almost frenetic market for international lending institutions. Countries aiming at quick modernization stated to fight for access to these financial resources in order to create the capacities to build huge dams and irrigation schemes, but in numerous cases the results were far from what had been expected. All these have created a favorable framework for making water an asset which can be traded as any other commodity, strongly reflecting the neo-liberal tenets in relation with this resource.*

Keywords: *corporatism; democracy; liberal doctrine; technology; water.*

JEL Classification: *F15; F21; Q25; Q34.*

Overview

Who does the water belong to? This is the starting-point question for debate. Is it susceptible to be *appropriated* by he who has capital, or can be it regarded as

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belonging to *commons*? And in this case, which rights should common people have in relation to water?

There is an intense debate related to this problem. Of course there are vested interests to press for a position, or the other. Taking account of recent trends and especially of future evolution, the way we see water will strongly influence our future. In the context of limited access to clean water which has already become a pressing situation in numerous societies, there appears the necessity to better understand our position face-to-face with environment at large, and with water, especially.

If some regard water as an idle resource ready to be exploited by those who can, around one billion people still lack access to minimally safe drinking water, while over 2.6 people billion live without proper sanitation, a critical component for children's survival (Nickum, 2010). This is overlapping on the following reality: global population dramatic rose by a factor of 3.8 times in last century, water use increased 9 times and irrigated area around 7 times. Chemistry became during last century one of the key-components of modern societies. Agriculture and food production made no exception; fertilizers use rose 342 times (Chellaney, 2013), triggering rising levels of land and water pollution, with long term negative consequences upon environment, animals and population's health.

Put simple, *the faucet represents a symbol*: there is a unconventional definition which says that civilization can be ascertained through a faucet's turnaround. If water runs, it would mean that civilization exists in that place (Georgescu, 2016: 109).

Looming water's crises becomes visible if only one looks at the global water consumption rate's evolution, which has grown more than double the population growth's rate, over last century: from around 770 billion cubic meters/year (b.c.m/y.) in the year 1900 to 3840 b.c.m./y. in 2000; furthermore, it is heading toward a dangerous level, expecting to be around 5000 b.c.m./y. in 2025 (Chellaney, 2013).

Looking at this numbers, and at other dangerous aspects which haunt humankind – on top of them all climate change – a sound debate regarding water is more than welcome. As water is a key-element in nature and society, its disappearance, reduction, pollution brings with them strong blows to man, society, and environment. Developed countries generally have a more favorable per capita water availability than developing countries. South American continent enjoys exceptional position regarding per capita water availability; it holds 29% of world's freshwater reserves, while the most populated continent – Asia – holds quite the same share of water resources availability (Chellaney, 2013). In order to create propitious conditions for cereals' harvesting, Asian countries had to build large irrigation infrastructures: 70% of irrigated land in the world is located in Asia. India has 66 mil/ hectares of irrigated land, followed by China (623 mil.), while the USA has just 25 mil. ha. Over 70% of cultivated land in Asia is linked to irrigation systems, which means that any water shock could trigger food crisis in Asian countries, and due to their position in population size, this would mean a world food crisis. Africa remains the least developed continent in relation with irrigation systems used in agriculture (only 3,2% of cultivated land is irrigated).

The most exposed economies to water-stress are Yemen, Burundi, Burkina Faso, Ethiopia, Malawi, Pakistan, Rwanda, Somalia, and the two Sudan.

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From the perspective of water consumption per capita, the leading position is hold by the US (some 5oo liters/day/capita), followed by other developed economies (Italy, Japan, Norway, France, Austria, Denmark, Germany).

As a standard, if there are available less than 1700 cubic meters/year/capita in a given country, that nation is under water stress, posing great challenges to a well-functioning economy, while water poverty threshold is hit when there are available less than 1000 cubic meters/year/capita (Chellaney, 2013).

There are some debates hinting to the point that technology can solve all problems, and it appeals individuals, and especially corporate interests which see opportunities, not dangers in this context. On the other hand, there are sound studies pointing to the fact that man must live in harmony with environment and nature in order to survive, thrive, and to be happy. If there are people who regard the possibility to appropriate all they *want* and *can* and think this as a normal situation, which can be attached to those who believe that mankind must use its capacity to dominate and manipulate nature in order to gain power and maximum benefits from it, other would advocate for a more equilibrated behavior, linked to reflections of a wise man which says. If first group could be dominated by greed (and as a consequence by pride), the second group is dominated by common sense.

Competition and comparison are the ways of life for seduced people belonging to the first group, while equilibrium is the way of life for those belonging to the second. Related to this, in order to survive and thrive as society, there is needed for its members to give sleeping short lapse, to eating small quantities, while warding with care everything.

If corporatism culture has peculiarities similar with people belonging to unrestricted use of nature and its exploitation, self-restriction and awareness is more connected to nature and individual's welfare; wisdom and happiness takes dissatisfaction's place, together with nature's revival. Earth gives us enough in order to live, but cannot breed one individual's greed, said Ghandi.

Even there is an ecological movement which had gained momentum during last two decades of last century internalization in each consciousness of this possibility to live a more equilibrated life, with a better connection to nature and environment.

If there are societies prompting people to search their happiness through material possessions' pursuing, and material the freedom of spirit could bring a more equilibrated life-style.

And what is more important related to our subject, pursuing excessive possessions by someone comes with high environmental and social costs, because of water consumption and reduced availability to other people, which in most cases live far away from the greedy and "blind" consumer.

Anyway, water constraints on rapid economic growth are large.

Corporatism and water

Beyond water's material role for life's sustaining, it has a unique spiritual meaning and component; in Urdu "*abadi*" means human settlement, this world's root being "*ab*" – water (Shiva, 2016: 20). As Shiva (2016) mentions, from this concept aroused the doctrine of riparian right, meaning that dwellers supported by a river system have

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a *natural right* to use that water. It aroused out of human conditions, vital needs, and justice; these rights did not originate concomitantly with the *state*, or globalization, or *corporate culture*. They were connected to a peculiar context of human existence.

Seeing water as only a *material* thing ready to be appropriated, exploited, traded and sold has to do more with a cowboy economics, that with a reasonable reflection, facilitating those who can while depriving others' rights to this vital resource. This paradigm of seeing water is based on a fraudulently doctrine because it promises rewards for a better adapted company, neglecting the water's role in a well functioning environment; but seeing water only from *spiritual* angle could push humankind into a new mythological era, with its dangers and irrational attitudes and behaviors. In this context, equilibrium is required now more than ever.

Globalization geared to wild capitalism inspired from an excessive liberal doctrine and Earth's resources unsustainable exploitation have been moving together during last 4 decades. As a consequence, pollution of land and that of water from rivers, wetlands, and of oceans hit alarming levels. But this is not all: it overlapped to an excessive capital concentration, affecting democratic processes even in well established democracies.

A detailed analysis of traditional democratic states sheds light upon a surprising fact: they are in fact altered democracies. We already have few public debates, while "key-decisions are adopted one by one beyond public's back, very often contradicting its opinion" (Sachs, 2011). This is a peculiarity of an oligarchic regime, oligarchy being a kind of conspiracy in replacing democracy through forming a coalition of groups which in sociology are called cliques, in order to run the state. No revolution is necessary while the transfer of power from the key-factor of democracy – middle class – is transferred to the few in an imperceptible manner (Maliţa, 2012: 133). *Free* elections are being held favoring clique's members, while criticizing *old* democratic system, hinting at its ineffective capability to run on behalf of society's interests, corruption practices. This is a solemn way of stealing a whole state, with applauses, in an absence of convulsions and without any revolution. Instead of violence we see a chosen path of refined fraud, its object being for a period great and the most sophisticated heist.

When this aims not only various state and society resources is one thing, but when this concerns water resources in another way. Excessive concentration in a few hands of the means who favors the control of water could bring to life and sustain political regimes which have nothing to do with a strong and health democracy and its equilibrium. In this regard Wittfogel's (1957) remarks are more than opportune.

To hint that this is not a simple ascertaination, the example of a food giant is welcome: nowadays Swiss company Nestle owns 70% of world drinking water resources (Georgescu, 2016: 46). One million tons of water which extracted through drilling in different countries which allow Nestle to do this cost it only USD 3.5, while selling this amount of water in plastic bottles (read waste) with USD 2 million! Furthermore, Coca-Cola is made using the water of countries where this resource has become scanty; in few words, drinking Cola, one drinks the water of other people, people who already miss it. Whole societies are abandoned in hunger and thirst (Georgescu, 2016: 47). This process of water appropriation manifested with stronger influences during the 8-th decade of last century. Economic impact of this

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process is serious: in India, for example, one liter of bottled water (Evian) is sold for USD 2, which is double the minimum hourly wage there (Shiva, 2016); while the same country boasts some 500 rich families which use Evian water for drinking paying each around USD 210/month. Even India is considered the largest democracy, these numbers point to an anomaly. There is no real democracy is such a situation. Furthermore, commodification of water where it had been considered a gift, *free* of any charges indicates that this trend is getting momentum: the Indian packaged water is estimated at USD 105 mil/year, with a growth of 50-70%/year. From 1992 to 2000 sales rose from 95 mil liters to 932 mil liters (Shiva, 2016).

Great capital concentration is favored by technological progress in transportation, communication, information sectors on which is overlapping a global trade regime, favored by international institutions and a free-market doctrine. In this context people could lose control over water resources.

Imperceptibly, a right could be transformed into a commodity. A right to safe and clean water resources turns into a tradable good, with its own price, while access to it depends on financial resources, not on natural rights.

Without arguing for a whole free access to unlimited resources of water resources, the message focuses on a call to awakening for citizens, states and corporations. If last four decades trend continues, nature will avenge itself, and in one way or another some equilibrium will gain momentum, but with great costs for all economic actors, be they individuals, states, and corporations.

Of course, in a scarce resources world, a price on water can limit its unreasonable use, but in the same time, water means life. And it should remain that way.

Democracy and water

From socio-cultural point of view, there is no democracy in the absence of a population aware about its risks and opportunities; from economic angle, a large middle class is the warrant of a healthy democracy. A well-connected society at a molecular scale (read communities in villages) could create in the world which is rising, a more stable society and a healthier economy in a better used and preserved environment. This *civic economy* points to the fact that a society's welfare depends on each individual's prosperity. Distributism takes the stage's central position, gradually pressing to the corner economic resources' concentration. The central role of the family in this context will bring with it a stronger society with healthier and happier people.

The importance of strong family for a creating a strong state and a stable regime could be mentioned presenting Roman state's evolution toward what Rome has become (Mommsen, 1987: 33-34; 51-62), while another philosopher indicates to a lower probability of leaning into dissensions for a democracy, while the nation of highest quality is that where people are involved in works connected in one way or another to agriculture (Aristotel, 2001: 119; 155), and it can be mentioned – through extension – to nature and environment.

This activity oriented as to create civic movement at society's grass-root level would not only favor a better distribution of resources, a higher employment rate, a more decent life in a higher quality environment with better food and water resources

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coupled with lower wastes, but it could transform an amorphous population into a proactive and participative political force. Departing from higher capital concentration objectified in land concentration, huge concrete structure and vast irrigations schemes (Sneddon, 2015) related to a strong chemical agriculture and in key-global players met in food production, storage and transportation could create even economy in energy consumption, because consumption and production places would be much closer.

In order this to become reality, there could be brought in discussion the main tenets of water democracy, development based on Shiva's (2016) principles.

Water is nature's gift for humankind; as humankind has been receiving it freely from nature for millennia, it should be remain that way. But taking account of population growth's rate, urbanization and industrialization, this should come together with a type of education aiming at preserving it clean and to use it in a *very* aware manner; while any unnecessary use or waste being taxed. Any diversion scheme that creates arid or waterlogged areas should be avoided in the future; any great impoundment scheme should be strong weighted with all its risks and costs (from environment disturbances brought by a high dam's construction, to social costs generated by population's relocation and the effects of depriving downstream nation of the waters of a common watershed). This is important to be debated because in most cases these mega-structures violate the principles of ecological democracy. Furthermore, to produce food on large areas in distant countries, using their precious land and water resources in order to create food for export on global markets, without taking into account those societies' needs, could prove being unsustainable from social and ecological points of view in the long run.

Water is essential to life and *life on Earth is linked through this precious liquid*, be it in gaseous, liquid, or solid form, and as a consequence all species and ecosystems must be warranted to the right to a share of water in order to survive and refresh. As living beings which have brought this plague upon them, people should change their attitude toward a more aware one, all having the duty to secure that our doings are friendly to other people, plants and living beings.

Water must be kept free for sustenance needs: because of creation of a system aiming at buying and selling it for profit is against the right to have access to nature's gift, for which no one has done something, water's marketization could create the premises of access denial to it for the least fortunate.

Water resources are limited and they can be exhausted. Even that a great part of society has been acting upon based on a philosophy inspired by the extremely wealthy John Locke, which effectively legitimized the theft of common resources (including water), manipulating nature through technology for humankind's rising power in face of nature, extracting more water from ecosystems than nature can recharge and consuming more than one's normal needs and legitimate share brought with it ecological havoc and social unrest.

Because of these *water must be conserved* with all efforts, and it must be used taking account on ecological limits determined by its flow through a specific area (smaller or larger, as is the case of international rivers).

Like air, water is not due to humankind invention; both of them could not be inwrought; both of them *are commons*. In order to have a sustainable social,

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economic, ecological, and political stability, water should not be owned as private property and sold as a commodity. Furthermore, no one must be given or could appropriate the right to *destroy* (through overuse, abuse, waste, pollute) water.

In this regard we should look to what means the damming of great rivers and which could be the politico-military evolution in international rivers' basins. The case of Turkey and especially China are noteworthy to be mentioned in this regard. And More, tradable pollution schemes and the arising international water market (at national level, there are already functioning domestic allocation schemes based on market mechanisms, as in USA or Australia) are against the *principle of sustainable and just use*.

And the most important fact is that *water – like air – has no substitute*. It is one more strong reason why water must be kept out of any tradable schemes.

Conclusion

As a conclusion, equilibrium is required now more than ever; capital concentration – especially when it is connected to water use and distribution – can hinder democratic process, because this concentration facilitates the creation of characteristics and capabilities of influence which have to do more with political decisions which are against the peoples' will, and as a consequence with a more oligarchic character, while social distribution – especially when it is connected to water – means there is a more equilibrated society, situated more to democracy field. Put shortly, there are face-to-face two world views connected to water: water as a tradable commodity (facilitated by a political regime with oligarchic elements), and water as right to live (connected more to a democratic regime).

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FACTORS' IMPACT ON DAMAGES PAID IN ICSID CASES, EVALUATED ON MARKET VALUE PREMISES

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Abstract: *The present paper intends to present the impact of different factors, such as - the legal standard breached by the host state, the method used in calculating the damages and the requested amount, on the damages awarded in ICSID - International Centre for Settlement of Investment Disputes – concluded cases in which the Tribunal ordered the Respondent to pay damages to the Claimant, and that damages had been calculated based on the market value. Usually, the Company Valuation process is driven by economists following the frame settled by the International Standards, which recommends three main categories of valuation bases: asset approach, income approach or market approach. The damages valuation in ICSID Cases are made primary following the same rules, and in the present paper will be presented the ones using the market value approach. We will present three regression analysis based on the 7 cases that are meeting these conditions, cases that were started against countries such as: Russia, Costa Rica, Egypt, Slovak Republic, Georgia or Macedonia. The industries from which these cases aroused are different, we are talking about petroleum industry, tourism, bank and finance. Going further in analysis in order to see which was the breach identified by the Tribunal, we can see that there is not any direct link between the valuation approach and the legal standard breached by the Respondent but we can find a direct link between the standard breached and the amount awarded. In the cases presented in the following pages we will see that in some cases we were taking about expropriation and in other about breaching the fair and equitable treatment that the host state must insure to the foreign investor. Anyway, these cases had a common aspect, and that is the fact that were other valuations approaches were presented by the claimants, those had higher values. The present paper is an analysing study, using the statistical instrument of regression, based on a previous paper published by the authors in which was presented a briefly description of those cases in which the ICSID Tribunal decided the amount of damages to be paid by the Respondent, using the market approach.*

Keywords: *ICSID; damages; foreign direct investment; international disputes.*

JEL Classification: *F51; F37; K22.*

1. Generally Introduction

The international flow of investments encounters the need of an organism specialized in dealing with the legal problems that might arose between the foreign investor and the host state. Under these circumstances, The International Centre for Settlement of Investment Disputes Convention entered in force in October 1966. The scope of this Convention was to assure protection for the foreign investors and their properties in the host state. After the recognition of ICSID by the states, the foreign investment flow grew and the number of disputes start growing as well. The ICSID Tribunals faced the new challenges of calculating the damages to be awarded in case of finding that the Respondent had breached a legal obligation or standard. There were many studies undertaken on this subject, the authors, them selves had published other works on this matter, and the present paper is a complementary analysis derived from one of the previous works in which the cases that are now in analyse were briefly presented.

Table 1: ICSID Cases in which the damages awarded were calculated using market approach

No.	ICSID Case participants	Amount Awarded	Amount Requested	Method Coef	Standard Coef
1	Československá Obchodní Banka A.S. _v_ Slovak Republic	24.800.000,00	40.000.000,00	2,48	6,82
2	Swisslion DOO Skopje_v_Macedonia	350.000,00	19.000.000,00	0,07	0,20
3	Unglabe_v_Costa Rica	3.100.000,00	5.200.000,00	1,79	1,79
4	Waguih Elie George Siag and Clorinda Vecchi_v_Egypt	74.550.795,00	195.800.000,00	2,50	6,87
5	Rosinvest_v_Russia	3.500.000,00	232.700.000,00	0,61	1,68
6	Quasar_v_Russia	2.000.000,00	26.000.000,00	2,31	2,31
7	Ioannis Kardassopoulos and Ron Fuchs_v_Georgia	30.000.000,00	36.500.000,00	2,47	2,47

Source: http://anale.steconomiceuoradea.ro/volume/2018/AUOES-1-2018.pdf pag 279

The idea of this analyse was to determine if any of these variables can be found to have a direct and significant impact in the value of the damages awarded, and then to compare these results with the results obtained by the authors in other works where they analysed the same factors impact in relation with all the ICSID cases in which damages had been awarded until 2014, no matter what method was used.

2. Analysis findings on each factor

As mentioned above, the information extracted for each case was analysed in linear regression to determine their influence. The amount of damages claimed, of the same numerical character, was used in the form presented.

The analysis itself was carried out using Microsoft Excel, and more specifically the linear regression function made available by the Microsoft package. The Amount Awarded was considered to be the dependent variable a regression analyse was proceed for each of the other factors that were considered the independent variables.

2.1. Analysing the factor: Amount requested
The first analysis was the one that reflected the direct link between the amount requested and the amount received.

SUMMARY
OUTPUT

Regression Statistics	
Multiple R	*0,43639885*
R Square	*0,190443957*
Adjusted R Square	*0,028532748*
Standard Error	*26588888,33*
Observations	*7*

ANOVA

	df	SS	MS	F	Significance F
Regression	*1*	*8,31554E+1*	*8,31554E+1*	*1,17622466*	*0,32762816*
Residual	*5*	*3,53484E+1*	*7,06969E+1*		
Total	*6*	*4,3664E+15*			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%
Intercept	*9770313,50*	*13630534,4*	*0,71679607*	*0,50557791*	*-25268090*
Requested Amount	*0,12591606*	*0,11610101*	*1,0845389*	*0,3276281*	*-0,1725310*

Figure 1: Results of regression analysis of the required amount
Source: Own Calculation

On the results we must first look at the Meaning Factor F, it is important to be as close to zero as possible and in any case to be less than 0.05, in order to have a high statistical significance. For values between 0.05 and 0.1, we can still talk about statistical significance, but not so strong, while for values greater than 0.1 we cannot say that we have a proven statistical significance. The second value we need to look at is the r square value, which is the value that measures the impact of the analysed factor on the analysed dependent element.

In our case, the value for Significance F is 0.3276, higher than 0.1, so we will say that no statistical significance had been found by analysing this factor. But if we extend the analyse to all the cases until 2014, as we did in other works undertaken, we will see that the Significance F for this factor is very close to zero, which makes it a very powerful factor in relation with the amount awarded as damages. The coefficient being positive in both analysis, this shows a direct link between these amounts, the higher the amount requested the higher the amount received.

The second value, R square value, in our example is 0.19, showing a probable impact of 19%, but again without statistical significance as we previously have seen. When analysing the all cases mentioned before, R Square is 0.99866, with a very high dependency displayed.

These results are not a surprise, because we just showed by calculations that the amount requested is in general the main factor in calculating the amount awarded, but this is not applicable in case that Tribunals decides to use market approach, because in all the ICSID cases were the claimants presented other approaches for calculating the damages, their calculations were a lot higher than the ones based on market approach.

2.2. Analysing the factor: method coefficient

The methods used by experts to assess damage are different, which are in accordance with the international company assessment plans. Since the evaluation methods themselves are not expressed in a numerical form, compatible with their use in regression analysis, they were first prepared and converted into numerical values for use in regression analysis. Their conversion was made on the basis of the percentage of damages awarded compared to the damages assessed by the experts and then analysed on the basis of the number of cases in which the court decided to transmit or reject the method used.

The results show an F significance greater than 0.1 and this means that there is no proven statistical significance for the impact of the factor analysed. This translates into the fact that the arbitrators who tried the ICSID cases in which damages were awarded did not present any preference for one method of assessment or another, not as regards the amount they decided to award as compensation for the damage suffered by the complainant. Instead, a preference of the evaluators for the discount cash flow method is obsessed, this being determined by the fact that this method produces significantly higher values compared to the method based on the amount invested and the fact that there is no specific market for each asset valued.

This was also the case when making the analyse based on all the cases in which damages were awarded until 2014.

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SUMMARY OUTPUT

Regression Statistics	
Multiple R	0,570170227
R Square	0,325094088
Adjusted R Square	0,190112906
Standard Error	24277185,49
Observations	7

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1,42E+15	1,42E+15	2,40844	0,18138454
Residual	5	2,95E+15	5,89E+14		
Total	6	4,37E+15			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%
Intercept	-7002561,216	19532581	-0,35851	0,734604	-57212659
Method Coef	15316330,62	9869310	1,551915	0,181385	-10053539

Figure 2: Results of regression analysis of the Method Coefficient
Source: Own Calculation

2.3. Analysing the factor: standard coefficient

The standards and provisions of bilateral contracts concluded between countries, even if they are largely the same under international law, are not expressed in a numerical form, compatible with their use in regressive analysis. So, they were first prepared and converted into numerical values for use in regression analysis. Their conversion was made on the basis of the percentage of damages awarded compared to the damages assessed by the experts and then analysed on the basis of the number of cases in which the tribunal decided to accept or reject the violation of that legal standard.

In our example, the Significance F has a value of 0.0353, between 0.05 and 0.1, so we can still talk about statistical significance, even if not so strong. This translates into the fact that the arbitrators who tried the ICSID cases in which damages were awarded found it easier to determine a breach of the fair and equitable standard, followed by illegal expropriation. This result is in accordance with the previous

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analyse made be the authors, based on all the ICSID cases in which damages were awarded until 2014.

SUMMARY
OUTPUT

Regression Statistics	
Multiple R	0,787817
R Square	0,620655
Adjusted R Square	0,544786
Standard Error	18200938
Observations	7

ANOVA

	df	SS	MS	F	Significance F
Regression	1	2,71E+15	2,71E+15	8,180623	0,035399065
Residual	5	1,66E+15	3,31E+14		
Total	6	4,37E+15			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%
Intercept	-5898551	11304238	-0,5218	0,624092	-34957019,7
Standard Coef	8111592	2836044	2,860179	0,035399	821309,5787

Figure 3: Results of regression analysis of the Standard Coefficient
Source: Own Calculation

3. In conclusion

From the analyses carried out in this paper we can draw the following conclusions: an ICSID case in which the fair and equitable standard has been breached or was illegal expropriation is most likely to end with the award of significant damages. While, if the method for which the Tribunal will opt will be that based on market values, the applicants can expect the amount received to be less than the required amount calculated by the cash flow method.

Making a parallel with the other studies undertaken on this subject by the authors, we can say that the results are consistent, and that the specific analyse of amount requested on the cases in which the damages were calculated under the market

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value approach, is reflecting the fact that this method will give results under the level that might be obtained using other methods.

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METHODOLOGY OF THE EXTERNAL ENVIRONMENTAL ANALYSIS AS A PART OF STRATEGY PLANNING

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Abstract: *The market environment has changed significantly in recent years. Globalization, market concentration, rapid flow of information and technological advancement make increase competition in all industries. The previously commonly used the company, recognize the threats and opportunities outside the company, in this regard intuition skills have outstandingly importance. In this article, the authors present the importance of strategic planning and its connection to traditional planning and its differences. After that, the paper presents the internationally recognized strategic planning method, its steps and the quantitative approach was replaced by the emphasis on quality. The significant changes in the economic, social and natural environment require more responsible mentality and forcing companies to make more responsible decisions. Planning periods have been shortened. Due to rapid changes plans have to become dynamic and multiple controls and feedback have required at the planning stage. Due to the above changes, the overall strategic planning has also come to the fore. The main task of strategic planning is to recognize and respond to the opportunities of the organization in time, and to develop a systematic action program with a systematic approach to analyzing their risks. Successful strategy-making is a success factor of proper strategic thinking. This affects the company's framework of the strategy. The strategic thinker should coordinate a procedure to monitor the state of relationship of each step and its interrelation in particular the internal assessment methods. The development and formulation of the strategy begins with the definition of the business vision and the business mission. These are subordinated to analyze that seek to understand the firm's strategic position. After that, the possible strategic directions can be selected. After selecting the strategic direction (s), the long-term objectives of the organization should be recorded. Knowing the objectives, possible strategic options should be considered and analyzed. The final step of planning is the strategic choice that will help the organization decides which version or variations will be used in the implementation phase. The method described above provides a framework that can be applied not only at company level, but also at a sectoral, national, but individual level, as well.*

Keywords: *business strategy; strategic planning; internal analysis.*

JEL Classification: *L1.*

1. Generally Introduction or Background

"If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle." (Sun Tzu, BC.4. century) As it is demonstrated the literature of strategic thinking has a long history, as the basic analysis of internal and external factors which determine the main and long term strategy of an organization. In this article we try to give a review of the latest results of methodology of the strategic planning with a special regards on the Internal Analysis, Approach or Audit of an organization. The review of the methods of Internal Audit is mostly based on an American strategic planning practice of Strategic Management published by Fred R. David at al, 2017, 2019. But we tried to adapt the methodology to the European specialties.

Research Background: The history of strategy theory and the development of strategic planning are discussed in numerous Hungarian and international literature (Csath, 1990, 2004; Whittington, 2001; Fülöp, 2008; Gulyás, 2014; Balaton-Tari, 2014). In Hungary the stages of the development of corporate strategic theory were presented on the basis of the "Strategic and Business Planning" published in 2014 by Károly Balaton and Ernő Tari co-authors and by Gyula Fülöp, published in 2008 in his book "Strategic Management: Theory and Practice". Based on these books, four periods can be distinguished in the history of corporate development. These sections are:

a) Experiences of corporate planning (until about 1965);
b) The beginnings of the modern theory of the strategy (approximately 1965-1970);
c) Development of strategic planning models and methods, constraints of strategic planning (ca. 1970-1980);
d) Development of the theory of strategic management (approximately 1980 to the turn of the millennium) (Balaton – Tari, 2014.). The strategic management, as a process: like strategic analysis, strategy formulation and implementation, is far more the only a strategic planning approach. "Competitive Strategy" and value chain method was also developed by Porter, which was published in the book "Competitive Advantage" published in 1985. The essence of the model is to break down the value-creating activities into strategically relevant phases that can be separated from each other in order to identify the strong and weak links of the value chain (Fülöp, 2008). The model proved to be suitable for separating primary and complementary activities within the company. Furthermore, the analytical method graphically depicts the individual activities in terms of their role in value creation (Marosán, 2002). In the course of resource based analysis, the process of strategy development was based not on the requirements of the competitive environment, but on the level of resources available to the organization (Balaton – Tari, 2014). Among the theorists of the resource-based approach was Barney, who developed the approach into a coherent theory. In his view, strategic assets are nothing but the tangible and intangible resources of the company. Nowadays the leading authors of Strategic Management and as part of that Strategic Planning are publishing in the

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United States. The book of Strategic Management published by Fred R. David at al, in 2019 is the 17th edition now and used in 80 countries in the world as a university textbook..

2. Methodology and Discussion

Within the process of Strategic Management and as a part of it Strategic Planning we are focusing on the process of the Internal Audit which is the second level of the analysis of an organization which serves to formulate a sufficient strategic plan. The main aim of the process of Internal Audit is to reveal and evaluation of the strengths and weaknesses in all business areas of the organization. Representative managers, leaders of an organization and employees from throughout the company need to be involved in determining a firm's strengths and weaknesses. The internal approach which could be also called as audit requires collecting and assimilating information about the firm's management, marketing, finance/accounting, production/operations, research and development (R&D), and management information systems, operations, culture of the firm, and goodwill.

Almost parallel to the analysis of the external environment, internal analyzes should also be carried out. There are also several procedures for internal analysis. We reviewed the next four:

- *Resource Based View (RBV) Approach*
- *Analyzing Key Internal Forces (KIF)*
- *Value Chain Analysis (VCA), (Activity Based Cost accounting, ABC analysis)*
- *Internal Factor Evaluation (IFE) Matrix (Nabradi at al, 2018)*

In the case of an internal analysis of an enterprise, we have to consider its capabilities, and we focus on how the company can meet the expectations set out there in the future. This point is where the internal analysis connects to the above mentioned mission statement and vision of the organization. During the process of strategic planning, first we have to clarify the general fundamentals of internal analysis which covers the revealing of internal factors by using the suitable methods. We are trying to answer four important questions in this case: What, why, and how do we examine and analyze, at what we need to pay attention during the analysis? We are trying to concentrate on the next tasks:

Always concentrate on internal strengths and weaknesses of a company.

These elements can be affected or modified by the firm.

The analysis focuses only on the present circumstances or situations.

The analysis is subordinate to the mission and vision

Basically, it is advisable to reveal the resources of the organization. The method of *Resource-Based Approach* means taking the most important resource and capital categories in turn and then evaluating them into the main objective outlined in the vision. What are these resources? There are three major groups of resources: Physical resources and technological resources, Financial resources; Human resources; Organizational resources, Culture; Brand and goodwill

RBV theory asserts that resources are actually what help a firm to exploit opportunities and neutralize threats. Firstly, fixed assets, including intangible assets, tangible assets and financial assets, and current assets, their categories are stocks,

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receivables, securities and cash. In the analysis, we take a look at their internal composition and size, and examine how much we are able to meet the vision of the future. Following the tools, we examine human resources. We analyze whether there are enough graduates, men and women, the cost of the permanent employees, personal benefits, the fluctuation, the workplace atmosphere, the organization of the company, the corporate culture. Is there any personal development program for employees, are they aware of the company's mission and vision. Culture of an organization is quite important for the employees. The human affiliations and beliefs embedded in the life of the company, as well as the accepted common values, have been formulated in the Company's Code of Ethics.

If we evaluate the internal factors of an organization or an enterprise, we can apply the so called *Key Internal Factor Analysis (KIF).* In the case of an organization, the investigation should be extended to the next factors:

Management, Marketing, Financial accounting, Production service, Research and development, Management Information System (MIS) (Nábrádi at al, 2018)

The grouping of *Key Internal Factors* in this sense is not random. The most important element of a business in strategic terms is the management itself. As far as we know, no business can be successful just because it produced an excellent product or because it was not indebted. What are the tasks and areas of analysis in the management analysis? It is advisable to identify which areas of management are responsible for this purpose. The management has five well-defined tasks. Planning, organizing, motivation, staffing and controlling

Evaluation of the company's marketing area is not an easy task. Either. during the analysis phase of strategic planning, it is worthwhile to explain the advantages and disadvantages of the following areas (Nábrádi at al, 2018.): The Main Areas of Marketing evaluation are: Customer Analysis, Customer Analysis, Market Segmentation, Trends in Sales of Products and Services, Product and Service Design, Pricing Practice, Distribution, Evaluation of Distribution Channels, Existence and practice of marketing research, Possibility Analysis, Marketing Mix Analysis.

The analysis of financial-accounting conditions can be found in the company's balance sheets and profit and loss accounts. The analysis should now also follow the basic principles that we are examining in the present - analyzing the company in accordance with the principles set out in the vision and mission. Factors to be analyzed are influenced by the company and its operation. We are trying to find out what strengths and areas to be strengthened are currently in place. The analysis of financial-accounting conditions is examined in five major groups in the strategic planning literature (Nábrádi at al, 2018): Solvency, Liquidity, Leverage, Activity, Profitability, and Growth. In each case, we analyze the financial situation of the company by analyzing numerical indicators, and from the past we have experienced the results of the present. Although these indicators are industry-specific, they can be interpreted differently in the primary (mining, agriculture), secondary (processing, machine manufacturing) and tertiary (service, trade) sectors, but there are also sectors that are sector-neutral.

Evaluation of production and service consists of analyzing all activities that convert or transfer the expenditures into revenues for goods and services. The main areas

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of analysis for strategic purposes include: Production Service Process, Capacities and Capacity Utilization, Inventory and Inventory Management, Structure, Preparedness and Efficient Use of Labor, Quality and Quality Management, Quality assurance. Evaluation and certification of production and service is not an easy task. Some of them can be quantified, while more elements are subjective.

From a strategic point of view, *R & D* is not a particularly appreciable aspect of the primary sector producing mass products and small businesses. However, there is the discovery and application of innovation results that can be realized in their own or in clusters, but its numerical values in the Hungarian economy are still not significant. Although today large companies still have the privilege of R & D, there are examples in small and medium businesses to develop new technology or services and running a new start- up.

The Management Information System (MIS) generally refers to a computer system that allows managers to manage, evaluate, and effectively manage organizational units. The management information system is no longer an inevitable tool in our century. It can not only help managers, but also inform employees, "stakeholders" in business.

Value chain analysis is a novel approach to analyzing internal factors. Its novelty lies in the fact that it does not take into account traditionally functional areas such as the resource-based approach, or the methodology for analyzing key factors, but is based on building product service closely over time. Basically, it analyzes costs with a specific approach. The method is really effective if the company covers a whole product chain, but it can be used well even if it is limited to the narrower segments of the supply chain. The method is publicized by Porter as it was mentioned in the background.

The complexity of Internal Approach will be developed into the form of *Internal Factor Evaluation (IFE) Matrix*.

There are therefore several approaches to analyzing the internal factors of the business. Whatever we do, we are basically seeking answers to two questions: where we need reinforcement (weaknesses) and what are already the goals to be achieved (strengths) in order to realize our vision and maintain our mission. A suitable method for deciding this and quantifying strengths and weaknesses is the Internal Factor Evaluation Matrix (IFEM). IFEM is characterized by a single number of the strengths and weaknesses of the company, and we can use it to make an assessment of where the company needs to strengthen its vision for the future, and which factors are significant strength can be demonstrated in its business. The essence of the process is to select the most significant 10-20 internal factors that give the company strengths or weaknesses to realize the vision. The method of working out the matrix was worked out by Fred R. David, 2017. in the IFEM.

3. Results and Acknowledgements

During our educational practice of Strategic Planning we realized that student (especially corresponding students, who still have jobs) really enjoy this subject. A great benefit for them (as managers or employees), that they perform better when they understand how their work affects other areas and activities of the firm. When

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marketing and manufacturing managers or employees working in related divisions discuss issues related to internal strengths and weaknesses, they gain a better understanding of the issues, problems, tasks, and needs of all the functional areas. In organizations that do not use strategic management, marketing, finance, and manufacturing managers often do not interact with each other in significant ways. Compared to the external audit, the process of performing the internal audit provides more opportunity for participants to understand how their jobs, departments, and divisions fit into the whole organization.(Fred R. D, 2017) Performing an internal audit thus is an excellent tool or forum for improving the process of communication in the organization.

In an extended paper we could demonstrate the methods of Internal Audit and Approach and the advantages of them through real, organizational examples from operating companies.

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EUROPE - TYPES OF DIPLOMACY IN THE VISION OF SIR HAROLD NICOLSON

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Abstract: *The paper outlines the types of diplomacy. This brief paper does not include all known and analyzed types of diplomacy. From a certain perspective, diplomacy is also a way of dialogue, of communication between states. Diplomacy seeks to settle and resolve conflicts or remedy differences of an economic, social and other nature. If, for various reasons, they do not find a solution with the help of diplomatic means, only military means are used. From the oldest information about diplomacy, we are informed that the people, respectively the leaders had a certain inclination to try to resolve conflicts, first, through diplomatic means. Even if this process is not necessarily a short-term process, it is preferable to resorting to military means. The latter would cause real disasters and much more material and even human damage. If this happens, it means that at least from a theoretical point of view, negotiations and diplomatic activities have failed. In all this context, it is imperative to take into account the specifics of the actors in question, their language and culture, history, geography, socio-cultural and political influences and, obviously, other elements that could directly influence or indirectly, the activity and the external relations. Thus, without limiting ourselves to these factors, we must admit that the existence of several types of diplomacy is generated. A good external relationship implicitly determines the advantages of those who are involved, advantages of an economic, commercial and other nature. In this way we can distinguish several types of diplomacy, among which we mention: British, German, French and Italian. In general, each state seeks to achieve certain objectives, and to achieve them it is involved in the international diplomatic sphere. Involvement in the diplomatic sphere also means cultivating foreign relations with as many states as possible, especially those with which it seeks to develop business relations, partnerships and agreements in various fields.*

Keywords: *types of diplomacy; diplomacy.*

JEL Classification: *K20; N40; O50.*

An eloquent presentation of them is made by Nicolson (1988) in the content of the paper "Diplomacy". Thus, some of the differences at the diplomatic level are characterized from a theoretical and practical point of view for Great Britain, Germany, France and Italy. Regardless of the state referred to, its representatives must be people of trust and who inspire confidence through words and actions taken. This is because it is enough for one time to make a mistake towards the negotiating partner in order to be labeled negatively, thus affecting his professional image, respectively of the state whose representative he is.

British diplomacy (Nicolson, 1988, pp.70-71) is generally viewed by foreign observers with admiration, but also with indignation. On the one hand, it is observed that professional British diplomats do not show much initiative, do not make great efforts to impress others with their intellectual brilliance and apparently have a rather lethargic and slow style. On the other hand, the British diplomat is exceptionally well-informed, manages to gain and maintain the trust of foreign governments. During the more turbulent periods he has the ability to keep his clarity in decision making and thinking, thus resulting in many successes in his work. The success of British diplomacy is also due to the principles underlying the actions. Thus, "British diplomacy is only the expression, in terms of international contacts, of those political principles which, owing to their history, geographical position, imperial responsibilities, liberal institutions and national character, have, over the centuries, been more suitable for British requirements "(Nicolson, 1988, p.71). Another view of British diplomacy is stated by Dr. Kantorowicz in his work entitled "The Spirit of British Policy", where he considers that "the main virtues of British diplomacy are the three qualities of chivalry, objectivity and humanitarianism" (Nicolson, 1988, p.74).

The German theory of politics and diplomacy (Nicolson, 1988, p.78) is represented by a heroic conception or a warrior, being different from the mercantile conception of the British. In order to see where this conception that underlies German theory and diplomacy comes from, we must follow, in particular, the evolution of the thinking of this people. One concept that led, to some extent, to stagnation in the formation of new skills and techniques was their idea of putting the power and decision-making process in the hands of a single person. In fact, "German diplomatic and consular services are fine professions, employed by more efficient and honorable people. Pre-war German ambassadors were usually accustomed to the profession itself and thus acquired a clearer sense of Europe's common interests and a more sensitive understanding of foreign psychology than was held by the Berlin offices "(Nicolson, 1988, p.80).

The French diplomatic service is a traditional one and should, in relation to its seniority and skills acquired through experience, but also native, be among the most competent in the world. The qualities that characterize the staff of the French diplomatic service have been noted over time and are embodied by a "remarkable intelligence, vast experience and great social charm. The French combine with the acuity of observation a special gift of lucid persuasion. They are honorable and precise. However, they have no tolerance "(Nicolson, 1988, p.81). In addition, the dogmatic character is underlined by the inclination towards logic, realism and the removal of motives of any nature that could disturb their concentration or endanger their activity.

Italian diplomats (Nicolson, 1988, p.82) make use in negotiations of a common method, namely that they first create bad relations with the country with which they want to negotiate and then offer good relations. Before starting such negotiations, be careful to ensure with three versions of the negotiation. The first of these is a feeling of discontent and hostility, which is artificially provoked among the Italian people. The second is a certain form of molestation against the country with which Italy is about to negotiate. The third is a request for a concession that Italy does not

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expect to obtain or really wants, but for which the waiver will oblige the other country to pay compensation.

Regardless of the diplomatic service, we can think and compare two or more diplomatic services. If Italian diplomats are known for their practice of first forming a bad relationship with the partner with whom they are to negotiate, French diplomats are known to be gentle, characterized by social charm. At the same time, we must point out that their social charm should not be confused with tolerance or neglect. On the contrary, they are characterized by pragmatism and focus on the goal. At this point, French diplomats resemble pre-war German diplomats who managed to focus on the situation without letting anything disturb their work. Obviously, this situation shaped and marked them in a certain way different from that of colleagues who had only office work in the diplomatic sphere. On the other hand, representatives of British diplomacy seem to be slower in their work. This image is rather a first impression. In essence and in practice, they show intelligence and lucidity in thinking and action.

It is easy to understand that diplomatic services, including diplomacy, have undergone changes over time. Their evolution is determined by the changes taking place in the world. These changes, in my opinion, can be of two kinds: expected or anticipated changes and changes occurring on the fly or unexpected. The first category refers to changes that people, especially those who are part of the diplomatic corps, diplomatic mission, etc., can anticipate or research more closely than other people, in terms of direct connection and involvement in this activity. For example, it can be anticipated that the evolution of technology and technology will also have an impact on the diplomatic sphere at European and global level, more precisely on the way in which the activity is carried out. In this sense, each actor prepared or adapted to the new in the way he considered most appropriate. The second category refers to changes such as those caused by the occurrence of a military or non-military conflict, climate change, natural disasters, the occurrence of pandemics or others. Diplomacy and types of diplomacy have changed over time. Resistance to change is not a feature of diplomacy. Therefore, they have been influenced by national or international changes, namely expected changes and unexpected changes.

In conclusion, each type of diplomacy has its advantages and disadvantages. By carrying out diplomatic activity, the sovereignty of the states is respected. There is no general formula in diplomatic theory and practice, each actor involved has various options. It is free to act, preferably under the conditions laid down in internationally accepted treaties. Diplomacy seeks, among other things, the harmonization of relations between states at European and international level. In diplomatic theory and practice there are negotiation standards considered to be common, permanent and universal, but nevertheless we must admit that there are, in diplomatic activity, differences both theoretically and practically. These differences result from the specifics of the country, history, culture, traditions and more.

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ECONOMICS OF EGG PRODUCTION IN ALTERNATIVE HOUSING SYSTEMS – A HUNGARIAN CASE STUDY

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Abstract: *In the European Union, in addition to the enriched cage system, non-cage housing systems represent an increasing market share, although their proportions are different in each Member State. In Hungary, the ratio of hen stock producing eggs in cage systems is 83% currently, but it is estimated that the market share of alternative systems will increase in the future. Nevertheless, it is worth dealing with the economic aspects of egg production in non-cage systems. The main goal of this study is to present production parameters, cost and income situation and market opportunities of two Hungarian farms, which produce in alternative systems (aviary and barn). The data collection involves primary and secondary data. Primary data collection involves the collection and processing of data from two Hungarian farms, which also carry out production in different alternative systems (aviary and barn). Secondary data collection means the utilisation of literature. Primary data collection was based on data from 2016-2017 and focused on production and technological parameters (farm size, used hybrid, change in the animal stock, egg production, feed consumption and other expenditures), input and output prices and average cost items. Based on the collected data, the cost and income situation of egg production in the analysed farms were determined using a deterministic model calculation. The examined farms are of different size: the aviary farm has 10 thousand hens, while the barn farm has 3 thousand hens. The former one uses Lohmann Brown Lite, the latter one uses Tetra SL hybrid. The egg production period of the aviary farm is 73 weeks long, while that of the barn farm lasts for 65 weeks. During this period, the average egg production intensity was 74% and 85%, respectively and the egg yield was 360 and 382 eggs/hen, respectively. The daily feed consumption was 110 g/hen in the aviary farm and 145 g/hen in the barn farm. The unit direct cost of the main product (Class A egg) was 7.24 Eurocent/egg on the aviary farm and 7.85 Eurocent/egg on the barn farm. The unit production value of the main product was 7.80 Eurocent/egg on the aviary farm and 9.87 Eurocent/egg on the barn farm. Therefore, the gross margin of unit egg was 0.56 Eurocent/egg on the aviary and 2.02 Eurocent/egg on the barn farm. Results show that egg production is profitable in both farms which is related to the used housing systems and direct sales along short supply chains due to the smaller farm size.*

Keywords: *table egg production; economic analysis; alternative systems; production parameters; efficiency.*

JEL Classification: M11; Q12.

1. Introduction

The global production of eggs increased by approximately 34.4% to nearly 80.1 million tonnes between 2007 and 2017, which is expected to continue to grow in the future as a result of rising global food demand. China currently produces the largest quantities of eggs (31.3 million tonnes). The second largest country is the US (6.3 million tonnes), and the third is India (4.8 million tonnes). These three countries produce more than 50% of the world's egg production. According to the latest official data, the average annual consumption of eggs in 2013 was 9 kg per capita, which is expected to increase further in the future (FAO, 2019).

The European Union's egg production was 6.9 million tonnes in 2018, which may increase by about 9.5% between 2018 and 2028 (EC, 2018). Member States' production represented 9% of global production in 2017. France (13.4%), Germany (11.6%), Spain (11.6%), the United Kingdom (10.5%), Italy (10.4%), the Netherlands (10.1%), and Poland (8.3) accounted for a significant share of EU egg production in 2017 (FAO, 2019).

Egg consumption per capita in the EU has not changed significantly over the last decade, but is expected to grow by 7.8% by 2028. In terms of EU external trade, imports declined by 7.1%, while exports increased by 16.8% between 2008 and 2018, with significant future growth expected in both cases (imports: +13.8%; exports: +38.7%) (EC, 2018).

According to Directive 1999/74/EC, which entered into force on 1 January 2012, farms could no longer apply the traditional cage housing method, instead they had to switch to enriched cage housing or non-cage systems (Council Directive, 1999). As a result, the proportion of housing technologies used within the European Union has changed, which varies from country to country. In 2018, about half (50.4%) of the hens were kept in enriched cage, more than a quarter (27.8%) in aviary and barn, and the rest (21.7%) in free range and organic housing. Within the EU Member States, predominantly (over 80%) enriched cage housing technology is used in Poland, Spain, Portugal, Czech Republic, Slovakia, Latvia, Lithuania and Malta. In contrast, in Germany (93.5%), the Netherlands (83.9%), Sweden (90.8%), Austria (99.2%), Denmark (94.8%) and Luxembourg (100%), mainly non-cage housing is used (Figure 1).

In Western Europe, but also in the US, major supermarket chains have started to prefer eggs from cage-free technologies (barn, aviary, free range, organic), referring to consumer demand, sustainability and animal welfare considerations, and certain wholesale chains will cease trading by 2025 at the latest the sale of cage-based eggs (Van Horne, 2019). As a result, the proportion of cage-free housing technologies is expected to increase further in the future. This process has already begun, as alternative housing technologies are gaining ground in Poland in the recent years, even though it is one of the largest EU producers and mostly cage technology is used (Sokolowitz et al., 2018).

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Contrary to international data, the proportion of enriched cage housing is 83% in Hungary. Currently, non-cage housing technologies account for a lower proportion (17%) of which barn and aviary (15.5%) are the most important, while free range (1%) and organic (0.5%) are negligible (NFCSO, 2019).
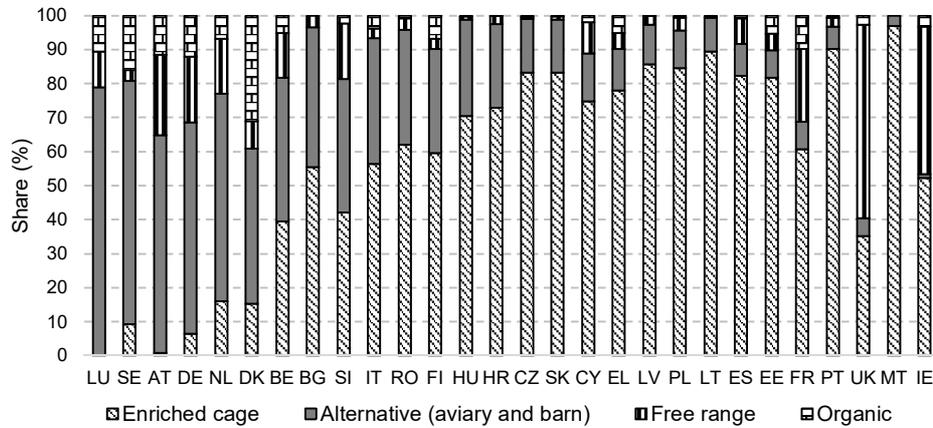
Figure 1: The rate of housing systems in laying hens in the EU-28 (2018)
Source: EC, 2019
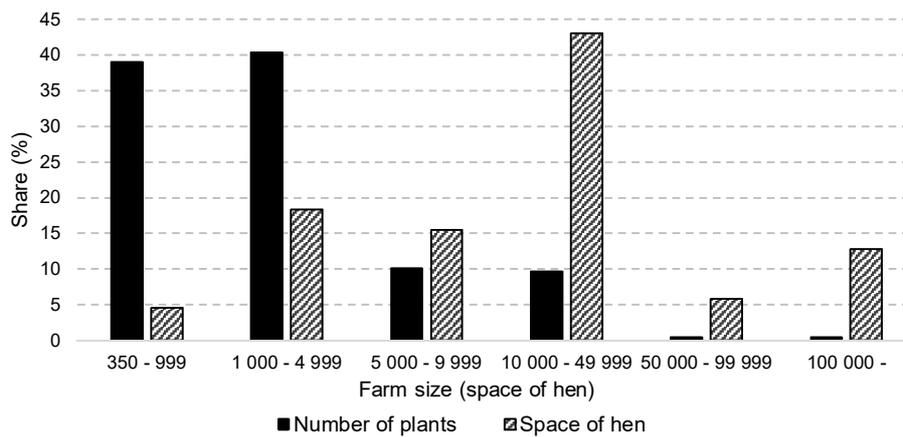
Figure 2: Capacity sharing by farm size of non-cage (aviary, barn, free range, organic) farms in Hungary
Source: NFCSO, 2019

We examined the size of farms using non-cage housing systems in Hungary. Nearly 90% of farms using non-cage systems are small farms (below 10,000 space of hens), with 38% of their hens in production. In contrast, about 43% of laying hens are kept in medium-sized farms (10,000-49,999 space of hens). Only 0.9% of the farms have

a capacity of over 50,000, while 19% of laying hens produce in these farms (Figure 2).

Demand for eggs in Hungary is determined by a significantly lower wage level than the EU average, and the kind of consumer awareness that exists in Western Europe is not yet typical in the country (Molnár – Szőllősi, 2015). However, the technology change will soon be forced by the market and supermarket chains are expected to switch, partially or completely, to eggs from cage-free technology throughout the Central and Eastern Europe region. This poses a major challenge for the Hungarian egg sector in the medium term and the sector must consciously and gradually prepare for this challenge.

In the context of the above, the main objective of the study is to present case studies of the production parameters, cost-income relationships, and sales channels of two Hungarian egg producing companies that use different alternative (aviary and barn) housing methods.

2. Material and methods

During the data collection, primary and secondary data are also applied. The latter one is used by different kinds of databases such as HPPB (Hungarian Poultry Product Board), NFCSO (National Food Chain Safety Office), RIAE (Research Institute of Agricultural Economics) and FAO (Food and Agricultural Organization). Primary data was collected from two Hungarian farms, which perform production using different alternative systems (aviary and barn). It has to be highlighted that the farm size was not equal, but both farms are small (below 10 000 hens) which is general in the Hungarian non-cage farm structure. Primary data collection (production and financial parameters) was based on the 2016-2017 period. As for the currency exchange rate, financial results were calculated with 310 HUF/EUR. Production and technological parameters were focused on farm size, applied hybrid, change in the animal stock, egg production, feed consumption and other expenditure. Input, output prices and average cost items were also taken into consideration. The cost and income situation of egg production in the analysed farms was determined using a deterministic model calculation based on the methodology of Szőllősi and Szűcs (2014).

3. Results

Not only were different alternative housing technologies used in the examined enterprises, but also the size of the farm and the stable area were different. The visited farms can be considered small in size. Stocking density is based on technology, as the aviary farm uses multi-level alternative technology and the barn farm applies single level housing system, i.e., the aviary system enables 35-40% higher stocking density. The applied hybrids were different: Lohmann Brown Lite and Bábolna Tetra SL, respectively. The production periods of the examined farms were also different (73 and 65 weeks, respectively), which is a management decision influenced by the market situation and financial issues. Naturally, the length of the production period also affects production and financial data, i.e., it is advisable to

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interpret the discrepancies between the data of the two farms with this in mind. Ingredients of feed were purchased in both farms, but their compound feed were self-produced. The pullets were also bought in both farms (Table 1).

During the production period, the average egg production intensity was 74% on Farm 1 and 85% on Farm 2. The egg yield was 360 and 382 eggs/hen housed/production period, respectively (Table 2). Although Farm 1 kept the stock for 8 weeks longer, it produced 22 eggs less than Farm 2, i.e., there is a significant difference in production levels. In Figure 3, it is clearly shown that barn farm surpassed, while the aviary farm performed below the references of the breeding companies. The assumed causes of this difference could be higher mortality rate caused by technology and animal health or pullet rearing problems in Farm 1.

Table 1: Main data of the analysed farms

Denomination	Unit	Farm 1	Farm 2
Housing system	-	aviary	barn
Farm size	hen	10 000	3 000
Stable	m^2	1 161	480
Stocking density	hen/m^2	8.61	6.25
Hybrid	-	Lohmann Brown Lite	Bábolna Tetra SL
Length of production period	weeks	73	65
Ingredients of feed	-	bought	bought
Compound feed	-	own-produced	own-produced
Pullet	-	bought	bought

Source: own data collection and calculation, 2018

Table 2: Yield and average egg production intensity in the analysed farms

Denomination	Unit	Farm 1 (aviary, 73 weeks)	Farm 2 (barn, 65 weeks)	Reference of the breeding company	
				Lohmann Brown L.	Bábolna Tetra SL
Average egg production (65 weeks)	%	-	85.02	-	83.16
Average egg production (73 weeks)	%	74.42	-	82.15	-
Egg production (65 weeks)	eggs/hen housed	-	382	-	372
Egg production (73 weeks)	eggs/hen housed	360	-	410	-

Source: own data collection and calculation, 2018; Lohmann Tierzucht, 2014; Bábolna Tetra Ltd., 2018

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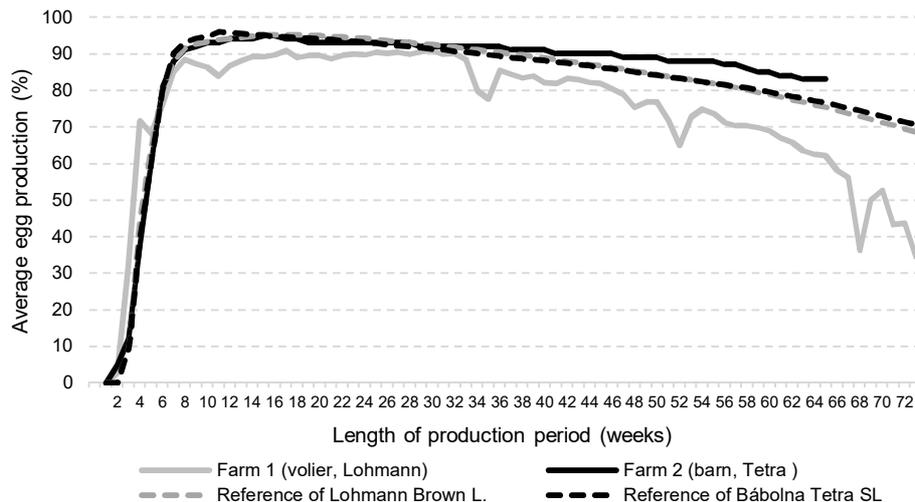
Figure 3: Average egg production in the analysed farms
Source: own data collection and calculation, 2018; Lohmann Tierzucht, 2014; Bábolna Tetra Ltd., 2018

Further physical efficiency indicators were also calculated. The rate of Class A egg is similar in both farms. However, the mortality rate in the henhouse is greatly differed. On the aviary farm, this value was 16% during the 73 weeks, while on the barn farm, it was only 2.5% in 65 weeks. This difference can be explained not only by the longer production period, but technology and animal health or pullet rearing problems on Farm 1. A study by Nernberg (2018) has also shown that the mortality rate on the aviary may be higher than in the case of other housing systems which are "mainly attributed to hypocalcaemia, vent picking/pick-outs, prolapses, bumble foot, and birds simply getting caught or injured in the cage structure". The daily feed consumption was 110 g/hen on Farm 1, while on the other farm it was 145 g/hen. On Farm 1, the used hybrid has lower average body weight. As a result, the daily feed consumption could be lower by nearly 25%. Therefore, the feed use of Farm 2 per unit egg is 16% higher than that of the other farm, with 6% better egg production per hen (Table 3).

In addition to production indicators, the cost-income ratios of egg production are basically determined by input-output prices. After examining the expenditures, it was revealed that pullets were purchased for both farms. As a result, the aviary farm had a pullet purchase price of 4 Euros and nearly 5 Euros for the barn farm. The price of the pre-layer and layer I feed were about 19-20 Eurocent/kg in Farm 1 and 22 Eurocent/kg in Farm 2. The selling price of Class A eggs was influenced by several factors. Despite the fact that both farms sell their products directly to consumers, the geographical location of the farms and, consequently, their distribution channels are different. The selling price of Farm 1's main product was 7.5 Eurocent per egg, while Farm 2's price was 9.2 Eurocent per egg during the examined period, which means

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that the latter farm could reach a 23% higher price (Table 4). Compared to the national average prices of HPPB (2017) for this period, Farm 1 achieved a 6% lower and Farm 2 a 16% higher sales price.

Table 3: Other physical efficiency indicators

Denomination	Unit	Farm 1 (aviary, 73 weeks)	Farm 2 (barn, 65 weeks)
The rate of Class A egg	%	97	98
Mortality rate in henhouse	%	16.0	2.5
Feed consumption	g/hen/day	110	145
Feed consumption	kg/hen/65 weeks	-	65.15
Feed consumption	kg/hen/73 weeks	52.89	-
Feed consumption	g/egg	147	171
Average body weight of spent layer	kg/hen	1.89	2.10

Source: own data collection and calculation, 2018

Calculated from the collected data, the direct farm-level cost of production at Farm 2 was one third compared to Farm 1, which can be explained by the smaller farm size and the shorter production cycle. For the sake of comparability, it is important to examine the evolution of specific direct production costs (per hen, per m^2 of stable, per one egg) over the whole production cycle and per year (Table 5).

Table 4: Input and output prices of the examined farms

Denomination	Unit	Farm 1 (aviary)	Farm 2 (barn)
Input prices:			
Pullet	Euro/pullet	4.35	4.77
Pre-layer feed	Eurocent/kg	19.04	21.03
Layer I feed	Eurocent/kg	19.99	22.12
Layer II feed	Eurocent/kg	20.32	20.86
Layer III feed	Eurocent/kg	18.65	-
Output prices:			
Class A egg	Eurocent/egg	7.45	9.19
Class B egg	Eurocent/egg	-	3.23
Spent layer	Euro/spent layer	0.93	2.26
Manure	Euro/ton	4.84	6.45

Source: own data collection, 2018

The production cost per hen of Farm 2 is 16% higher than that of the other farm, with a difference of 30% per year, which is mainly due to higher daily feed consumption. Compared to the average production cost of the determinant producer farms in the Hungarian Farm Accountancy Data Network (FADN) in 2017 (17.50 Euro/hen/year) (RIAE, 2019), the direct production cost per hen of the tested farms was 3% and 35% higher, respectively. Farm 1 has 19% higher in production costs per m^2, but this

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difference is only 6% over a year. The production cost per unit of the main product was around 7.2 Eurocent/egg at Farm 1 and about 7.8 Eurocent/egg at Farm 2. The difference is smaller (8%) compared to the value per hen, which is reduced by the difference in yield.

Table 5: Direct cost of egg production in the analysed farms

Denomination	Unit	Farm 1 (aviary, 73 weeks)	Farm 2 (barn, 65 weeks)
Direct cost	Euro/production period	252 675	88 103
Direct cost per hen housed	Euro/hen/production period	25.27	29.37
	Euro/hen/year	18.05	23.56
Direct cost per m^2	Euro/m^2/production period	217.64	183.55
	Euro/ m^2/year	155.45	147.24
Direct cost per main product	Eurocent/Class A egg/ production period	7.24	7.85
	Eurocent/Class A egg/year	6.61	7.86

Source: own data collection and calculation, 2018

Table 6: Production value of egg production in the analysed farms

Denomination	Unit	Farm 1 (aviary, 73 weeks)	Farm 2 (barn, 65 weeks)
Production value	Euro/production period	272 097	110 777
Production value per hen housed	Euro/hen/ production period	27.21	36.93
	Euro/hen/year	21.62	29.35
Production value per m^2	Euro/m^2/production period	234.36	230.79
	Euro/ m^2/year	186.23	183.43
Production value per main product	Eurocent/Class A egg/ production period	7.80	9.87
	Eurocent/Class A egg/year	7.92	9.80

Source: own data collection and calculation, 2018

For the purpose of calculating the production value, the turnover data of the main product (Class A egg) with the highest proportion and that of the by-products (Class B egg, manure, subsidies) were taken into account (Table 6). Farm 1, despite having three times the size of Farm 2 and keeping the stock in production for longer, had only 2.5 times higher production value than Farm 2, due to differences in yield per hen. This, together with the higher selling price, also explains that the production value per hen is 36% higher for Farm 2. Compared to the average production value of the determinant producer farms in the Hungarian FADN in 2017 (25.03 Euro/hen/year) (RIAE, 2019), the annual production value per hen for Farm 1 is 13% lower and that of Farm 2 is 17% higher. The production value per m^2, irrespective of the different stocking densities, does not show a significant difference between the

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two farms, which also points the lower production level of Farm 1. The production value per egg was 27% higher in Farm 2, mainly due to higher selling prices.

Despite the difference in farm size, there is no significant difference when comparing the gross margin interpreted at the farm level, and both farms are profitable (Table 7). In terms of value per hen, Farm 2 realized about four times the value of Farm 1, which is due to unfavourable production indicators at the latter farm owing to higher mortality resulting from the previously mentioned problems (technology, pullet breeding, animal health) and lower sales prices. Compared to the average sectoral income of the determinant producer farms of the Hungarian FADN in 2017 (7.53 Euro/hen/year) (RIAE, 2019), the annual gross margin per hen of Farm 1 is about half, while Farm 2 performed 23% worse. The gross margin per m^2 of stable was around 17 Euro/m^2 for Farm 1 and 47 Euro/m^2 for Farm 2 during their production cycle. The gross margin of the examined farms per unit of the main product during the whole production period is 0.6 and 2 Eurocents, respectively. Based on the data recalculated for one year, it can also be concluded that, for Farm 1, it would have been economically more advantageous to have the stock culled sooner than to maintain it at low production levels.

Table 7: Gross margin of egg production in the analysed farms

Denomination	Unit	Farm 1 (aviary, 73 weeks)	Farm 2 (barn, 65 weeks)
Gross margin	Euro/production period	19 422	22 674
Gross margin per hen housed	Euro/hen/production period	1.94	7.56
	Euro/hen/year	3.57	5.79
Gross margin per m^2	Euro/m^2/production period	16.73	47.24
	Euro/ m^2/year	30.78	36.19
Gross margin per main product	Eurocent/Class A egg/ production period	0.56	2.02
	Eurocent/Class A egg/year	1.31	1.93

Source: own data collection and calculation, 2018

In order to further assess the economic situation of the examined farms, certain economic efficiency indicators have been calculated. In terms of direct average cost, the two farms are characterised by nearly the same value (7.01 and 7.18 Eurocent/egg, respectively). In comparison, the average cost of the determinant producer farms of Hungarian FADN is 6.52 Eurocent/egg (RIAE, 2019) in 2017, which is typical of farms using enriched cage technology due to the Hungarian production structure. Thus, the direct average cost of the examined farms using alternative technologies is 8-10% higher than this. According to Van Horne's (2019) calculation for 2017, in Western European countries, the average cost of an egg in the aviary and barn housing method was 6.52 Eurocent/egg, which was 6% higher than that of the eggs in the enriched cage system.

In terms of human resource use efficiency, Farm 2 using barn technology is 35% less favorable. Farm 1 has a production value of 7.40 Euro per 1 Euro labor cost, whereas Farm 2 had a production value of 4.79 Euro. By comparison, based on the

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average data of the determinant producer farms of the Hungarian FADN in 2017 (RIAE, 2019), the production value is 17.48 Euro per 1 Euro labor cost.

The cost-to-profit ratio of Farm 2 was 26% and that of Farm 1 was 8%. The respective average value of Hungary's determinant producer farms was 43% in 2017 (RIAE, 2019). However, compared to other livestock sectors, the profitability of Farm 1 can be considered favorable despite its lower production levels.

4. Conclusions and recommendations

Altogether, the two examined farms are profitable, which is related to the used housing technology and the higher selling prices that can be obtained through direct farm sales due to smaller farm sizes. It should be noted that Farm 2 was able to achieve higher values in terms of both selling price and average egg production because their hybrid presumably has more favorable parameters and technology adaptability, the farm had lower mortality and better geographical location, while their sales channel also developed more favourably. Based on all these factors, it is worth examining how cost-income relationships will develop in larger farms using alternative housing technologies, which, however, may result in a more reduced selling price when producing and then selling large volumes of commodities. If a farm is planning to switch to alternative housing technology, it is imperative to consider that both management and the technique used are different from those of cage housing. Furthermore, it is not only the available capital that is important but also the appropriate expertise, which essentially defines the fundamentals of the operation of the farm.

5. Acknowledgments

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EFFECT OF MONETARY POLICY ON THE PERFORMANCE OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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Abstract: *This study examines the effect of monetary policy on the performance of listed deposit money banks in Nigeria from 2006-2018. The research design adopted for this study was ex post-facto research design. Panel time series data were extracted based on the variables used in the study. Net profit margin (NPM) as the dependent variable, while liquidity ratio (LQR), Interest Rate (INR), Loan to deposit ratio (LDR) and cash reserve ratio (CRR) as independent proxies to measure monetary policy. The findings show that monetary policy has significant effect on the performance of listed deposit money banks in Nigeria. Based on the result, it was concluded that liquidity ratio and loan to deposit are significant on net profit margin, likewise interest rate and cash reserve ratio were insignificant on net profit margin. Therefore, the effect of monetary policy on the Nigeria commercial banks as an engine for controlling inflation, unemployment etc. is geared towards finding a positive and constructive role for the economy. Based on the findings, it was recommended that; the Central Bank of Nigeria should manage the monetary policy rate properly, with the recent increase of loan to deposit, Government should also employ other measures to control the loan to deposit and the monetary authorities should also minimize the 22.5 % Cash reserve ratio in order to influence the level of bank performance with capacity to raise a volume of funds and also reduce the liquidity ratio from 30% to 25% to prevent the banks from folding up.*

Keywords: *Cash reserve ratio; Interest rate; Liquidity ratio; Loan to Deposit ratio; Monetary policy.*

JEL Classification: *E22; E 44; E52.*

1. Introduction

Monetary policy is one of the major economic stabilization weapons which involve measures designed to regulate or control the volume, cost, availability and direction of money and credit in an economy to achieve some specific macro-economic policy objectives. It is a deliberate attempt by the monetary authority (Central Bank) to control the money supply and credit condition for the purpose of achieving certain broad economic objective. Okpara (2010) defined monetary policy as a measure designed to influence the availability, volume and direction of money and credits to achieve the desired economic objectives.
Globally, the role of the banking industry in development process cannot be over-emphasized as they play so many functions. The most important banking industry in

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Nigeria is the commercial banks. In order to make profit, commercial banks invest customer deposits in various short term and long term investment outlet, however core of such deposits are used for loans. Hence, the more loans and advances they extend to borrowers, the more the profit they make (Solomon, 2012).

Prior to 1986 direct monetary instruments such as selective credit controls, administered interest and exchange rates, credit ceilings, cash reserve requirements and special deposits to regulate the banking system were employed. The fixing of interest rates at relatively low levels was done mainly to promote investment and growth. Occasionally, special deposits were imposed to reduce the amount of excess reserves and credit creating capacity of the banks.

According to Ologunde, Elumilade, and Asaolu (2006), interest rate along with monetary aggregates formed targets of monetary policy in Nigeria. Using the direct monetary policy measures, the monetary authorities directly influence items of the balance sheet of commercial banks. In such a system, interest rates are set and credits are allocated by monetary authorities in accordance with the government's economic plan.

In Nigeria monetary policy has been based on a medium-term perspective framework. The shift was to free monetary policy implementation from the problem of time inconsistency and minimize over-reaction due to temporary shocks. Policies have ranged from targeting monetary aggregates to monitoring and manipulating policy rates to steer the interbank rates and by extension other market rates in the desired direction.

By manipulating monetary policy instruments central banks affect the rate of growth of the money supply, the level of interest rate, security prices, credit availability and liquidity creation from the hand of commercial bank. These factors, in turn can exert monetary imbalances or shocks on the economy by influencing the level of investment, consumption, imports, exports, government spending, total output, income and price level in the economy (Mishra & Pradhan, 2008). The Nigeria economy has continued to witness slow growth when compared to its international counterparts such as Brazil and South Africa who are all considered as the same level some years back. The problem of ineffective credit delivery to the productive sectors remains an issue and thus raises doubt on the potency of monetary policy instruments in Nigeria.

Evidence also showed that monetary policy changes on loan supply of less liquid banks, deposit base and induce bank's ability to perform their expected roles within the financial system.

The Nigerian DMBs have witnessed several form of banking distress in the last 30 years despite the consistent use of monetary policy and guidelines which thus raise the question of how effective monetary policy has been in regulating the banking industry. In this regard, an appropriate analysis of monetary shock transmission mechanisms is of crucial importance for central banks. This is to determine the process through which monetary policy influence the entire economy within the financial system framework.

It is necessary to state the primary objective of this research is to assess the effect of monetary policy on the performance of listed deposit money banks in Nigeria

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spanning from 2006-2018. The hypotheses are stated based on objectives of this study include:

Ho₁: Interest rate has no significant relationship on net profit margin in deposit money banks in Nigeria.

Ho₂: Cash reserve ratio has no significant relationship on net profit margin in deposit money banks in Nigeria.

Ho₃: Liquidity ratio has no significant relationship on net profit margin in deposit money banks in Nigeria.

Ho₄: Loan to deposit ratio has no significant relationship on net profit margin in deposit money banks in Nigeria.

2. Literature Review

2.1. Concept of Monetary Policy

Monetary policy in Nigeria has been conducted under wide raging economic environment since the establishment of the central bank of Nigeria (CBN) in 1959. It is the central bank or monetary authority that controls the supply of money, availability of money and cost of money or rate of interest. Monetary policy is usually used to attain a set of objectives oriented toward the growth and stability, of the economy. These goals include "promotion of price stability, stimulation of economic growth, creation of employment, reduction of pressures on the external sectors and stabilization of the naira exchange rate" (Ogwuma, (1997:3). Monetary theory provides insight into how to craft optional monetary policy, also money has some relationship with economic activity and it explain why monetary policy has a central role in macroeconomics management. This economics activity can be define as an activity that aims at production, processing, packing, selling, distribution, purchase and consumption of goods and services as well as money and wealth with a view to fulfilling some wants/needs on commercial or self-reliance basis. It is generally known that this relationship works out through changes in the liquidity of the system. A change in the money supply will alter the liquidity in the hands of the public and this will, in turn influence their income and expenditure. For example, an increase in the money supply will increase the liquidity in the public and their spending on either real asset or financial assets.

Monetary policy is defined by the Central Bank of Nigeria (CBN) as combination of measures designed to regulate value supply and cost of money in an economy, in consonance with the level of economic activities. Odufalu, (1994) also defined monetary policy as the combination of measures taken by monetary authorities (e.g. the CBN and the ministry of finance) to influence directly or indirectly both the supply of money and credit to the economy and the structure of interest rate for economic growth, price stability and balance of payment equilibrium. He added that the CBN is empowered by decree 25 of 1991 Act, to formulate and implement monetary policy in Nigeria, in consultation with the ministry of finance subject to the approval of the President. (Onyido, 1993) sums it up when he said that monetary policy is therefore applied to influence the availability and cost of credit in order to control the money supply policy. He generally describes the action taking by the Central Bank as using

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tools / instrument at its disposal to influence monetary conditions in particular, the quantity and supply of money in the macro-economic goods.

These goals would normally include price stability, full employment, high economic growth rate and balance of payments equilibrium. The attainment of these goals will result into the country achieving both internal and external balance of trade and payment. The practice of monetary policy using tools / instruments to regulate the quantity of money supply to achieve stability in the economy is based on the premise that there is a stable relationship between the quantity of money supplied in an economy and economic activities. Even though, the way and manner with which the central bank regulates its money supply vary from place to place the approach can be divided into two main groups. The first group advocates that monetary policy should target price stability as its single important objectives. The other macro-economic goal agitates for due regulation of money supply and in extension in the control of persistent price increase to ensure sustainable and balance development in the economy.

Interest Rate

The bank rate is the minimum lending rate of the Central Bank at which it rediscounts bill of exchange and government securities held by the deposit money bank (Morgan, 2002). The higher rates of interest as observed by Otalu et al. (2014) translate to a contractionary monetary policy which would definitely lower demand for loans and lead to decrease in output or production. When the CBN notice an inflationary pressure in the economy, it raises the bank rate. In this period, borrowing from the CBN becomes difficult and the deposit money banks borrow less from it. Also the deposit money banks borrowers such as the individual and industries borrow less from it due to an increase in its lending rate (Amidu, 2006). On the contrary in a depressed economy, the Central Bank lowers its bank rate making it cheaper to borrow from them. The deposit money banks also lower their lending rate making it easy for businessmen to borrow money (Jhingan, 2001).

Cash Reserve Ratio

This is the proportion of total deposit liabilities which the deposit money banks and other financial institutions are expected to keep as cash with the Central Bank Nigeria (CBN) (Udeh, 2015). Reserve requirement is one of the most powerful instrument of monetary control, if it changes, they require reserve ratio have another effect. A change in the required ratio changes the ratio by which the banking system will expand deposit through the multiplier effect. If the required reserve ratio increases, it thereby reduces the liquidity position of the banking system.

Liquidity Ratio

The liquidity ratio is the proportion of total deposits to be kept in specified liquid assets mainly to safeguard the ability of the banks to meet depositors' cash withdrawals and ensure confidence in the banking system (Olweny & Chiluwe, 2012). It is generally accepted that liquidity ratio is used to increase or decrease cash availability of commercial banks, however, researchers have argued that the major use of the statutory reserve ratio of banks is to float government securities, it therefore intends to direct commercial bank credit towards the public sector (Otalu et al., 2014).

Loan to Deposit

The loan to deposit ratio is the commonly used statistic for assessing bank's liquidity by dividing the bank's total loans by its total deposits. High ratio refers to the bank's inadequate liquidity to cover any unforeseen fund requirements. Conversely, if the ratio is too low, may be indicate that inadequate lending opportunities or reluctance to accept the available lending risks. So the bank may not be earning as much as it could be (McNaughton & Barltrop, 1992).

Loan to deposit ratio is a useful instrument to determine bank working capital, and it influences the profitability of the banks. The bank profit is based on the interest charged against the deposits; it means the profit is generated through the positive difference between interest of loans and interest on deposits supported a study by Joni Tamkin Borhan & Towpek (2006). In general banks may not be earning optimal return if the LDR ratio is too low. The intention of this study is to get empirical evidence about influence of LDR to ROA in locally owned commercial banks in Malaysia. Many studies analyzed various factors influence of ROA viz. capital and ROA (Berger, 1987), loan ratio and profitability (Bashir & Hasan, 2003) ratio of equity to assets and profitability (Athanasoglou et al. 2006).

2.2. Concept of Financial Performance

Financial performance has received significant attention from scholars in the various areas of business and strategic management. It has also been the primary concern of business practitioners in all types of organizations since financial performance has implications to organization's health and ultimately its survival. High performance reflects management effectiveness and efficiency in making use of company's resources and this in turn contributes to the country's economy at large. (Naser & Mokhtar, 2004).

There have been various measures of financial performance. For example, return on sales reveals how much a company earns in relation to its sales, return on assets determines an organization 's ability to make use of its assets and return on equity reveals what return investors take for their investments. The advantages of financial measures are the easiness of calculation and that definitions are agreed worldwide. Traditionally, the success of manufacturing system or company has been evaluated by the use of financial measures (Tangen, 2003).

2.3. Empirical Review

Afolabi, Adeyemi, Salawudeen and Fagbemi (2018) investigated the relationship that exists between monetary policy instruments and Deposit Money Banks Loans and Advances in Nigeria. An annual time series data covering a period of 36years from 1981-2016 were sourced from Central Bank of Nigeria and used for the study. The relationship between monetary policy and credit creation of Deposit Money Banks was captured by monetary policy variables and structural changes in monetary policy. The study employed Toda and Yamamoto granger non-causality model to examine the relationship existing between Deposit Money Banks loan and advances and monetary policy variables in Nigeria. The findings revealed that structural changes in monetary policy system exerted positive significant impact on loan and advances of Deposit Money Banks in Nigeria. Findings also revealed bidirectional

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relationship existing between MPR and loan and advances of Deposit Money Banks in Nigeria. Precisely, MPR proved to be a significant variable which causes Deposit Money Bank loans and advances in Nigeria. The other explanatory variables; broad money supply (LM2),liquidity ratio (LR), inflation rate (IFR) and cash reserve ratio (CRR) does not granger cause loan and advances of Deposit Money Banks in Nigeria within the study period. The study concluded that the structural change in monetary policy system and monetary policy rate have significant impact on loan and advances of deposit money banks in Nigeria.Hence, the study recommended that monetary authority should formulate policies that will stabilize interest rate so as to boost the investors' confidence.

Olweny and Chiluwe (2012) researched on the relationship between monetary policy and private sector investment in Kenya for the period between 1996 and 2009. The study employed vector error correction model to determine the dynamic of relationship and level of cointegration among the variables. The study revealed that government domestic debt and Treasury bill rate have negative relationship with private sector investment; The results of the diagonistic test shows that contracting monetary policy by 1% has the effect of contracting investment by 2.63% and vice versa.

Udude and Uwalaka (2015) investigated the effect of monetary policy on banking sector performance in Nigeria. This is to ascertain the factors that influence the banking sector performance using bank's deposit liabilities as proxy for bank performance. The study period covers 36 years from 1970 to 2006, using selected indicator and employing the OLS regression technique. We tested the null hypothesis of no significant relationship between bank deposit liabilities and chosen indices of banking performance, namely Exchange Rate (EXR), Deposit Rate (DR) and Minimum Discount Rate (MDR). Results showed that overall; monetary policy has a significant effect on the banks deposit liabilities. Main while, on individual basis, we discovered that Deposit Rate (DR) and Minimum Discount Rate (MDR) had a negative influence on the banks deposit liabilities in Nigeria, whereas Exchange Rate (EXR) had a positive and significant influence on the banks deposit liabilities in Nigeria. We conclude therefore that monetary policy plays a vital role in determining the volume of bank's deposit liabilities in Nigeria. We recommended that government and its monetary authorities should strive to create a conducive environment for banking sectors to grow in the country by packaging appropriate monetary policies that would guarantee and enhance growth and development of the banking sectors in Nigeria.

Ajayi and Atanda (2012) investigated the impact of monetary policy instruments on banks performance between 1980 and 2008. The study used Engle-granger two-step co-integration approach for it analysis. The result indicated that bank rate, inflation rate and exchange rate are credit enhancing variables, while liquidity ratio and cash reserves ratio exert negative impact on banks total credit. Although, it is only cash reserve ratio and exchange rate found to be significant at 5% critical value. The study found that monetary policy instruments are not significant to stimulate credit in the long-run, while banks total credit is more responsive to cash reserve ratio.

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Agbonkhese and Asekome (2013) examined the effects of monetary policy on the deposit money banks' credit creation in Nigeria. The study covered the period between 1980 and 2010 and used Ordinary Least Square (OLS) method of data analysis. Their empirical results revealed that there was a positive and direct relationship between the total deposits and treasury bills rate. Whereas, the reserve requirement and interest rate had negative effects on the total credit creation. Therefore, the reserve requirements is not an effective monetary policy instrument to influence bank credit to achieve a desired monetary policy objective since money deposit banks could on their own easily raise and keep substantial deposits as reserve.

Andreas (2001) investigated the reaction of bank lending to monetary policy measures in Germany. Empirical evidence from dynamic panel estimations based on a data set that comprises individual balance sheet information on all German banks. It shows that the average bank reduces its lending more sharply in reaction to a restrictive monetary policy measure the lower its ratio of short-term interbank deposits to total assets. A dependence on its size can only be found if explicitly controlled for this dominating effect and/or if the very small banks are excluded.

Tsenkwo and Longdu'ut (2013) examined the Relationship between Monetary Policy Rate (MPR) and Banking Rates: Evidence from Regression and Multivariate Causality Analysis. The study used descriptive statistics and econometrics analysis to subject the raw data from secondary source to series of refining like Unit Root Test, Ordinary Least Square Test, Stability Test, and Granger causality test. These tests were conducted, using Granger causality test, to know the direction of their relationships and how they are caused. The finding revealed that almost all the variables, with the exception of bank savings rate, exhibit a strong sign of co-moving in the long run with the tendency of converging. The research revealed that there exist unidirectional causality between monetary policy rate and bank lending rate; bank lending rate and bank savings rate. And there exist a bi-directional causality between monetary policy rate and bank savings rate.

Ayub and Seyed (2016) in their study the relationship existing between monetary policy and bank lending behavior and the influence of bank specific features on this relationship in the banks listed on the 8 Tehran Stock Exchange. The study used Iran's bank loan aggregated series and bank's size and capital structure data. The study used the growth rate of M2 as the indicators of Irans' monetary policy. Using Vector error correction model (VECM) and quarterly data for the period 2007:Q1 to 2014:Q4. The results showed a bidirectional causal link between M2 and banks' lending behavior trading on the Tehran Stock Exchange. It was also observed that the banks' capital structure as one of the banks specific feature variables have a negative impact on bank lending behavior in accepted banks in Tehran Stock Exchange.

Otalu, Aladesanmi and Mary (2014) assessed the impact of monetary policy on the deposit money banks performance in Nigeria, and in their study, the interest rate and money supply, liquidity ratio and the cash reserve ratio were used as proxy for monetary policy. The study used regression analysis to examine the relationship between monetary policy and bank performance in Nigeria. The results of the diagonistic test showed that credit creation of commercial banks is significantly being

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influenced by the interest rate, money supply, liquidity ratio and the cash reserve. Precisely, money supply and cash reserve ratio appeared to have statistically influenced deposit money banks' credit creation.

Jegede (2014) empirically researched on the impact of monetary policy on commercial bank lending in Nigeria between 1998 and 2008. Vector Error Correction Mechanism of Ordinary Least Square was used as the tool for analysis. The findings of the study indicated that there exists a long run relationship among the variables in the model. Specifically, the findings also found that exchange rate and interest significantly influenced commercial bank lending, while liquidity ratio and money supply exert negative impact on commercial banks' loan and advance.

Udeh (2015) investigated the impact of monetary policy instruments on profitability of Zenith Bank Plc in Nigeria from 2005 to 2012. Pearson Product moment correlation technique was used to analyze the data collected while t-test statistic was employed in testing the hypotheses. The result shows that cash reserve ratio, liquidity ratio and interest rate did not have significant impact on the profit before tax of Zenith Bank Plc. However, minimum rediscount rate was found to have significant impact on the profit before tax of the bank.

Uwazie and Aina (2015) examined the cause and effect of monetary policy on Commercial Banks credit in Nigeria for the period 1980-2013. They specified that there is linear relationship among bank credit, broad money supply (LM2), monetary policy rate (MPR), liquidity ratio (LR), inflation rate (IFR) and exchange rate (EXR). The result of the study showed that there was a causal effect between monetary policy and commercial banks credit in Nigeria for the period of the study. Conclusively, there existed cause and effect relationship between bank credit and the monetary policy variables. Money supply proved to be a significant parameter which causes commercial bank credit. Also, causality runs from monetary policy rate to commercial bank loans and advances.

2.4. Theoretical Framework

The Keynesian Theory

The Keynesian Economists think of monetary policy as working primarily through interest rate. In Keynesian transmission mechanism, an increase in the money supply leads to a fall in interest rate to include the public to hold additional money balances.

Consequently, a fall in interest rate may stimulate investment. The increased investments also increase the level of income or output through the multiplier, which may stimulate economic activities. Thus, monetary policy affects economic activity indirectly through their impact on interest rates and investment. Therefore, the Keynesian transmission mechanism is characterized by a highly detailed sector building up of aggregate demand and a detailed specification of portfolio adjustment process that attaches central role to interest as an indirect link between monetary policy and fiscal demand.

On a more analytical note, if the economy is initially at equilibrium and there is open market purchase of government securities by the Central Bank of Nigeria (CBN), this open Market Operation (OMO) will increase the commercial banks reserve (R) and

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raise the bank reserves. The bank then operates to restore their desired ratio by extending new loans or by expanding bank credit in other ways. Such new loans create new demand deposits, thus increasing the money supply (MS). A rising money supply causes the general level of interest rate (r) to fall. The falling interest rates affects commercial bank performance and in turn stimulate investment given businessmen expected profit. The induced investment expenditure causes successive rounds of final demand spending by GNP to rise by a multiple of the initial change in investment. On the other hand, a fall in money supply causes the general level of interest rate (R) to rise or increase thereby increasing the commercial banks profitability.

Anticipated Income Theory

This theory states that banks should involves themselves in a broad range of lending which may include long-term loans to business, consumer installment loans and amortized real estate mortgage loans considering the fact that the likelihood of loan repayment which generates a cash flow that supplement bank liquidity depends on the anticipated income of the borrower and not the use made of the funds per se. This implies that a high excess reserve increases profitability of banks by increasing the availability of loanable investment funds. (H.V. Prochanow 1944)

Liability Management Theory

The theory holds that banks could satisfy any liquidity need and short-run profit opportunity by issuing money market liabilities such as certificate of deposit (CD). Another version of the theory states that money market bank liabilities should be used along with bank assets to meet liquidity needs, which will lead to commercial banks profitability.

Shiftability Theory

This theory was pioneered by H.G Moulton (1918), the central thesis of this theory holds that the liquidity of a bank depends on its ability to shift its assets to someone else at a predictable price. Better still; the theory of shiftability exposes the banks vulnerability to government security for liquidity. Whether or not a bank can quickly realize liquidity through this means depends on the marketability of the securities and their relative prices. The theory tries to broaden the list of assets demand legitimate for ownership and hence redirected the attention of bankers and the banking authorities from loan to investment as source of bank liquidity.

It is hypothesized that an increase in capital investment will lead to commercial banks profitability. However, increase in profits may also motivate further increase in capital investment, which in turn expands the scope of banking operations for increased profitability. Adequate capital investment provides for a bank to perform the intermediation function and provide related financial services. It also provides protection in conditions of near economic collapse against unanticipated adversity leading to loss in excess of normal expectations and permits banks to continue operations in periods of difficulty until a normal level of earning is restored.

3. Methodology

The research design adopted for this study is ex post-facto research design. In carrying out this study, secondary data were sourced from Central Bank of Nigeria Statistical Bulletin and banks Annual Report from the period of 2006 to 2018 due to Bank reforms. Panel time series data were extracted based on the variables used in the study. Net profit margin (NPM) as the dependent variable, while liquidity ratio (LQR), Interest rate (INR), Loan to deposit ratio (LDR) and cash reserve ratio (CRR) as independent variables. The population constitutes the Deposit money banks in Nigeria, while the sample size consists of the quoted deposit money banks in Nigeria. The data obtained were analysed using Ordinary Least square (OLS) through Eviews-10 statistical package.

The following multiple regression model was formulated:

$$NPM = \beta_{0it} + \beta_1 (LQR)it + \beta_2 (INR)it + \beta_3 (LDR)it + \beta_4 (CRR)it + \mu it$$

where:

NPM	=	Net profit margin(dependent variable) measured as gross profit divided by tax of the bank
β_0	=	Constant term, which represents when all explanatory variables are held constant
β_1	=	Coefficient of the parameter estimates
LQR	=	Liquidity ratio measured as the proportion of total deposits to be kept in specified liquid assets.
INR	=	Interest Rate measured as the minimum interest rate charged by Central bank of Nigeria.
CRR	=	Proportion of total deposit liabilities which the bank is expected to keep as cash with the Central Bank Nigeria.
LDR	=	Proportion of total loans to depositors
μ	=	Error term

4. Analysis of the Results

The results for data analysis on the effects of monetary policy on the performance of listed deposit money banks in Nigeria, ranging from descriptive statistics, the summary of stationarity test results, summary of regressions analysis are presented below.

Descriptive Statistics Test Result
The descriptive statistics test result is summarized and presented in the table below.

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Table 1: Summary of Descriptive Statistics Test Results

	NET PROFIT MARGIN	CASH RESERVE RATIO	INTEREST RATE	LIQUIDITY RATIO	LOAN_TO DEPOSIT RATIO
Mean	15.58636	13.15909	11.27273	29.54545	73.40311
Median	17.47500	12.00000	12.00000	30.00000	63.93000
Maximum	127.1900	22.50000	14.00000	35.00000	1380.010
Minimum	-338.9100	1.000000	6.000000	25.00000	3.550000
Std. Dev.	41.57390	8.439461	2.745825	2.581093	116.1825
Skewness	-4.892576	-0.243267	-0.931366	-0.132583	10.89083
Kurtosis	42.95659	1.465710	2.582533	3.617188	123.0444
Jarque-Bera	9307.531	14.24918	20.04228	2.481781	81868.02
Probability	0.000000	0.000805	0.000044	0.289127	0.000000
Sum	2057.400	1737.000	1488.000	3900.000	9689.210
Sum Sq. Dev.	226419.0	9330.409	987.6818	872.7273	1768286.
Observations	132	132	132	132	132

Source: E-view 10

The descriptive statistics test provides brief descriptive coefficients that summarize the data set used in this study. It is a representation of the entire population of the study. The descriptive statistics is broken down into measures of central tendency and measures of variability, or spread. The descriptive statistics shows the mean, maximum, minimum, standard deviation, skewness and kurtosis with one hundred and thirty-two (132) observations of the variables used in the study. The mean describes the average value of the series and the standard deviation measures the deviation of the data from the average.

Net profit margin has a Mean of 15.58636 with Standard Deviation of 41.57390. It also has Skewness of -4.892576 with Kurtosis of 42.95659. In a like manner, Cash reserve ratio has a Mean of 13.15909 with Standard Deviation of 8.439461. Also, it has a Skewness of -0.243267 with Kurtosis of 1.465710. Interest rate has a mean of 11.27273 with standard deviation of 2.745825. It also has a Skewness of -0.931366 with Kurtosis of 2.582533. Liquidity ratio has a mean of 29.54545 with standard deviation of 2.581093. It also has a Skewness of -0.132583with Kurtosis of 3.617188. Loan to deposit ratio has a mean of 73.40311 with standard deviation of 116.1825. It also has a Skewness of 10.89083 with Kurtosis of 123.0444. This implies that the data were normally distributed.

The correlation matrix result suggests that there is no multicollinearity among the independent variables of interest. The possible existence of multicollinearity is further tested through computing the variance inflation factor (VIF) from table. According to Gujarati (2003), there is no consequence of multicollinearity if the mean VIF is less than 10. The table presents the mean variance inflation factor (VIF) result

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of the explanatory variables. Therefore, the results of VIF, indicate that there is no unacceptable level of multicollinearity among the independent variables of interest further confirming that there is no presence of multicollinearity.

Table 2: Correlation Matrix

Covariance Analysis: Ordinary					
Date: 10/28/19 Time: 12:58					
Sample: 2008 2018					
Included observations: 132					
Balanced sample (listwise missing value deletion)					
Correlation					
t-Statistic					
Probability	NET_PROFIT_MARGIN	CASH_RESERVE_RATIO	INTEREST_RATE	LIQUIDITY_RATIO	LOAN_TO_DEPOSIT_RATIOS
NET_PROFIT_MARGIN	1.000000				
CASH_RESERVE_RATIO	0.119968	1.000000			
	1.377798	-----			
	0.1706	-----			
INTEREST_RATE	0.131852	0.870729	1.000000		
	1.516584	20.18827	-----		
	0.1318	0.0000	-----		
LIQUIDITY_RATIO	0.159854	0.292456	0.566941	1.000000	
	1.846358	3.486964	7.847115	-----	
	0.0671	0.0007	0.0000	-----	
LOAN_TO_DEPOSIT_RATIOS	0.045587	0.139029	0.106801	0.009840	1.000000
	0.520311	1.600724	1.224724	0.112193	-----
	0.6037	0.1119	0.2229	0.9108	-----

Source: E-view 10

The Regression result from the table 3 reveals that interest rate and cash reserve ratio has insignificant effect on net profit margin with a p-value of 0.4277 and 0.6205 respectively and a coefficient of -1.578890 and 0.280765 respectively. This implies that an increase in interest rate and cash reserve ratio, net profit margin decreases by -1.578890, 0.280765 and the Hypotheses is therefore being accepted. The result from the table above reveals that liquidity ratio and loan to deposit ratio has a significant effect on net profit margin with a p-value of 0.0000 and 0.0000 respectively and a coefficient of 3.247503 and 0.00710. This implies that as liquidity ratio and loan to deposit ratio increases, net profit margin increases by 3.247503 and 0.00710 and vice versa. Liquidity ratio and loan to deposit ratio also has a corresponding t-value statistics of 4.387985, 4.350076 respectively and the Hypotheses is therefore rejected.

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Table 3: Regression Result

Dependent Variable: NET_PROFIT_MARGIN				
Method: Panel EGLS (Cross-section weights)				
Date: 10/28/19 Time: 12:56				
Sample (adjusted): 2008 2018				
Periods included: 11				
Cross-sections included: 12				
Total panel (balanced) observations: 132				
Linear estimation after one-step weighting matrix				
White cross-section standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-63.99590	21.16673	-3.023419	0.0030
LIQUIDITY_RATIO	3.247503	0.740090	4.387985	0.0000
LOAN_TO_DEPOSIT_RATIOS	0.007107	0.001634	4.350076	0.0000
INTEREST_RATE	-1.578890	1.984227	-0.795720	0.4277
CASH_RESERVE_RATIO	0.280765	0.565600	0.496402	0.6205
	Weighted Statistics			
R-squared	0.209863	Mean dependent var		46.23713
Adjusted R-squared	0.184977	S.D. dependent var		49.84306
S.E. of regression	38.95078	Sum squared resid		192679.7
F-statistic	8.432917	Durbin-Watson stat		1.622511
Prob(F-statistic)	0.000005			
	Unweighted Statistics			
R-squared	0.020276	Mean dependent var		15.58636
Sum squared resid	221828.2	Durbin-Watson stat		2.587923

Source: E-view 10

Post Estimation Test Results

Table 4: Serial Correlation Test
Breusch-Godfrey Serial Correlation LM Test:

F-statistic	10.68844	Prob. F(2,10)	0.0033
Obs*R-squared	10.90070	Prob. Chi-Square(2)	0.0043

Source: E-view 10

The Breusch-Godfrey Serial Correlation LM Test indicates that, there is no autocorrelation. This is given by the F-statistic of 10.68844 and its corresponding P-

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value of 0.0033, and corroborated by observed R-squared of the auxiliary regression P-value of 0.0043.

Table 5: Heteroskedasticity Test
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	12.92946 Prob. F(3,12)	0.0005
Obs*R-squared	12.21961 Prob. Chi-Square(3)	0.0067
Scaled explained SS	8.596745 Prob. Chi-Square(3)	0.0352

Source: E-view 10

Following the heteroskedasticity test result presented in table 5, it is important to mention that the tests for heteroskedasticity was conducted for the collated data in order to inspect the possibility for spurious regression among the variables (constant variance). The result recommends that we accept the alternative hypothesis of no constant variance among the studied firms showing that the data is not free from the consequences of heteroskedaticity. Furthermore, the omitted variable test conducted with Ramsey RESET in table revealed the presence of omitted variables hence the need to adopt the ordinary least square regression techniques.

Discussion of Findings

The result from the table 3 reveals that monetary policy has a significant effect on bank performance with a p-value of 0.0000 and a F-statistic of 8.432917. This implies that if monetary policy increases, bank performance increases by 8.432917 and vice versa.

The test of goodness of fit reveals that the estimated relation has a good fit with an R^2 at 20%. The R-squared explains variation on economic stability to the extent of approximately 20% while the remaining variation is explained by other variables not captured in the model. The f-statistic, which reveals the joint significance of all estimated parameters in predicting the values of performance, is statistically significant with a value of 8.432917 and a p-value of 0.000000. The Variance Inflation Factors (VIF) result shows that there is no multicollinearity problem because the VIF value is between 1 and 10. Also, there is no heteroskedascity problem because the chi-square which stands at 0.8091 and F-statistics which stands at 0.8158 are more than 10%.

Therefore, since the p-value is less than 0.05, which is the accepted level of significance for this research, the researcher hereby rejects H_0 and state that monetary policy has a significant effect on performance of listed DMBs in Nigeria.

5. Conclusion and Recommendations

The research work studied the effect of monetary policy on the performance of the Nigeria commercial banks. The commercial banks played an indispensable role in Nigeria's economy by providing funds for the investors without inconveniencing the companies. Today, the activities and performance of commercial banks in Nigeria

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have much wider implication and this arises partly because of the growing influence of ideas and structure associated with the concept of democracy. The Monetary policy has critical impact on the developing nations and a tremendous influence on the growth rate of the economy; we can evaluate its performance in terms of the activities of the Nigeria commercial Banks. We conclude that the aim of monetary policy is the mobilization and control of funds. Therefore, the effect of monetary policy on the Nigeria commercial banks as an engine for controlling inflation, unemployment etc. is geared towards finding a positive and constructive role for the economy.

The following recommendations are suggested:

i.   The Central Bank of Nigeria should manage the recent 13.5% monetary policy rate properly for it to be attractive and affordable for investors to borrow money from the bank.

ii.   With the recent increase of 65% of loan to deposit, Government should also employ other measures to control the loan to deposit so that these funds cannot be used for another purpose.

iii.   The Monetary authorities should minimize the 22.5 % Cash reserve ratio in order to influence the level of bank performance with capacity to raise a volume of funds with sufficient to meet anticipated needs.

iv.   The reduction of liquidity ratio should be insisted from 30% to 25% to prevent the banks from folding up. The reversion to the modern technique of controlling liquidity in the economy should be encouraged and this should be strictly adhering to ensure economic stability.

If all these are effectively implemented, it will assist to reduce inflation, unemployment, and increase the GDP of the Nigerian economy.

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Appendix

Year	Company	I.D	GICS INDUSTRY	Net Profit Margin	Interest rate	Liquidity ratio	Cash reserve ratio	Loan to deposit Ratios
2006	Access Bank	1	Banks	5.52	10.00	55.7		48.8
2007	Access Bank	1	Banks	36.01	9.50	40.0		52.5
2008	Access Bank	1	Banks	38.97	9.75	35.0	3.0	69.49
2009	Access Bank	1	Banks	6.62	6.00	25.0	1.3	87.51
2010	Access Bank	1	Banks	16.82	6.25	25.0	1.0	88.26
2011	Access Bank	1	Banks	15.34	12.00	30.0	8.0	52.3
2012	Access Bank	1	Banks	27.16	12.00	30.0	12.0	50.28
2013	Access Bank	1	Banks	25.69	12.00	30.0	12.0	59.05
2014	Access Bank	1	Banks	24.34	13.00	30.0	20.0	76.35
2015	Access Bank	1	Banks	31.7	11.00	30.0	20.0	81.14
2016	Access Bank	1	Banks	28.89	14.00	30.0	22.5	86.61
2017	Access Bank	1	Banks	19.38	14.00	30.0	22.5	88.91
2018	Access Bank	1	Banks	24.93	14.00	30.0	22.5	77.73
2006	Fidelity Bank	2	Banks	41.57	10.00	55.7		49.06
2007	Fidelity Bank	2	Banks	28.98	9.50	40.0		39.86
2008	Fidelity Bank	2	Banks	44.33	9.75	35.0	3.0	60.54
2009	Fidelity Bank	2	Banks	2.79	6.00	25.0	1.3	60.41
2010	Fidelity Bank	2	Banks	15.25	6.25	25.0	1.0	48.83
2011	Fidelity Bank	2	Banks	5.22	12.00	30.0	8.0	49.53
2012	Fidelity Bank	2	Banks	23.04	12.00	30.0	12.0	48.2
2013	Fidelity Bank	2	Banks	8.95	12.00	30.0	12.0	52.85
2014	Fidelity Bank	2	Banks	13.23	13.00	30.0	20.0	66.06
2015	Fidelity Bank	2	Banks	11.48	11.00	30.0	20.0	75.13
2016	Fidelity Bank	2	Banks	7.9	14.00	30.0	22.5	90.6
2017	Fidelity Bank	2	Banks	10.48	14.00	30.0	22.5	99.16
2018	Fidelity Bank	2	Banks	14.92	14.00	30.0	22.5	86.77
2006	First Bank Holding	3	Banks	42.66	10.00	55.7		39.5
2007	First Bank Holding	3	Banks	32.98	9.50	40.0		36.35
2008	First Bank Holding	3	Banks	31.31	9.75	35.0	3.0	65.61
2009	First Bank Holding	3	Banks	3.02	6.00	25.0	1.3	80.09
2010	First Bank Holding	3	Banks	19.2	6.25	25.0	1.0	78.84
2011	First Bank Holding	3	Banks	8.75	12.00	30.0	8.0	64.19
2012	First Bank Holding	3	Banks	26.34	12.00	30.0	12.0	64.21
2013	First Bank Holding	3	Banks	21.83	12.00	30.0	12.0	60.4
2014	First Bank Holding	3	Banks	22.85	13.00	30.0	20.0	71.42
2015	First Bank Holding	3	Banks	3.82	11.00	30.0	20.0	61.17
2016	First Bank Holding	3	Banks	4.23	14.00	30.0	22.5	67.13
2017	First Bank Holding	3	Banks	10.18	14.00	30.0	22.5	63.67

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Year	Company	I.D	GICS INDUSTRY	Net Profit Margin	Interest rate	Liquidity ratio	Cash reserve ratio	Loan to deposit Ratios
2018	First Bank Holding	3	Banks	13.75	14.00	30.0	22.5	48.29
2006	First City Monumental Bank	4	Banks	51.05	10.00	55.7		27.13
2007	First City Monumental Bank	4	Banks	40.65	9.50	40.0		44.53
2008	First City Monumental Bank	4	Banks	50.04	9.75	35.0	3.0	70.16
2009	First City Monumental Bank	4	Banks	2.04	6.00	25.0	1.3	71.3
2010	First City Monumental Bank	4	Banks	18.19	6.25	25.0	1.0	79.6
2011	First City Monumental Bank	4	Banks	-10.62	12.00	30.0	8.0	50.04
2012	First City Monumental Bank	4	Banks	17.38	12.00	30.0	12.0	50.03
2013	First City Monumental Bank	4	Banks	15.74	12.00	30.0	12.0	62.99
2014	First City Monumental Bank	4	Banks	18.76	13.00	30.0	20.0	84.22
2015	First City Monumental Bank	4	Banks	3.85	11.00	30.0	20.0	84.68
2016	First City Monumental Bank	4	Banks	11.46	14.00	30.0	22.5	100
2017	First City Monumental Bank	4	Banks	5.54	14.00	30.0	22.5	94.19
2018	First City Monumental Bank	4	Banks	11.37	14.00	30.0	22.5	77.04
2006	Guaranty Trust Bank	5	Banks	38.46	10.00	55.7		39.02
2007	Guaranty Trust Bank	5	Banks	41.21	9.50	40.0		39.3
2008	Guaranty Trust Bank	5	Banks	41.7	9.75	35.0	3.0	88.15
2009	Guaranty Trust Bank	5	Banks	22.24	6.00	25.0	1.3	82.49
2010	Guaranty Trust Bank	5	Banks	34.16	6.25	25.0	1.0	77.98
2011	Guaranty Trust Bank	5	Banks	39.45	12.00	30.0	8.0	68.89

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Year	Company	I.D	GICS INDUSTRY	Net Profit Margin	Interest rate	Liquidity ratio	Cash reserve ratio	Loan to deposit Ratios
2012	Guaranty Trust Bank	5	Banks	50.9	12.00	30.0	12.0	67.85
2013	Guaranty Trust Bank	5	Banks	48.56	12.00	30.0	12.0	70.22
2014	Guaranty Trust Bank	5	Banks	49.2	13.00	30.0	20.0	78.83
2015	Guaranty Trust Bank	5	Banks	43.38	11.00	30.0	20.0	85.19
2016	Guaranty Trust Bank	5	Banks	50.39	14.00	30.0	22.5	80.02
2017	Guaranty Trust Bank	5	Banks	52.08	14.00	30.0	22.5	70.25
2018	Guaranty Trust Bank	5	Banks	60.15	14.00	30.0	22.5	55.37
2006	Stanbic Ibtc Holding	6	Banks	56.16	10.00	55.7		86.73
2007	Stanbic Ibtc Holding	6	Banks	45.7	9.50	40.0		74.57
2008	Stanbic Ibtc Holding	6	Banks	29.27	9.75	35.0	3.0	103.29
2009	Stanbic Ibtc Holding	6	Banks	19.89	6.00	25.0	1.3	65.31
2010	Stanbic Ibtc Holding	6	Banks	27.52	6.25	25.0	1.0	87.93
2011	Stanbic Ibtc Holding	6	Banks	18.75	12.00	30.0	8.0	97.72
2012	Stanbic Ibtc Holding	6	Banks	17.57	12.00	30.0	12.0	82
2013	Stanbic Ibtc Holding	6	Banks	33.19	12.00	30.0	12.0	89.07
2014	Stanbic Ibtc Holding	6	Banks	44.44	13.00	30.0	20.0	77.73
2015	Stanbic Ibtc Holding	6	Banks	22.85	11.00	30.0	20.0	60.02
2016	Stanbic Ibtc Holding	6	Banks	32.61	14.00	30.0	22.5	57.42
2017	Stanbic Ibtc Holding	6	Banks	39.36	14.00	30.0	22.5	49.37
2018	Stanbic Ibtc Holding	6	Banks	62.88	14.00	30.0	22.5	45.59
2006	Sterling Bank	7	Banks	14.27	10.00	55.7		55.91
2007	Sterling Bank	7	Banks	14.54	9.50	40.0		47.48
2008	Sterling Bank	7	Banks	30.03	9.75	35.0	3.0	37.8
2009	Sterling Bank	7	Banks	-26.52	6.00	25.0	1.3	59.99
2010	Sterling Bank	7	Banks	20.03	6.25	25.0	1.0	54.98
2011	Sterling Bank	7	Banks	21.4	12.00	30.0	8.0	39.55
2012	Sterling Bank	7	Banks	12.99	12.00	30.0	12.0	49.14
2013	Sterling Bank	7	Banks	11.83	12.00	30.0	12.0	71.14
2014	Sterling Bank	7	Banks	11.55	13.00	30.0	20.0	70.8
2015	Sterling Bank	7	Banks	12.72	11.00	30.0	20.0	57.32
2016	Sterling Bank	7	Banks	5.21	14.00	30.0	22.5	80.08
2017	Sterling Bank	7	Banks	7.72	14.00	30.0	22.5	87.33

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Year	Company	I.D	GICS INDUSTRY	Net Profit Margin	Interest rate	Liquidity ratio	Cash reserve ratio	Loan to deposit Ratios
2018	Sterling Bank	7	Banks	7.36	14.00	30.0	22.5	81.65
2008	Union Bank Of Nig	8	Banks	32.74	9.75	35.0	3.0	37.95
2009	Union Bank Of Nig	8	Banks	-338.91	6.00	25.0	1.3	49.06
2010	Union Bank Of Nig	8	Banks	127.19	6.25	25.0	1.0	31.33
2011	Union Bank Of Nig	8	Banks	-132.38	12.00	30.0	8.0	33.17
2012	Union Bank Of Nig	8	Banks	7.93	12.00	30.0	12.0	31.57
2013	Union Bank Of Nig	8	Banks	7.5	12.00	30.0	12.0	47.55
2014	Union Bank Of Nig	8	Banks	34.86	13.00	30.0	20.0	59.28
2015	Union Bank Of Nig	8	Banks	15.28	11.00	30.0	20.0	64.26
2016	Union Bank Of Nig	8	Banks	15.7	14.00	30.0	22.5	77.03
2017	Union Bank Of Nig	8	Banks	8.92	14.00	30.0	22.5	64.45
2018	Union Bank Of Nig	8	Banks	16.39	14.00	30.0	22.5	55.21
2006	United Bank For Africa	9	Banks	20.02	10.00	55.7		14.41
2007	United Bank For Africa	9	Banks	29.08	9.50	40.0		35.37
2008	United Bank For Africa	9	Banks	35.06	9.75	35.0	3.0	32.36
2009	United Bank For Africa	9	Banks	1.34	6.00	25.0	1.3	51.12
2010	United Bank For Africa	9	Banks	0.51	6.25	25.0	1.0	49.62
2011	United Bank For Africa	9	Banks	-7.63	12.00	30.0	8.0	41.89
2012	United Bank For Africa	9	Banks	34.32	12.00	30.0	12.0	38.31
2013	United Bank For Africa	9	Banks	25.09	12.00	30.0	12.0	43.38
2014	United Bank For Africa	9	Banks	24.36	13.00	30.0	20.0	49.4
2015	United Bank For Africa	9	Banks	25.5	11.00	30.0	20.0	49.8
2016	United Bank For Africa	9	Banks	27.38	14.00	30.0	22.5	1380.01
2017	United Bank For Africa	9	Banks	24.13	14.00	30.0	22.5	60.4
2018	United Bank For Africa	9	Banks	21.66	14.00	30.0	22.5	51.22
2007	Unity Bank	10	Banks	6.7	9.50	40.0		25.1
2008	Unity Bank	10	Banks	-53.36	9.75	35.0	3.0	16.2
2009	Unity Bank	10	Banks	-50.96	6.00	25.0	1.3	40.85
2010	Unity Bank	10	Banks	42.82	6.25	25.0	1.0	51.41

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Year	Company	I.D	GICS INDUSTRY	Net Profit Margin	Interest rate	Liquidity ratio	Cash reserve ratio	Loan to deposit Ratios
2011	Unity Bank	10	Banks	8.5	12.00	30.0	8.0	44.17
2012	Unity Bank	10	Banks	14.99	12.00	30.0	12.0	70
2013	Unity Bank	10	Banks	-43.26	12.00	30.0	12.0	64.37
2014	Unity Bank	10	Banks	17.07	13.00	30.0	20.0	79.18
2015	Unity Bank	10	Banks	7.48	11.00	30.0	20.0	106.35
2016	Unity Bank	10	Banks	3.15	14.00	30.0	22.5	104.93
2017	Unity Bank	10	Banks	-17.22	14.00	30.0	22.5	3.55
2018	Unity Bank	10	Banks	4.3	14.00	30.0	22.5	18.05
2006	Wema Bank	11	Banks	-63.93	10.00	55.7		62.73
2007	Wema Bank	11	Banks	13.85	9.50	40.0		54.83
2008	Wema Bank	11	Banks	13.85	9.75	35.0	3.0	54.83
2009	Wema Bank	11	Banks	-58.17	6.00	25.0	1.3	31.9
2010	Wema Bank	11	Banks	123.92	6.25	25.0	1.0	35.4
2011	Wema Bank	11	Banks	-24.91	12.00	30.0	8.0	45.62
2012	Wema Bank	11	Banks	-20.12	12.00	30.0	12.0	42.31
2013	Wema Bank	11	Banks	5.59	12.00	30.0	12.0	45.3
2014	Wema Bank	11	Banks	6.69	13.00	30.0	20.0	57.65
2015	Wema Bank	11	Banks	6.27	11.00	30.0	20.0	65.13
2016	Wema Bank	11	Banks	5.75	14.00	30.0	22.5	80.13
2017	Wema Bank	11	Banks	4.25	14.00	30.0	22.5	84.82
2018	Wema Bank	11	Banks	5.77	14.00	30.0	22.5	68.31
2006	Zenith Bank	12	Banks	30.83	10.00	55.7		50.91
2007	Zenith Bank	12	Banks	29.52	9.50	40.0		45.41
2008	Zenith Bank	12	Banks	37.48	9.75	35.0	3.0	37.91
2009	Zenith Bank	12	Banks	10.65	6.00	25.0	1.3	59.49
2010	Zenith Bank	12	Banks	29.4	6.25	25.0	1.0	54.12
2011	Zenith Bank	12	Banks	29.84	12.00	30.0	8.0	53.99
2012	Zenith Bank	12	Banks	45.49	12.00	30.0	12.0	51.31
2013	Zenith Bank	12	Banks	36.65	12.00	30.0	12.0	54.96
2014	Zenith Bank	12	Banks	31.73	13.00	30.0	20.0	68.16
2015	Zenith Bank	12	Banks	30.35	11.00	30.0	20.0	77.77
2016	Zenith Bank	12	Banks	33.71	14.00	30.0	22.5	76.73
2017	Zenith Bank	12	Banks	37.49	14.00	30.0	22.5	61.09
2018	Zenith Bank	12	Banks	43.95	14.00	30.0	22.5	49.4

Source: Financial Reports of listed DMBs in Nigeria

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PERSONAL DATA MANAGEMENT IN THE PROJECTS IMPLEMENTED IN ROMANIA AND FINANCED FROM EUROPEAN FUNDS

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Abstract: *Background: the enactment of General Data Protection Regulation (EU) 2016/679 (GDPR) has an impact on projects co-financed by European funds because they use personal data of members of the target group, of representatives of economic operators submitting tenders in procurement procedures. but also of the staff involved in the implementation of the project. Our concern is that although the beneficiaries of European funds are obliged to comply with these rules, the Management Authorities in Romania are not a good example in this regard. Our objective is to highlight the GDPR principles that are not applied by the Romanian Management Authorities and that affect the protection of personal data. Method: analysis of the requirements imposed by the GDPR. The result: although the GDPR clarifies the use and management of personal data, these rules are not followed uniformly by all institutions involved in the process of using and managing European funds. The conclusion is that the observance of the GDPR principles and by the institutions that manage the European funds in Romania, will make an important contribution to the protection of personal data.*

Keywords: *European Funds; Privacy; General Data Protection Regulation (GDPR); European Union law; Personal data; Special categories of personal data.*

JEL Classification: *K33.*

1. Introduction

Almost two years after the entry into force of General Data Protection Regulation (EU) 2016/679 (GDPR), there are still many operators of personal data for which the applicability of this normative act has unclear elements and, as a result, they do not apply all the provisions properly. In order to better understand the usefulness of observing the GDPR principles, it is necessary to synthesize relevant information regarding the protection of personal data. Thus, the processing of personal data is closely linked to the protection of individuals, and therefore aims at a fundamental right. According to Article 8 paragraph 1 of the Charter of Fundamental Rights of the European Union and Article 16 paragraph 1 of the Treaty on the Functioning of the European Union, any person has the right to the protection of personal data concerning him [1,5]. Directive 95/46 / EC was transposed internally in Romania by Law no. 677/2001 for the protection of persons regarding the processing of personal data and the free movement of these data. Although Directive 95/46 / EC introduced robust mechanisms for the protection of personal data [2], it was outdated.

Technology development, the emergence of Google, Facebook, LinkedIn allow data processing in ways that could not be foreseen in 1995 when Directive 95/46 / EC was adopted. Therefore, General Data Protection Regulation (EU) 2016/679 is a natural consequence of these results of technological progress. In contrast to the Directive, Regulation (EU) 679/2016 (the "Regulation" or "GDPR") applies directly in all Member States from 25 May 2018.

The Regulation defines personal data as "any information about an identified or identifiable natural person (" the data subject "); an identifiable natural person is a person who can be identified, directly or indirectly, in particular by reference to an identification element, such as a name, identification number, location data, an online identifier, or to one or more many specific elements, specific to its physical, physiological, genetic, psychological, economic, cultural or social identity " [4]. According to Opinion 4/2007 of the Working Group Art. 29, adopted on June 20, 2017, personal information will take into account the following pillars: any information / which refers to / an identified / or identifiable natural person [3].

In the management of the European funded projects, the collection and exchange of personal data increased significantly in 2014-2020 framework compared to previous multiannual financial frameworks. Applications such as mysmis.ro, fonduri-ue.ro, afir.info.ro or e-licitatie.ro used by the beneficiaries of European funds, public or private, either in relation to the Management Authorities for project implementation, or in relation to economic operators in the procurement procedures, use personal data at an unprecedented level. Therefore, all projects must comply with the seven principles of the processing of personal data: legality, fairness and transparency; purpose limitations; minimizing data; accuracy; storage limitations; integrity and confidentiality; responsibility.

2. Processing of personal data at the Romanian Management Authorities level

According to General Data Protection Regulation (EU) 2016/679 (GDPR), the operator is the entity that establishes the purpose and the means of data processing and its obligations are to inform the data subject, to ensure that the processing is legal and that the rights of the person are respected. Starting from the recommendation that each institution decide its quality: operator, authorized person or both, between the operator and the authorized person, there should be a contract to ensure data protection. As a result of this recommendation, in the financing contracts between the Management Authorities and beneficiaries, mentions are found regarding the processing, storage and archiving of the data obtained during the execution of the financing contract. In the contracts related to the Regional Operational Program, the processing, storage and archiving of data is performed with the purpose of verifying the implementation mode and / or complying with the contractual clauses and the national and European legislation. In the contracts related to the Human Capital Operational Program, the personal data are used for the purpose of achieving the project objectives, for statistical purposes and those of the target group can only be processed and published, for the information of the public, only with their prior information on the purpose of processing and publication. and obtaining their consent. However, although the recommendation to have

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contractual provisions regarding personal data is respected, there are regulations that are not respected.

First of all, the provisions regarding the personal data contained in the financing contracts are not complete because either the duration of the processing is not clearly specified, formulations such as "throughout the term and after termination" of the financing contract do not represent a clear information on the duration, either the type of personal data is not provided, or it does not establish the categories of data subjects (except for the Human Capital Operational Program), or it does not establish the obligations of the operator but only the rights. Also, the contract omits the provisions by which the authorized person processes personal data only on the basis of the operator's instructions and ensures that the persons authorized to process the personal data have committed to respecting the confidentiality.

A second important aspect omitted by the Management Authorities is that the information and obtaining the consent must be carried out, according to art. 13, section 2, chapter III of Regulation no. 679/2016, when collecting personal data and not later.

Analysing the official websites of the Management Authorities from the point of view of information, knowing that it must address the answers to the questions: Who processes it; What types of data do they process?; To whom are they transmitted? For what purposes? During what period are they stored?, and they must have a concise, transparent, intelligible and easily accessible form, we have identified the following:

- mysmis.ro application does not inform about the types of data they process and what is the period for which they are stored.
- The official website of the Management Authority of the Regional Operational Program has an information in English, a vague enumeration of the personal data they process, an announcement that the data can be transferred but without specifying to whom and without specifying storage duration.
- The website fonduri-ue.ro does not contain any information regarding the protection of personal data.
- The website e-licitatie.ro does not contain any information regarding the protection of personal data.
- The website afir.info.ro contains all the information elements in accordance with the GDPR.

3. Processing of personal data at the beneficiary's level.

Analysing the forms made available by the Management Authorities, we found that in order to prepare the signing of the financing contract, a consent form regarding the processing of personal data is sent to the beneficiary. In the situation of the Regional Operational Program, the consent is given only by the legal representative although in the application for financing, personal data are also requested for the contact person, the project manager and the other members of the project team, if at the time of submission of the request for funding they are known. In the situation

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of the National Rural Development Program, the legal representative of the beneficiary must sign a "Declaration regarding the processing of personal data", which is in fact an information, as it results from the document, because it is mentioned that "it informs the data subjects whose data are collected on how these data are used and on the rights that are due to them. " In the second example, it is no longer an incomplete consent but a complete lack of consent.

4. Personal data processing at the target group level.

The processing of personal data at the target group level is made unequivocally within the Human Capital Operational Program. For this purpose, the Management Authority has made available to the beneficiaries the form Annex 8 Target group registration form containing the following note:" Note: By completing and signing this form you express your consent regarding the use and processing of personal data. Your personal data, recorded / collected in the course of the POCU projects, are not processed for any purpose other than those mentioned in the Individual Registration Form and are not communicated to any third party, except only the public institutions / authorities, according to the legal provisions in force."
What is noticeable in the first place is the fact that this consent is not freely expressed because the element of pressure placed on the data subject for expressing his will cannot be omitted, in fact the person has no real choice. Also, this consent does not contain a manifestation of unambiguous will, respectively an unequivocal action, a statement of the data subject.
Last but not least, we emphasize the lack of a clear purpose for which the consent was obtained. The specification "are not processed for any purpose other than those mentioned in the Individual Registration Form" has no support in fact, because the form does not find the purposes of processing personal data.

5. Conclusion

Protecting personal data only at the project beneficiaries level is not enough because the management authorities are the ones who centralize all this information, the volume of personal data being very large. There is a need for a unitary and much more rigorous approach to respecting all the principles of personal data processing. Thus, it is necessary to be complete the financing contracts with the information regarding the duration of the processing, the type of personal data, the categories of data persons (except for the Human Capital Operational Program), the obligations of the operator, the instructions of the operator for the processing of personal data and the commitment to persons authorized to process personal data in order to respect confidentiality. The Management Authorities must update the information on the official websites and obtain a freely expressed and unequivocal free consent from all individuals whose personal data is processed, stored and archived.
All these recommendations are important because after May 25, 2018 institutions that do not comply with the requirements of the Regulation will be subject to administrative sanctions or fines.

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Given the fact that a huge amount of personal data is processed in the implementation of European-funded projects, it is necessary that all the institutions involved in this process do not lose sight of the rights of the natural person concerned: transparency, information, access, rectification, deletion, restriction, portability, opposition.

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THE EFFECTS OF THE EUROPEAN GREEN DEAL AGREEMENT ON THE ENERGY TRANSITION IN ROMANIA

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Abstract: *In this article, the author present some aspects regarding the energy transition in Romania that are currently facing barriers in the reform of his energy market. While the European Union aims, by the European Green Deal, to decarbonise the economy by 2050, the countries of the European Union are struggling with dysfunctional energy markets and a high dependence on fossil fuels and nuclear energy. European Union states have made national commitments to achieve long-term greenhouse gas neutrality and are now adopting national laws to achieve this objective. EU countries have approved the goal of achieving climate neutrality by 2050, in accordance with the Paris Agreement. Energy production and use account for more than 75% of the EU's greenhouse gas emissions. At EU level, the target for reducing GHG emissions was set at 40% by 2030 compared to 1990 levels, in addition to a target of 32% for renewable energy and a target of 32.5% for improving energy efficiency. The increase in the price of carbon dioxide emissions has led to the collapse of coal production, so that 15 states of the European Union have adopted national plans for the total elimination of coal by 2050. Only four states including Romania are beginning to adopt the plans their national coal disposal. Coal replacement plans provide for the use of clean energy from renewable sources and natural gas. But the European Union states are dependent on the imports of natural gas which leads to the focus on increasing energy obtained from renewable sources.*

Keywords: *climate neutrality; energy transition; greenhouse gases; primary energy; The European Green Pact.*

JEL Classification: *Q 43.*

1. Context

The Kyoto Protocol was the first international agreement for reducing greenhouse gases. It was negotiated in 1992, completed in 1997 and entered into force in 2005. During the Paris Environmental Conference, the UN decided that the Kyoto Protocol was not enough to stop global warming, which led to the creation and adoption of the Paris Agreement.
The Paris Agreement adopted on December 12, 2015 is the first of a universal nature in the field of climate change, which imposes legal obligations on all parties to achieve the objective of limiting the increase of the global average temperature below 2°C compared to the level of the pre-industrial period, having further efforts are envisaged to make this limit 1.5C.

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The contribution of the European Union and its Member States to achieving the objective of the Paris Agreement is represented by the target of reducing greenhouse gas emissions by at least 40% compared to 1990.

1.1. Global primary energy consumption
During the period 2007-2017, primary energy consumption experienced a strong growth in Asia Pacific and a much slower growth in the US and the European Union (Figure 1).
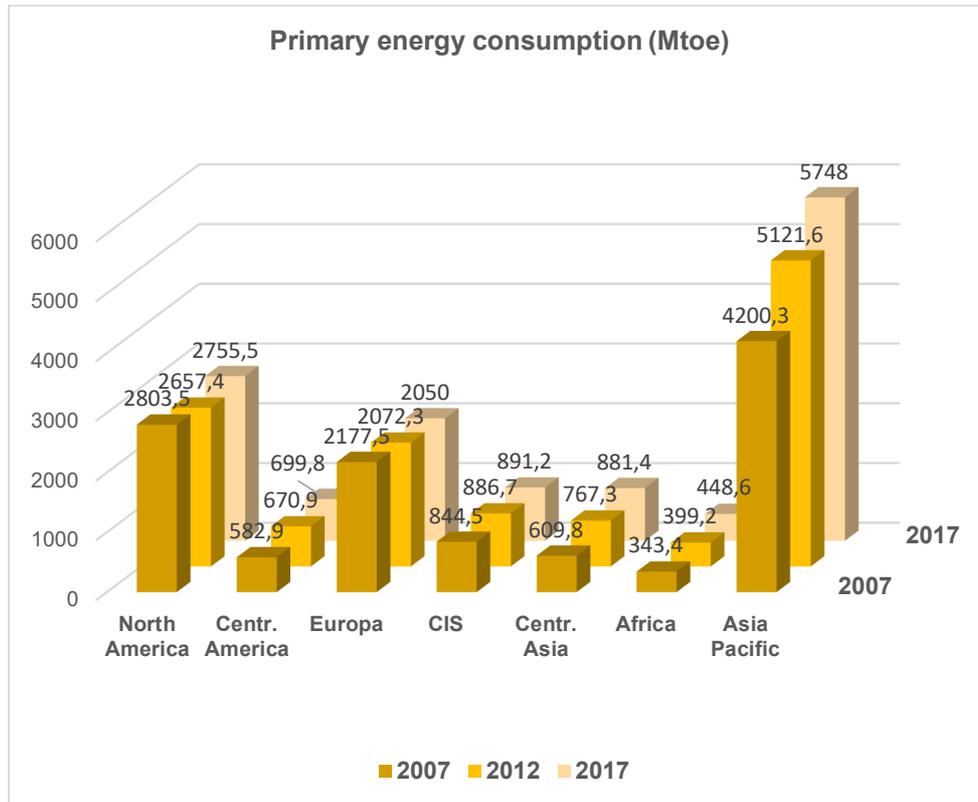
Figure 1: Primary energy consumption between 2007 and 2017
Source: BP Statistical Review of World Energy 2019

1.2. Global carbon dioxide emissions
Against the background of increasing energy consumption, greenhouse gas emissions also increased greenhouse gas emissions. Climate change is the biggest threat to the environment that humanity is facing.
Electricity and thermal energy production and the transport sector represent 80% of the greenhouse gases in the European Union. Quantitatively, Europe is only surpassed by Asia Pacific and North America in terms of emissions (Figure 2).

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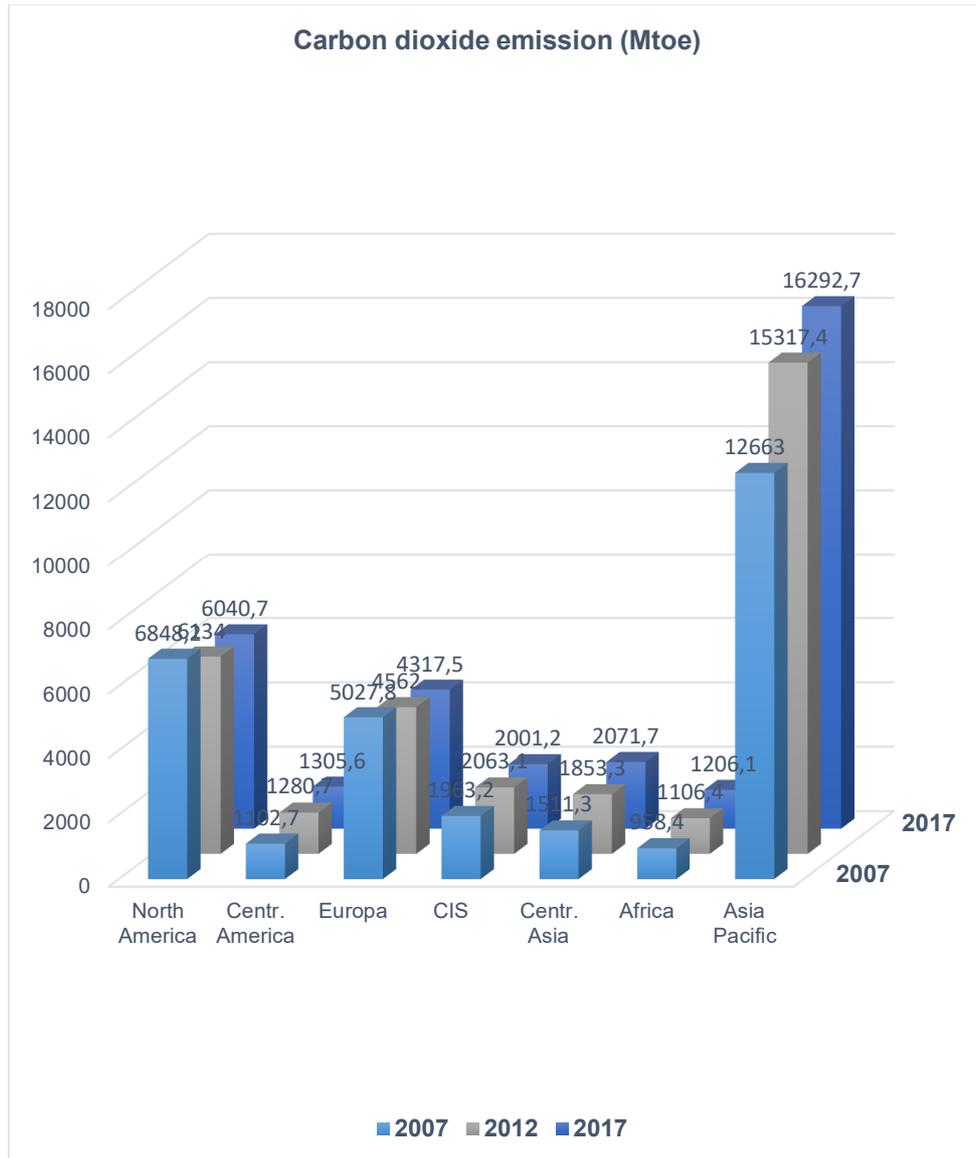
Figure 2: Global CO2 emissions (Mtoe) between 2007 and 2017
Source: BP Statistical Review of World Energy 2019

1.3. Renewable global energy
Renewables have grown worldwide in all countries of the world.
The growth of wind and solar production has been more significant in Europe, Asia Pacific and North America (Figure 3). The economic opportunities of low-cost

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renewables have become increasingly visible. Since 2017 prices have been declining at auctions for offshore and solar wind.
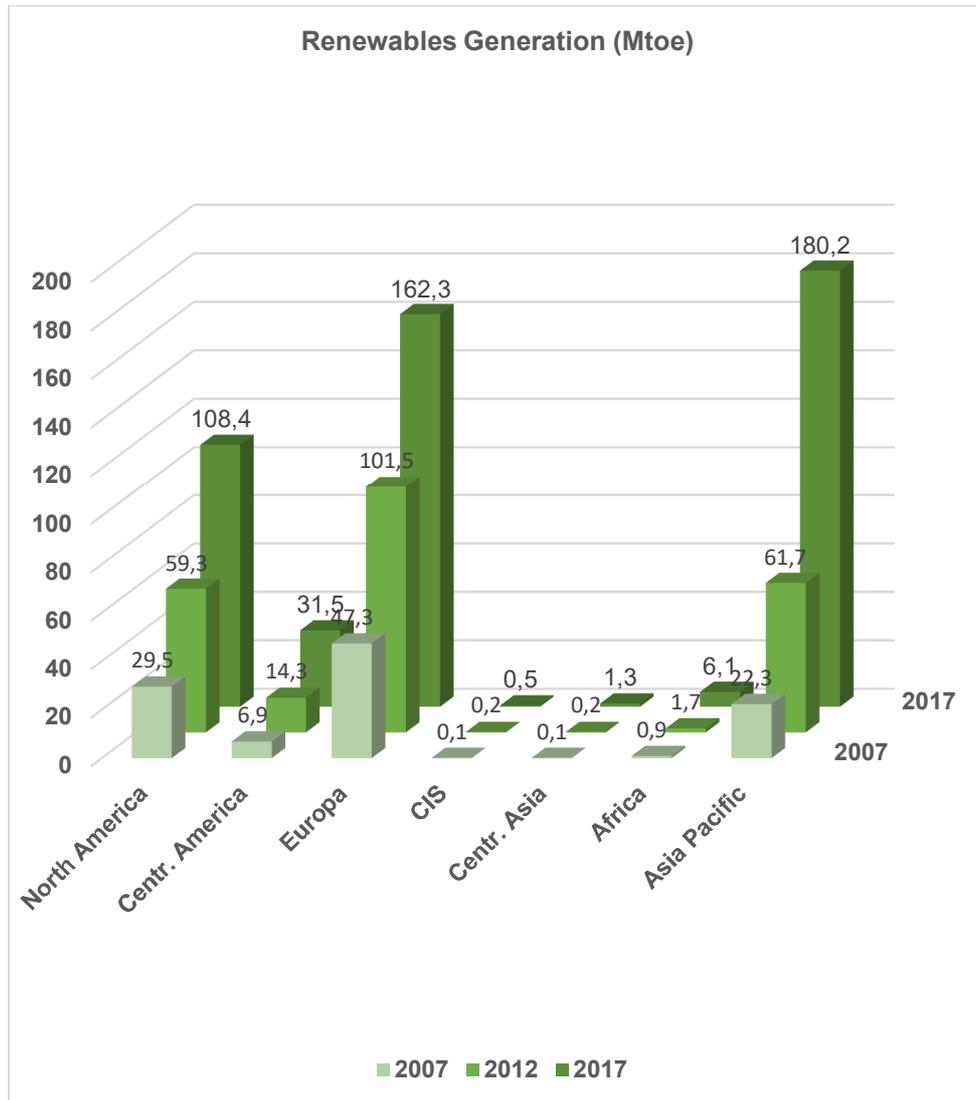
Figure 3: Global growth of RES (Mtoe) between 2007 and 2017
Source: BP Statistical Review of World Energy 2019

1.4. Coal consumption

Coal extraction and consumption decreased in North America and Europe in 2017 compared to 2007. In the CIS and Central America countries growth has been maintained, a slight decrease is observed in Asia Pacific (Figure 4).

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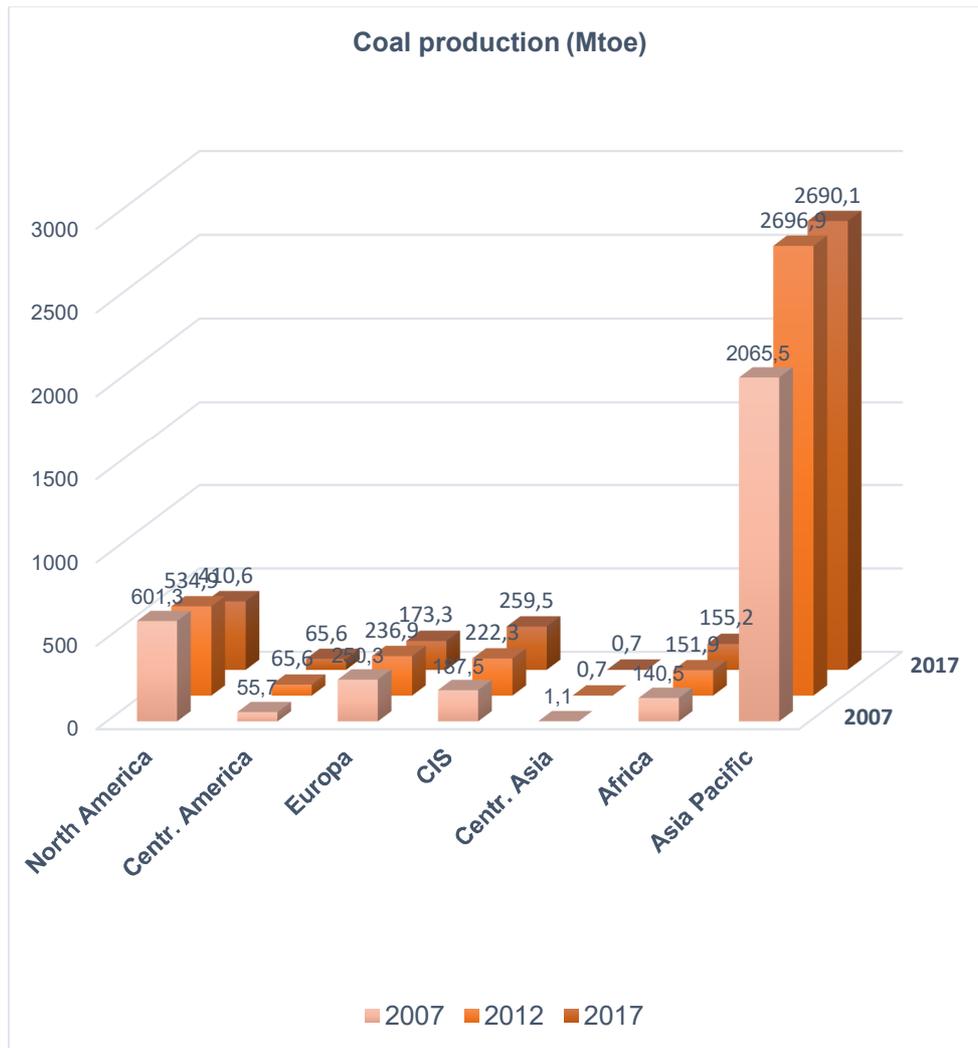
Figure 4: Global coal production between 2007 and 2017
Source: BP Statistical Review of World Energy 2019

1.5. Nuclear power

The European Green Agreement has put the fight against the climate crisis at the center of all EU policy activities over the next five years: The European Union aims to become the first greenhouse gas neutral continent by 2050, and the EU commission is putting forward proposals to lift it. the European target for reducing greenhouse gases by 2030 to -50% or -55% below 1990 levels. This implies that

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emissions from the energy sector will continue to decline, even as electricity increases as the transport and heating industry continue. to be electrified.

Nuclear power is a low carbon alternative to fossil fuels.

Regarding the production of electricity from nuclear energy between 2007 and 2017, it has seen an increase in CIS countries, Africa, Central Asia, while in North America and Asia Pacific it decreased from 2007 to 2012 when production becomes ascendant again. In Europe, nuclear power production slightly decreases from 2007 to 2017 as a result of new technologies that are expensive due to nuclear accidents in Chernobyl and Fukushima.

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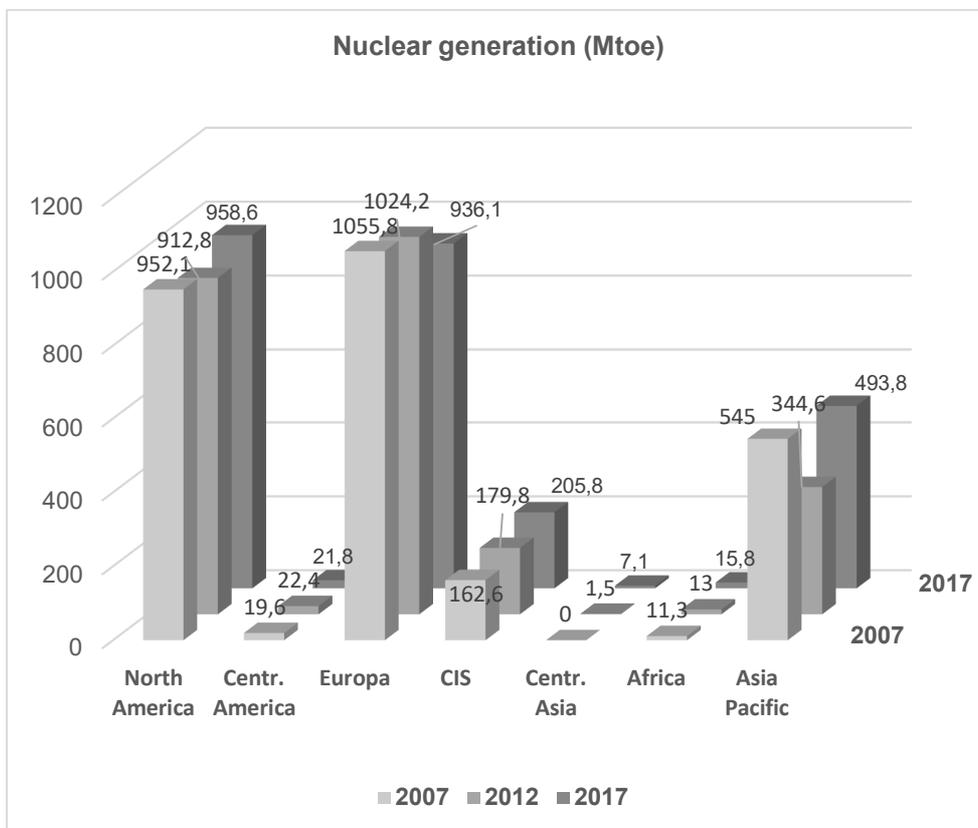
Figure 5: World nuclear energy produced between 2007 and 2017
Source: BP Statistical Review of World Energy 2019

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2. Effects of the energy transition in the European Union

2.1. European regulations on energy transition

Articles 191 to 193 of the Treaty on the Functioning of the European Union (TFEU) confirm and specify the EU's powers in the field of climate change. The legal basis for this proposal is Article 192 (1) TFEU. In accordance with Articles 191 and 192 (1) TFEU, the European Union contributes to, inter alia, the following objectives: preserving, protecting and improving the quality of the environment, promoting measures at international level to address regional or global environmental problems, especially climate change.

In 2010, the European Union adopted the Europe 2020 Strategy, a 10-year program, through which it set out to create conditions for smart, sustainable and inclusive growth. The strategy was developed and adopted within the European Council, amid a deep economic crisis and the intensification of long-term challenges, such as globalization, pressure on resource use and population aging. Europe 2020 takes into account the particularities of each Member State, while pursuing a coherent reform program, with the general aim of increasing Europe's competitiveness. The 2020 Strategy envisages a 20% increase in energy efficiency, a 20% increase in the share of energy from renewable sources in final consumption and a 20% reduction in greenhouse gas (GHG) emissions by 2020.

On December 11, 2019, the Commission published a Communication on the European Green Pact and the roadmap with key actions to achieve its objectives. The main objective of the document is to achieve zero net greenhouse gas emissions in Europe by 2050.

Actions have divided the entire economic spectrum, announcing specific actions to accelerate EU emission reductions in the 2020-2030 decade. In addition to an industrial strategy, the roadmap also sets out measures for greening the EU's industrial policy, protecting nature and adapting to climate change.

The most notable feature of the European Green Agreement is that it puts the fight against the future climate crisis at the center of the elaboration of economic policies. On June 6, 2012, the European Commission presented a communication entitled "Renewable energy: a major player in the European energy market" (COM (2012) 271 final), which contains options for a post-2020 renewable energy policy. The Communication also called for a more coordinated European approach in establishing and reforming support schemes and increased use of trade. renewable energy between EU Member States. In January 2014, the European Commission presented a set of energy and climate targets for 2030, with the aim of encouraging private investment in infrastructure and low carbon technologies. One of the key goals proposed is that the share of renewable energy reach at least 27% by 2030. These goals are seen as a step towards meeting the targets for greenhouse gas emissions for 2050, presented in the Roadmap for moving to a low level competitive carbon economy in 2050 (COM (2011) 112 final).

On December 11, 2018, the EU adopted Directive 2018/2001 / EU on promoting the use of energy from renewable sources. The new regulatory framework includes a mandatory 2030 EU renewable energy target of 32%, with an upward revision clause

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by 2023. This will largely contribute to the Commission's political priority, as expressed by President Juncker. in 2014 for the European Union to become the world number one in renewable sources. This will enable Europe to maintain its leading role in the fight against climate change, in the clean energy transition and in meeting the objectives set by the Paris Agreement.

Gas replaced about half of coal, solar and wind power the other half. Coal decline will continue: Greece and Hungary have pledged to phase out coal. Another 13 Member States have proposed to phase out coal. Only Poland, Romania, Bulgaria and Slovenia are still at the beginning.

In terms of nuclear energy, 13 of the 28 member states of the European Union account for about 26% of the electricity produced. Following the Chernobyl disaster in 1986 and the Fukushima disaster in 2011, nuclear power became highly controversial.

The climate and energy framework for 2030 adopted by the European Council in October 2014 includes EU-wide goals and policies for 2021-2030, respectively reducing by at least 40% of greenhouse gas emissions (compared to 1990 levels), the share of at least 32% of renewable energy and at least 32.5% improvement of energy efficiency.

Under the European Green Agreement, the Commission aims to raise the EU target to at least 50% and 55% in a responsible manner.

A mandatory renewable energy target for the EU by 2030, of at least 32% of final energy consumption, including a review clause by 2023, is an upward revision of the EU-wide target.

Defining energy transition models places renewable energy sources in the energy mix having one of the most important roles.

Some European countries have already adopted national strategies for greenhouse gas neutrality. These are aimed at 2035 in Finland, 2040 in Austria, 2045 in Sweden and 2050 in Denmark, Germany, France and Spain.

2.2. Effects of the energy transition in Romania

The use of renewable energy sources is considered a key element in European energy policy on reducing dependency on imported fuel from non-EU countries, reducing emissions from fossil fuel sources and decoupling energy costs from oil prices. Directive 2009/28/EC on the promotion of the use of energy from renewable sources has set accounting criteria for the 2020 objectives regarding renewable energy sources.

In November 2018, the European Commission launched the "Long-term Strategy" for decarbonisation the European economy. There is only one path modeled until 2030.

For Europe 2030 targets are 32% renewable energy and 32.5% for energy efficiency. Renewable energy proposed as a target of 24% by 2020 has been reached and exceeded. The objective of energy efficiency, however, was lacking in firmness and was based on the argument that the country went through an industrial restructuring which led to energy savings.

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Table 1: Electricity consumption to the European Union - Romania between 2007 and 2017

Primary energy consumption (Mtoe)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
European Union	2177,5	2173,3	2048,4	2124,6	2077,7	2072,3	2054,7	1978,3	1996,8	2017,5	2050,0
Romania	38,5	38,6	33,8	34,0	34,9	33,6	31,4	32,7	32,8	32,8	33,4

Source: Eurostat, 2018

After a gradual decline between 2007 and 2014, energy consumption has started to increase in recent years and is currently slightly above the linear path for the targets set for 2020. This is due to climate change, especially in the colder 2015 and 2016, but also the growth of economic activity and low oil prices. The energy intensity in the industry has continued to improve, and the energy savings have indeed contributed to partially offset the impact of these increases (Table 1).

Table 2: Primary energy consumption by production sources in 2007:

Primary energy consumption (Mtoe)	Coal	Oil	Nuclear energy	Natural gas	Hydroenergy	Renewables	Total
European Union	315,5	746,2	218,8	431,9	132,3	162,3	2050,0
Romania	5,4	10,3	2,6	9,6	3,3	2,2	33,4

Source: Eurostat, 2018

The growth continued in the energy sector produced from renewable sources, but with an unequal implementation. Since 2014, the share of energy from renewable sources in the energy mix of the European Union has increased significantly, reaching 2.2 Mtoe in 2017 (Table 2).
In 2017, Romania has already exceeded the target for 2020 (Figure 6).
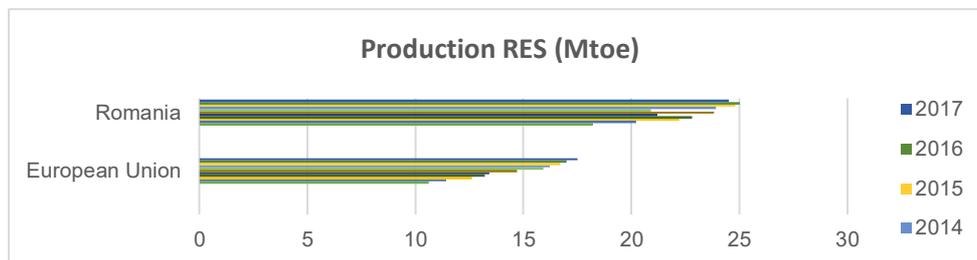
Figure 6: Renewable energy production Romania - European Union between 2007 and 2017
Source: Eurostat, 2018

While the price of greenhouse gases is rising, a supply system with a much higher level of renewable energy sources - 50% by 2030 - has proven to be realistic. This

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will undoubtedly require major changes in the structure of the electric energy system regarding investments to increase the electricity transmission capacity.

Due to its proven renewable potential in previous years, Romania can increase its energy production from renewable sources by 2050 by up to 65% (Table 3).

Table 3: Primary energy consumption on production sources (Mtoe) in the context of the Green Deal Pact for 2050:

Primary energy consumption (MToe)	Coal	Oil	Nuclear energy	Natural gas	Hydroenergy	Renewables	Total
Romania	1,5	10,3	2,1	8,3	3,3	6,6	32,1

Source: Results obtained by the author

While the need for strategic planning is obvious, the energy transition will also be based on a rigorous policy design, availability and accessibility of various financial instruments for investments, as well as functional and transparent energy markets.

3. In conclusion

The European Commission has set several energy strategies for a safer, sustainable and low carbon economy.

The biggest challenge and opportunity of the European Union is to become the world's first climate-neutral continent by 2050. To accomplish this, on December 11, 2019, the European Commission presented the European Green Agreement (COM (2019) 640 final), the most ambitious package of measures that should enable European citizens and businesses to benefit from a sustainable ecological transition. The European Green Agreement establishes a path for a fair and socially just transition. It is designed so that no person or region is left behind in the great transformation.

The Climate and Energy 2020 package adopted in December 2008 provided an additional incentive to increase the use of renewable energy sources to 20% of total energy consumption by 2020, while reducing energy consumption and gas emissions by 20% with greenhouse effect.

A mandatory target to reduce emissions in the EU by at least 40% below 1990 levels by 2030 will allow the EU to move towards a climate-neutral economy and to implement its commitments under the Paris Agreement.

In addition to combating climate change by reducing greenhouse gas emissions, the use of renewable energy sources can lead to more secure energy supply, greater diversity in energy supply, less air pollution.

Regarding Romania, the implementation of the European Green Agreement by encouraging investments in renewable energy and the gradual reduction of the use of coal, against the background of maintaining nuclear energy and the same level of use of natural gas, would be obtained up to about 65% clean energy from renewable sources.

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CITIES VS THE COUNTRYSIDE – PROS AND CONS OF URBAN AND RURAL LIFE

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Abstract: *Urban and rural life have traditionally been interpreted in opposition to each other. This perspective is based on the fact that urban and rural areas are home to different types of people who lead a different way of life, and in general, the characteristics of their lives show significant differences. Consequently, it can be clearly seen that the classical urban-rural division has become fundamentally obsolete nowadays, the functions are mixed, it is becoming less and less possible to meet a purely urban or purely rural way of life. With the appearance of new social classes, services for the needs of the middle class or the upper middle class will also be introduced in these settlements. In practice, this means that, regardless of the size and location of the settlement, different services can be provided if there is a realistic solvent demand for them in a given community. This also well predicts the development potential of rural settlements, as it turns out that the composition, needs and financial opportunities of inhabitants also have an impact. However, the effect outlined above is bidirectional, i.e. it also works in the opposite direction to that outlined. The fact that urban areas typically have better economic, labor market and public service situation than villages can definitely be characterised as an advantage of urban life. Companies capable of producing high added value typically settle in cities, which is partly explained by the fact that these settlements have a complex, multi-level education system that is able to serve the needs of employers more efficiently and effectively. The presence of better jobs generally also allows for the availability of higher average incomes, which acts as a strong motivator for initiating both external and internal migration. The disadvantages of cities are crowdedness, alienation and poor air quality. In the case of rural settlements and villages, several advantageous features can be mentioned, including the much more reasonable settlement size, community cohesion, and generally better environmental conditions. Greater personal space can also be tempting for many. The negative characteristics, however, are the weak local economy, the lack of jobs and, in general, the lack of opportunities.*

Keywords: *urbanisation; rural development; households; lifestyle.*

JEL Classification: *Q56; R11; R23.*

1. Introduction

Urban and rural life have traditionally been interpreted in opposition to each other. This perspective is based on the fact that urban and rural areas are home to different

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types of people who lead a different way of life, and in general, the characteristics of their lives show significant differences. In addition, there is also a kind of hierarchical relationship between the city and the countryside, according to which the urbanised environment would take precedence over rural areas. It has been a further assumption for a long time that the process of becoming a city is an almost natural evolutionary process, as each city was established as a village-sized, rural settlement. Accordingly, rural settlements will sooner or later show a natural development curve and become towns. However, in practice, this theory seems to be surpassed by everyday experience. If we work with the village-city binary settlement division, then we do not know how to handle many other types of settlements. How can homesteads and farms be interpreted? How do we interpret the existence of agglomerations, where a larger settlement is surrounded by smaller ones which perform various functions, most of which are not classically related to rurality and rural character? Additional issues are raised by so-called "sleeping towns", whose function is almost exclusively to provide a place to sleep for people who could not afford to live in the city or voluntarily moved from larger settlements and to provide the possibility of daily commuting. Suburban areas are also difficult to interpret in this bipolar system: residential areas, often considered to be the most elegant and expensive quarters of large cities, have many of the characteristics classically associated with the countryside, but they hardly perform functions of small village households. Further questions are raised by the functioning of market towns that legally qualify as cities, even though they are not able to perform all functions that can be rightfully expected from a city (Lajos - Ujhelyi, 2016).

Consequently, it can be clearly seen that the classical urban-rural division has become fundamentally obsolete nowadays, the functions are mixed, it is becoming less and less possible to meet a purely urban or purely rural way of life. The aim of this paper is not only to examine the changes in the functions performed by urban and rural areas and settlements, but also to analyse how the benefits related to urban and rural residences have developed in the recent period, their practical impact on intra-country migration, and we plan to analyse the impact of the presence of each social class in the settlements on the development of the given town or village.

2. Applied methods

The aim of this paper is to provide an extensive literature analysis on the examined topic, i.e. on some of the advantages and disadvantages of urban and rural life. In the paper, we deduct a summary evaluation from secondary data and previously published publications, which is of public interest in connection due to its novelty. In preparing this paper, we have also kept in mind all the benefits and risks that Kothari (2004) formulated in his summary research methodology work. Accordingly, during the preparation of the article, the research work based on the processing of secondary data was much more efficient than primary data collection in terms of both time management and use of financial resources. One of the main advantages of the rapid utilisation of scientific findings is that they do not have to be used to re-perform already verified surveys, i.e. the efficiency of research activities increases. At the same time, we had to keep in mind our relative exposure in the research

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activity as a risk. If the processed database is not created as a result of our own data collection, the possibility of performing analyses is limited by the the nature and depth of the original data collection(s). An additional problem during secondary data processing is that when conducting research work, only limited information is available to researchers about the authenticity of the processed data at all times. In order for our research to be sufficiently credible and based on reliable data, we quoted sources only from controlled sources and publications published in peer-reviewed journals. In addition, this activity meets the expectations of Harris (1998), who stated that the basis of each independent research project should be the available technical literature, as the knowledge of previously published scientific findings allows to avoid duplication of research and the unnecessary parallel use of the scarce research infrastructure.

In view of the above written facts, during the preparation of this paper we processed only the sources published in journals and volumes the proper proofreading of which guaranteed the authenticity of communication. We searched for resources using Google Scholar, EconBiz.de and AGECONSEARCH. The authentic statistical data examined during the preparation of the research were downloaded from the EUROSTAT databases in order to start the examination of the revealed literature sources with an authentic, transparent preliminary knowledge.

The aim of our article is to sythesize the literature of the investigated topic available in Hungarian and in English. However the topic is popular in the international literature there aren't many articles paying attention for the Eastern part of the European Union where we can find regions in unique situation: these regions became parts of one of the most developed areas of the world while they are facing many problems according to their poor economic conditions. With the preparation of this literature review article we used to collect the literature background of our future primary research in which we would like to investigate the situation and the perspectives of the poor regions located in the Eastern part of the European Union.

3. Why is(n't) it attractive to live in a city?

Cities are at the heart of social and economic life and the innovation functions performed by urban organisations are of paramount importance. All of these effects are also extremely attractive to a wider mass of people, which is why the flow of population towards urbanised areas will be particularly characteristic. In addition, urban areas can provide a number of opportunities for residents that rural areas are not, or only to a much lesser extent, capable of. Such opportunities include, for example, the significantly wider range of educational opportunities available, but the larger number of cultural and entertainment institutions should also be emphasised. However, one of the downsides of urban life is the relatively large number of people living in a relatively small area, which also raises several environmental, social, and welfare issues (Biagi et al., 2018).

Lots of other arguments are usually brought up in favour of the urban way of life. One of these is that a variety of job opportunities are available in cities in greater numbers. The possibility of working can have a serious effect even in the case of secondary school students, as the possibility of creating an independent income is

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of paramount importance for them as well (Kőmíves et al., 2018). Students in higher education try to explore, consider and decide on their subsequent labor market opportunities when making their decision to continue their studies, and they do the same when deciding on employment during their studies. It can be seen how important the possibility of self-education and gaining work experience is in the lives of young adults studying in full-time courses in higher education institutions. Students are even willing to make a mobility decision in order to access the development paths that offer the best opportunities, i.e. they move from the countryside to the city, or from a less developed region to a more developed region, according to the location of the given higher education institution (Liskuné Vathy et al., 2020). At the same time, this is a completely natural process, as migration, regardless of whether it involves crossing borders, is a phenomenon of the same age as humanity, and the reasons for migration have always included the possibility of creating a better life. More specifically, people feel a strong urge to move to areas that offer them the opportunity for a better life (Valuch, 2005; Dajnoki et al., 2017; Kőmíves et al., 2017; Máté et al., 2017; Oláh et al., 2017; Oláh et al., 2018). This process results in the emergence of high value-added, therefore profitable, knowledge-intensive companies in areas where the workforce necessary for their operation is available (Máté et al., 2016; Tarnóczi et al., 2017) - this is typically the case for cities, including campuses.

The condition of air could be one of the major disadvantages of urban life - and the advantage of rural life. The condition of the air can be affected by a number of external factors. The impact of air pollution from transport is very significant (Popp et al., 2014; Bai et al., 2017), which is also of unquestionable significance from an urban planning point of view. Transport, which also has an impact on the cityscape, causes several problems. On the one hand, local emissions have a negative effect on the air quality of settlements. This effect is more significant in cities than in rural settlements due to greater built-up and possibly poorer ventilation facilities. Due to the high population density of cities and the high concentration of certain frequent traffic destinations, traffic becomes more difficult. In addition, more congestion and traffic jams develop in these settlements, which impairs their breathable air. In addition, the construction and maintenance of transport infrastructure poses an additional problem, and the former category involves not only the space of the commuter, but also the storage space of parked cars (Fleischer, 2019). Partly due to the latter problems and the increase in costs associated with them, car-sharing services may become increasingly popular (Németh - Kőmíves, 2020).

4. Changes in the functions of the countryside

In order for human life to be sustainable, the existence and survival of both urban and rural areas is necessary. There is also a need for these areas of distinct function and location in order for European life and well-being to survive (Biagi et al., 2018). One type of area cannot replace the other, i.e. there are functions that are only available in cities, while other functions are only available in rural areas. This is still true today, even though we can observe the expansion of functions and the partial

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change of the tasks performed in rural areas - and to a lesser extent also in urban areas.

Today, all functions that rural areas perform are constantly changing. This is typically reflected in the fact that, in addition to maintaining traditional tasks and functions, new tasks and functions are also emerging in the countryside that were not previously typical of these areas. In practice, this means that the agricultural functions of the countryside remain strong, as agricultural production typically takes place in these areas. However, in recent years and decades, features such as leisure and sports have also appeared - nowadays we can see an increasing number of people basically living in urban areas traveling to the countryside just to indulge their hobbies. As a matter of course, as a result of the demand for such activities, supply also appeared: an increasing number of developments is taking place in rural areas, the aim of which is to support leisure and recreational activities and to serve the related needs (Pinto-Correira et al., 2015). Of course, the extent to which and the fields in which each rural area proves to be worth developing depends on a number of circumstances. Not all rural areas can be developed with the same methodology, each area has its strengths and weaknesses - the same can be said for urban areas in a similar way. Local development depends to a large extent on the social and economic capital available, the environmental characteristics of the area, the composition of the human resources living in or commuting to the area, last but not least, the amount, usability and nature of the economic resources available (Sørensen, 2018).

As a matter of course, the success of rural areas depends on a number of conditions. A recurring view in Hungary is that small settlements in the countryside are less able to provide adequate employment opportunities for residents, especially young people, which has a significant negative impact on the attractiveness of villages. In order for a municipality to successfully undertake to retain the population living there, especially young people, it is also necessary to have a supply of jobs adapted to the qualifications of the population. Failing this, the young population will emigrate from small settlements, which will inevitably lead to the aging of villages, and their slow and gradual depopulation. This undesirable scenario is especially dangerous for the survival of rural areas, settlements and communities (Harangi-Rákos - Szabó, 2012). Unfortunately, despite attempts to support rural development in many forms and ways around the world, there are still negative descriptors in the image of the countryside, in addition to positive indicators. The healthy nature of rural life, the humane-like social functioning and the moderate settlement size are emphasised as positive aspects, while the lack of different opportunities is usually highlighted as a negativity (Short, 2006).

Some settlements are also open to artificially influencing the image of them, to indicate the given village as in a better position than the real one (Tózsa, 2014). All this is most often manifested in the emphasis on the positives and the silence and hiding of the negatives, ie there is no question of the leaders of the settlement lying about the given village or town, they merely emphasise certain features and content elements more than others. In such activities, settlements can even use personal branding tools (Nagy et al., 2018).

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However, smaller settlements may face a large number of problems in their functioning. Some of these problems are of infrastructural nature, which may affect the issue of existing or missing infrastructure in part, as well as the connection of the municipality to various networks, such as road, railway, electricity, drinking water, internet, sewer, gas, telephone and other networks. It should be emphasised here that there may be problems with the availability of certain public services, even in key areas such as health, education, retail or the post office. The other part of the problems in these settlements is of a labor market nature, which can mean, on the one hand, unemployment and, on the other hand, a lack of a properly trained workforce, which in the long run can cause difficulties for companies operating in smaller settlements. Finally, it is necessary to mention economic problems, which, often due to the existence of the problem areas explained above, develop in a derivative way. The special difficulties of commuter towns should also be highlighted here, as residents in these areas are typically very active from an economic point of view, but the fruits of their work are realised in other settlements, therefore they cannot contribute to the functioning of the settlements they live in (Horeczki, 2014).

5. The impact of the presence of different social classes on the living environment

By changing their place of residence, the middle class and the upper middle class is able to influence the development of their living environment. In practice, this means that with the appearance of new social classes, services for the needs of the middle class or the upper middle class will also be introduced in these settlements. For example, a survey has shown that if a larger number of people from the middle-class or upper-middle-class move out of cities to the suburban environment, the educational institutions that new residents need will also appear in these smaller settlements (Gamsu, 2015). In practice, this means that, regardless of the size and location of the settlement, different services can be provided if there is a realistic solvent demand for them in a given community. This also well predicts the development potential of rural settlements, as it turns out that the composition, needs and financial opportunities of inhabitants also have an impact.

However, the effect outlined above is bidirectional, i.e. it also works in the opposite direction to that outlined. Accordingly, the consumption and lifestyle habits of middle-class members also depend on the services available to them in the vicinity. Furthermore, the range of services which appear in a given settlement is highly dependent on the available direct and indirect government subsidies (Becsky et al., 2015). Among other things, the sports infrastructure available in residential areas is built up depending on the socio-econometric classes of the local residents. In practice, this means that the range of services available for settlements and parts of settlements with higher social status will be much richer than that available for settlements or parts of settlements with lower social classes (Cereijo et al., 2019).

Increased attention to society, the living environment and family members is especially characteristic of Scandinavian households. Citizens of countries in Northern Europe typically pay attention to each other and feel responsible for each

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other and for future generations, which is reflected, for example, in the protection of their natural environment (Baranyi, 2019).

6. Population movements between urban and rural areas

One of the most important scientific topics nowadays is the challenges of the land use. There is a great competition for land and for water in which the agriculture, the food industry, the feed production, chemical industry, energy production, and the population also participates. Of course the humanity has impacts on all of the listed factors but it can have a direct effect on land use by the urbanisation. Only 18% of the Earth surface can used for the listed aims while people have to pay attention for biodiversity, environmental protection, and recreation. With the urbanisation the lifestyle and the consumption habits of population are rapidly changing causing more pressure on the natural conditions of the Earth (FAO, 2017).

Globally the cities are playing important role in the economic development with employing a great amount of population. The number of megacities where more than 10 million people are living is continuously growing (de Sherbin et al., 2007). According to FAO (2017) the urban population is continuously growing but according to Shang et al. (2018) there is a connection between the urban-rural population share and the difference of the marginal productivity in case of urban and in case of rural areas. In several cases those people who move from urban areas to the countryside still countinue to work in cities. That means there are millions of mobile workers who are travelling daily, weekly etc. from their homes located in rural areas to their workplaces located in cities. This trend is harmful for the environment because of the impacts of the mobility (Klous et al., 2019) but because of the differences of the capital flow to urban or rural areas there is no option for people living in the countrysidet to work in their hometowns.

The solution of the situation mentioned above is very complicated. Till the economic and employment gap will not become narrow between the urban and rural areas the population will move from the countryside to the cities because of the employment possibilities – and will move from the crowded cities to the agglomerations because of the better living conditions. The cities can weaken these obnoxious trends by supporting more the economic development of the countryside. On the other hand cities should invest in building or re-building the countryside. With the support of the urban areas the strengthened ruralities can become more attractive for the local people who will not move to cities. In this case the rural poverty level can decrease because those people who are likely to work hard for salary will stay at home. With the collaboration of these motivated people the shift from primary to secondary and later tertiary sectors in the countryside can completed (Wang et al., 2020).

7. In conclusion

In this paper, we described the advantages and disadvantages which can be collected for each major settlement type. The aim of our literature review paper is to publish an analysis based on available and relevant literature sources in English and Hungarian.

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A number of benefits can be listed in relation to cities. The fact that urban areas typically have better economic, labor market and public service situation than villages can definitely be characterised as an advantage of urban life. Companies capable of producing high added value typically settle in cities, which is partly explained by the fact that these settlements have a complex, multi-level education system that is able to serve the needs of employers more efficiently and effectively. The presence of better jobs generally also allows for the availability of higher average incomes, which acts as a strong motivator for initiating both external and internal migration. The disadvantages of cities are crowdedness, alienation and poor air quality. There have been many attempts to remedy these problems, but so far it has not been possible to develop a reassuring method to solve them.

In the case of rural settlements and villages, several advantageous features can be mentioned, including the much more reasonable settlement size, community cohesion, and generally better environmental conditions. Greater personal space can also be tempting for many. The negative characteristics, however, are the weak local economy, the lack of jobs and, in general, the lack of opportunities. The latter category includes, in addition to economic disadvantages, the limited availability of public services and the lack of leisure opportunities.

At the same time, it can be seen that the development of settlements largely depends on the social strata living there. If higher classes appear in a larger proportion in a settlement, the available services will also develop according to their needs over time, i.e. a small settlement may start to develop due to the re-stratification of its population without a change in the size of the settlement.

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STUDENTS' FOREIGN LANGUAGE AND INTERCULTURAL COMMUNICATION COMPETENCIES BASED ON A SURVEY AT THE UNIVERSITY OF DEBRECEN

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Abstract: *Globalization, internalisation and the development of information technology have led to enormous changes in the labour market all over the world. The spread of international companies entails some new trends in employers' requirements. Graduate entrants consider being employed by an international company as an attractive opportunity in their careers. When selecting new entrants, companies are increasingly looking for 'soft skills', intercultural communication competencies and foreign language skills. Some employees may have plans for international careers and assignments. Even if they do not want to work abroad, employees at international companies may have to work in an intercultural environment in their home countries. The new requirements of employers encourage institutions of higher education to offer educational programmes and courses which prepare young graduate entrants for these new requirements. The internationalisation of colleges and universities is also a challenge because they should offer international educational programmes in a foreign language. Universities need to adapt their programmes, their facilities and teaching staff for international students. English language knowledge is essential for graduates in the labour market and employers also require intercultural communication competencies and other 'soft skills'. Universities have significant responsibilities in providing the means necessary to achieve and develop the level of foreign language knowledge required to fulfil the expectations of employers. Acquiring intercultural communication competencies is indispensable for working in an international environment. Institutions of tertiary education ought to help their students to obtain the skills needed to develop cultural awareness and sensitivity which can contribute to their chances for better employability. This study describes the results of a survey which was carried out at the University of Debrecen concerning students' foreign language and intercultural communication competencies. The collection of data took place in autumn, 2019 at three different faculties of the University of Debrecen with the help of personally assisted data collection procedure. The survey instrument consisted of two parts. In the first part, there were questions regarding the respondents' age, gender, forms of language studies, language exam certificates. The second part of the survey questionnaire consisted of a 20-item Likert-type scale with 5-point responses. The items were formulated based on literature about measuring intercultural communication competencies. The results show that 71,9 % of students possess an intermediate general language exam certificate and 14,4 % of them have already acquired the intermediate professional language exam certificate. The majority of students surveyed stated that being able to communicate in a foreign language is essential today. Furthermore, they like learning about other*

cultures and languages. Travelling abroad, watching films in a foreign language and interacting with foreigners were considered to be essential for them too.

Keywords: *intercultural communication competencies; internalisation of higher education; requirements of the labour market; multinational companies; foreign language knowledge.*

JEL Classification: *J21; J24; O19.*

1. Introduction

As a result of globalisation and internationalization, the different parts of our world are more connected, and economies are integrated in a cultural, demographical and political sense. (Gács, 2007) We can see new types of organisational forms emerge, for instance, global virtual teams from the early 2000s which are spread geographically all over the world having a diverse cultural background and communicating with each other only through electronic media. (Zander et al. 2012, Matveev, 2017) The number of multinational companies and consequently the number of people employed by them just as the number of expatriates and people working in foreign countries is increasing worldwide. (Ross és Thornson, 2008, Schnabel, 2015) Multinational companies play an important role in Hungary's economy as well. In our globalised world, we can talk about globalised consumers whose culture, history, religion, language and society might be different and multinational companies may consider it as a challenge of the global competition to gain these consumers. (Shieh et al. 2009) Knowledge sharing was essential for multinational companies to maintain their competitive advantages. From time to time, it could cause problems as subsidiaries were scattered geographically and the makeup of employees was diverse. (Makela et al. 2007) The different socio-cultural and political environment of the subsidiaries located in other countries makes the standardisation of HR policy difficult. Cultural differences might appear on a daily basis in different work styles, cross-cultural communication influenced by high or low context cultures. Intercultural training and development within the company can be important but so can the rotation of employees among the subsidiaries when they can spend a longer period in countries with different cultural backgrounds. (Ananthram és Chan, 2013) Companies are looking for entrants with university or college degrees because they are responsive, objective, creative, critical, ambitious, confident and enthusiastic, have better communication skills, problem-solving skills and can adapt to changes. By employing the right applicants, companies can shorten the training periods and they can achieve significant cost-savings. (Gordon, 1983The competencies needed to perform well at the workplace include communication skills, time management skills, teamwork, leadership skills, conflict management skills and interpersonal skills. (Sharma, 2009) 'Soft skills' have an important role in every sector but especially in service sectors. Skills like human interaction (teamwork, service orientation, presentations), organisational interaction (ability to work under pressure, multi-tasking) and general skills (independent, flexible, highly motivated, creative) have become essential nowadays. (Lavy and Yadin, 2013)

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2. Requirements for institutions of higher education

Due to globalisation, technical advances and the acceleration of global competition the complexity and diversity of the working environment have increased. This complexity requires having the skills which are necessary for functioning in an intercultural environment both from managers and employees. Global leaders should be able to manage a global workforce and have a global mindset. (Hanges et al. 2016, Matveev, 2017) Managers of international companies should transform cultural differences into competitive advantages by creating a cultural synergy but as a starting point, they should respect and value cultural differences instead of ignoring them. (Tutar et al. 2014)

As a consequence, there has been a change in the role of universities and colleges, and there are more co-operation between them, more international research and projects, international publications and conferences. Also, there is more need for international training and education at universities and colleges. (Edelstein, 2014) When companies define their requirements for competencies properly, it enhances their long-term competitiveness. The new requirements of employers for young graduate entrants encourage institutions of higher education to offer educational programmes and courses which successfully prepare young graduate entrants for these new requirements. This expectation means that universities and colleges must complete their education with practice-oriented programmes where competency-based training has a significant role. (Tótnhé, 2016) English language knowledge is essential for graduate entrants wishing to work for multinational companies. There are new requirements concerning the English language lessons: the curriculum should develop learners' personality so they must obtain confidence when learning how to communicate in English. During language lessons teaching methods should include role-plays, discussions, group work, developing interpersonal skills and group dynamics, knowledge of body language and etiquette. (Sharma and Sharma, 2010)

As companies are looking for candidates with 'soft skills', forming and developing these skills are extremely important in the institutions of higher education. It is a difficult task for the institutions as these skills are non-visible but help improve students' personality. The skills can include positive attitude, active listening and time management skills, strategic planning and leadership skills, analytical thinking, communication and interpersonal skills, teamwork, body language, etiquette, sales and presentation skills, self-confidence, enthusiasm and confidence. (Rani and Mangala, 2010) It can be difficult to measure 'soft skills' that is why students show resistance and cannot see why these skills could be important for them. The development of 'soft skills' happens in a practice-based environment and there is no guarantee that the methods will work in a real situation so it might help if universities co-operate with companies in gathering data, case studies and practical tasks. (Gibb, 2014) There should be a continuous co-operation between universities and companies so that universities could offer practice-oriented programmes and courses that eventually meet companies' requirements. (Bata and Herneczky, 2017)

Today the number of students obtaining international degrees is increasing. In this case, the labour market and the institution of higher education are in different countries. The institutions offering international programmes for international students should pay attention to the requirements of the international labour market concerning the understanding and respect of global issues, tolerance for other cultures, effective intercultural communication skills and high-level foreign language knowledge. Employers should have an insight into the curriculum of universities and colleges so that they could help them meet the requirements of international education. Companies can be involved in the programmes by dissertation consultancies, offering internships and developing teaching material. (Cai, 2013)

Hungary's labour market can also be described by increasing requirements for global competencies, among which the most important ones are foreign language knowledge and intercultural communication competencies. It is difficult for universities to meet these requirements as the need for language knowledge varies from sector to sector and the language knowledge of students, when they are accepted to the university, is different. In most cases, applicants with university degrees or even employees are not able to meet the employers' requirements of foreign language knowledge although there are different methods at recruiting to find the candidates with the best language skills such as job interviews, professional tasks, simulations, teamwork and case studies in a foreign language. (Szűcs et al. 2013)

The other most important area that universities should focus on in their education besides foreign language knowledge is intercultural competencies. Intercultural communication competencies can be improved in the frames of foreign language teaching. (Polyák et al. 2014)

3. Literature Review: Intercultural Communication Competence

Intercultural communication competence was defined by Arasaratnam- Smith as: 'effective and appropriate communication between persons of different cultural worldviews.' (Arasaratnam-Smith, 2017:1). Intercultural communication competence can broadly mean interpersonal communication between people from different cultural backgrounds and can be interchangeably used with intercultural competence, cultural competence and intercultural effectiveness. It is generally accepted that there are three dimensions of intercultural communication competence: cognitive (knowledge), affective (emotions) and behavioural (skills). In an international business context, intercultural communication competence has a key role in employability because very often it defines the success or the failure of negotiation, deal or transaction. Intercultural communication competence is also relevant in the educational sector as there can be examples of culturally diverse classrooms or groups and most educational institutions offer international education in a foreign language. Consequently, intercultural communication competence is necessary for students and teachers as well who learn or teach in a culturally diverse environment. (Arasaratnam-Smith, 2017)

Different factors can forecast the successful communication in a culturally diverse group: the type of the organisation and the group, the members' perception of the

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cultural differences and the type of interaction. (Larkey, 1996) Those who are open to learning about other cultures, open to others, have some experience in different cultures, are aware of cultural differences and show interest in them can be successful in intercultural communication. (Arasaratnam and Doerfel, 2005) Formal training and informal experiences can develop intercultural communication competence, but improving cultural awareness is also important. (Kim, 2004) Knowing a foreign language and culture can positively affect intercultural communication competence. (Peltokorpi, 2010) Intercultural corporate communication has an important role in relationship building, co-operation and knowledge sharing. Cultural differences must be learned and understood by continuous coordination and interaction. (Laurig, 2011) Intercultural communication competencies can influence crisis communication at multinational companies. In a crisis, there is a need for the quick problem- solving which can be accelerated by effective communication. Understanding and respecting cultural differences are essential to avoid and prevent a multicultural crisis. (Oliveira, 2013)

Students who study abroad can develop their intercultural communication competence more quickly and effectively than those who do not go for scholarships or exchange programmes. Intercultural communication competence can be improved within one's country of origin in different ways: making friends with people from other cultures, taking part in foreign language or cultural courses, visiting ethnic celebrations, watching films in foreign languages or any other possibilities where there is an opportunity to interact with people from different cultures or to learn about them. (Williams, 2005)

4. Methodology

This study measured the foreign language and intercultural communication competencies of students at the University of Debrecen. The collection of data took place in autumn, 2019 at three different faculties of the University of Debrecen (Faculty of Economics and Business, Faculty of Informatics and Faculty of Engineering). We used personally assisted data collection procedure.

5. Measures

The survey instrument consisted of two parts. In the first part, there were questions regarding the respondents' age, gender, in what form they study or studied foreign languages, what languages they studied, whether they have language examination certificates and if so what level and type. There were some statements concerning the importance of teaching foreign languages at universities and the importance of speaking foreign languages when they want to find a job. The second part of the survey questionnaire consisted of a 20-item Likert-type scale with 5-point responses ranging from 1 = strongly disagree to 5 = strongly agree. The items were formulated based on literature about measuring intercultural communication competencies.

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6. Participants

Participants (N = 1234) were university students at the University of Debrecen (Males = 546, Females = 688). The majority of participants were between the ages of 19 and 21. The participants were asked to complete the questionnaire anonymously.

7. Results

Regarding the forms of studying foreign languages, most students study in public education: at primary schools, secondary schools and university (93,2%). The second most popular form of studying foreign languages was with private teachers (45,1%). The minority of students said that they were studying at language courses (13,5%) and with friends and relatives (12,6%). A small percentage of students said that they were studying abroad (10,4%). Most students study only one foreign language at university (58,7%) and it is English (51,3%), German (5,2%), French (0,3%), Russian (0,8) and other (1,1%). 41,3% of students said that they do not study foreign languages at university. Only 10,9% of students said that they also study a second foreign language at university which is mostly German (7,5%). 71,9% of respondents have an intermediate general language exam certificate, the majority in English (61,8%), then in German (15,6%) and French (3,5%). 20,7% of students have an advanced general language exam certificate. As for professional intermediate language exam, 14,4% of respondents have already passed it.
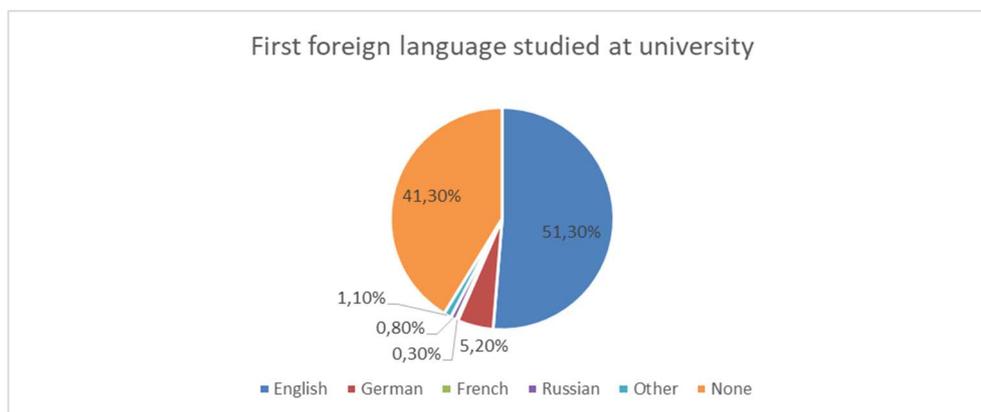
Figure 1: First foreign language students study at university

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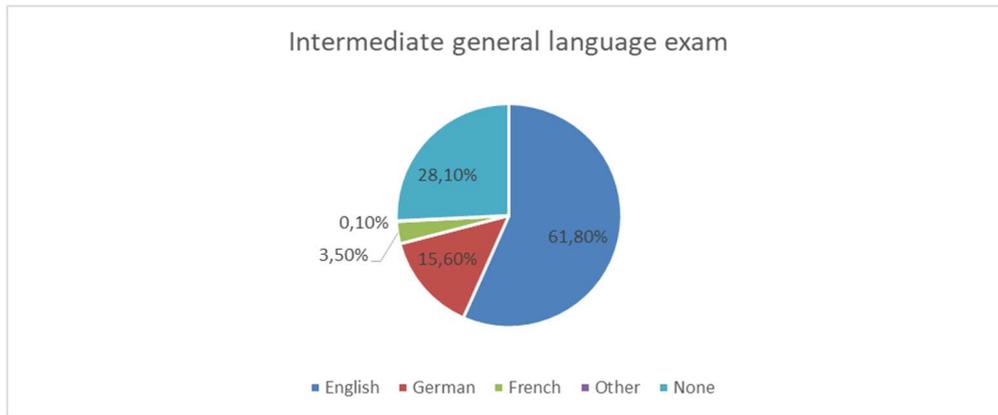
Figure 2: Intermediate general language exam certificates
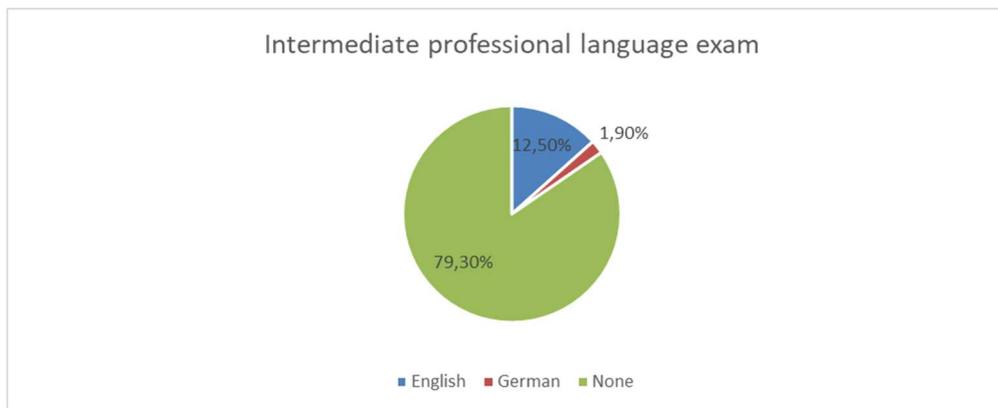
Figure 3: Intermediate professional language exam certificates

Students' intercultural communication competencies were measured by 20 items which were formulated in the first person, and they referred to concrete observable behaviour. Students could give their answers on a 5-point scale. The table below shows the items arranged in the order of increasing scales. On average, students like communicating in a foreign language in the lessons or outside the lessons. They would like to communicate in a foreign language in their workplace. They think that speaking a foreign language and understanding talks in a foreign language is more complicated than understanding texts and writing. Higher scales show that students would like to work with foreign colleagues and they like making friends with foreigners. Hungary is considered to be an attractive country for multinational companies because of its favourable location and highly skilled workforce. At multinational companies, employees may come from different cultural backgrounds to Hungary; thus, well-qualified Hungarian graduates have the chance to build relationships with foreign colleagues provided that they have the relevant and necessary intercultural communication competencies. The majority of students are

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open to reading newspapers in a foreign language and they have a positive attitude towards reading about other cultures. Nowadays, cultural sensitivity is an expectation in the world of labour and could be beneficial for job seekers and employees. With the internationalisation of universities, it is a required competency as there are a lot of international students studying at the University of Debrecen, too. Higher education is continually changing because it is a melting pot of different cultures; therefore, universities ought to provide an appropriate atmosphere where teachers and students are able to co-operate efficiently. We can see the influence of globalisation as students' scales were really high for travelling abroad and watching films in a foreign language. Travelling abroad can enhance students' cultural sensitivity significantly since they are able to witness other countries' traditions, lifestyle and gather experiences which can contribute to their intercultural communication competencies. With the help of technological advances, it is not a challenge any more to have access to films with subtitles in the original language which can promote students' foreign language skills. As a result of continuous improvement after a particular time, they will be able to understand films without subtitles which will be useful when it comes to an understanding live talks for example during the lessons or at their workplace in the future. The highest scales show that students are aware of the importance of learning and speaking a foreign language and they agree with the statement that teaching foreign languages is essential. It means that they acknowledge the requirements of graduating (they must have a language exam certificate) and the requirements of the job market and their future workplace. Furthermore, it is also true that teachers should attend further training to be able to fulfil the expectations set by our globalised world adequately. In this way with the acquired knowledge and skills, they can prepare students for the challenges of studying and working in a culturally diverse environment.

Table 1: Items measuring students' intercultural communication competencies

	Mean	Std. deviation
1. I like communicating with foreign students in the lessons and outside the lessons.	3,02	1,209
2. I like studying with foreign students.	3,13	1,223
3. I like communicating in a foreign language in the lessons.	3,15	1,087
4. I would like to communicate in a foreign language both in speaking and writing at my workplace.	3,36	1,075
5. I would like to work and study abroad.	3,44	1,192
6. I enjoy the company of foreigners.	3,47	1,049
7. My oral foreign language skills are good.	3,49	1,013
8. I like communicating in a foreign language outside the lessons.	3,51	1,064
9. I can easily understand the talks in a foreign language.	3,53	,940
10. My foreign language skills are good at writing.	3,55	1,005
11. I can easily understand texts in a foreign language.	3,59	,925

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	Mean	Std. deviation
12. I would like to work with foreign colleagues.	3,59	1,019
13. I like making friends with foreigners.	3,64	1,080
14. I like reading newspapers and news in a foreign language.	3,66	1,190
15. I like reading and learning about other cultures.	3,66	1,064
16. I like learning foreign languages.	3,93	1,001
17. I like watching programmes and films in a foreign language.	4,10	1,027
18. I like travelling abroad.	4,38	,894
19. I think teaching foreign languages is important	4,40	,816
20. I think speaking foreign languages is essential.	4,50	,741

8. In conclusion

This paper describes the foreign language and intercultural communication competencies of students at the University of Debrecen. As a result of globalisation and internalization, there are more multinational companies all over the world. Employees at these companies often have different cultural backgrounds. If they want to work effectively, they need to have 'soft skills', they need to understand and respect each other's culture. It means that universities must include in their educational programmes the development of these competencies. With the internalisation of universities, they need to offer international programmes for international students. This research aimed to measure students' competencies so that adjustments and recommendations could be made in the future to meet the changing requirements in higher education and the labour market. The results show that students understand the importance of foreign language learning and speaking and they are open to learning about other cultures and working with foreigners. It is undoubtedly essential for their future career.

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METHODOLOGY OF THE INTERNAL ENVIRONMENTAL ANALYSIS AS A PART OF STRATEGY PLANNING

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Abstract: *The market environment has changed significantly in recent years. Globalization, market concentration, rapid flow of information and technological advancement make increase competition in all industries. The previously commonly used the company, recognize the threats and opportunities outside the company, in this regard intuition skills have outstandingly importance. In this article, the authors present the importance of strategic planning and its connection to traditional planning and its differences. After that, the paper presents the internationally recognized strategic planning method, its steps and the quantitative approach was replaced by the emphasis on quality. The significant changes in the economic, social and natural environment require more responsible mentality and forcing companies to make more responsible decisions. Planning periods have been shortened. Due to rapid changes plans have to become dynamic and multiple controls and feedback have required at the planning stage. Due to the above changes, the overall strategic planning has also come to the fore. The main task of strategic planning is to recognize and respond to the opportunities of the organization in time, and to develop a systematic action program with a systematic approach to analyzing their risks. Successful strategy-making is a success factor of proper strategic thinking. This affects the company's framework of the strategy. The strategic thinker should coordinate a procedure to monitor the state of relationship of each step and its interrelation in particular the internal assessment methods. The development and formulation of the strategy begins with the definition of the business vision and the business mission. These are subordinated to analyze that seek to understand the firm's strategic position. After that, the possible strategic directions can be selected. After selecting the strategic direction (s), the long-term objectives of the organization should be recorded. Knowing the objectives, possible strategic options should be considered and analyzed. The final step of planning is the strategic choice that will help the organization decides which version or variations will be used in the implementation phase. The method described above provides a framework that can be applied not only at company level, but also at a sectoral, national, but individual level, as well.*

Keywords: *business strategy; strategic planning; internal analysis.*

JEL Classification: *L1.*

1. Generally Introduction or Background

"If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle." (Sun Tzu, BC.4. century) As it is demonstrated the literature of strategic thinking has a long history, as the basic analysis of internal and external factors which determine the main and long term strategy of an organization. In this article we try to give a review of the latest results of methodology of the strategic planning with a special regards on the Internal Analysis, Approach or Audit of an organization. The review of the methods of Internal Audit is mostly based on an American strategic planning practice of Strategic Management published by Fred R. David at al, 2017, 2019. But we tried to adapt the methodology to the European specialties.

Research Background: The history of strategy theory and the development of strategic planning are discussed in numerous Hungarian and international literature (Csath, 1990, 2004; Whittington, 2001; Fülöp, 2008; Gulyás, 2014; Balaton-Tari, 2014). In Hungary the stages of the development of corporate strategic theory were presented on the basis of the "Strategic and Business Planning" published in 2014 by Károly Balaton and Ernő Tari co-authors and by Gyula Fülöp, published in 2008 in his book "Strategic Management: Theory and Practice". Based on these books, four periods can be distinguished in the history of corporate development. These sections are:

a) Experiences of corporate planning (until about 1965);

b) The beginnings of the modern theory of the strategy (approximately 1965-1970);

c) Development of strategic planning models and methods, constraints of strategic planning (ca. 1970-1980);

d) Development of the theory of strategic management (approximately 1980 to the turn of the millennium) (Balaton – Tari, 2014.). The strategic management, as a process: like strategic analysis, strategy formulation and implementation, is far more the only a strategic planning approach. "Competitive Strategy" and value chain method was also developed by Porter, which was published in the book "Competitive Advantage" published in 1985. The essence of the model is to break down the value-creating activities into strategically relevant phases that can be separated from each other in order to identify the strong and weak links of the value chain (Fülöp, 2008). The model proved to be suitable for separating primary and complementary activities within the company. Furthermore, the analytical method graphically depicts the individual activities in terms of their role in value creation (Marosán, 2002). In the course of resource based analysis, the process of strategy development was based not on the requirements of the competitive environment, but on the level of resources available to the organization (Balaton – Tari, 2014). Among the theorists of the resource-based approach was Barney, who developed the approach into a coherent theory. In his view, strategic assets are nothing but the tangible and intangible resources of the company. Nowadays the leading authors of Strategic Management and as part of that Strategic Planning are publishing in the

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United States. The book of Strategic Management published by Fred R. David at al, in 2019 is the 17th edition now and used in 80 countries in the world as a university textbook..

2. Methodology and Discussion

Within the process of Strategic Management and as a part of it Strategic Planning we are focusing on the process of the Internal Audit which is the second level of the analysis of an organization which serves to formulate a sufficient strategic plan. The main aim of the process of Internal Audit is to reveal and evaluation of the strengths and weaknesses in all business areas of the organization. Representative managers, leaders of an organization and employees from throughout the company need to be involved in determining a firm's strengths and weaknesses. The internal approach which could be also called as audit requires collecting and assimilating information about the firm's management, marketing, finance/accounting, production/operations, research and development (R&D), and management information systems, operations, culture of the firm, and goodwill.

Almost parallel to the analysis of the external environment, internal analyzes should also be carried out. There are also several procedures for internal analysis. We reviewed the next four:
- *Resource Based View (RBV) Approach*
- *Analyzing Key Internal Forces (KIF)*
- *Value Chain Analysis (VCA), (Activity Based Cost accounting, ABC analysis)*
- *Internal Factor Evaluation (IFE) Matrix (Nabradi at al, 2018)*

In the case of an internal analysis of an enterprise, we have to consider its capabilities, and we focus on how the company can meet the expectations set out there in the future. This point is where the internal analysis connects to the above mentioned mission statement and vision of the organization. During the process of strategic planning, first we have to clarify the general fundamentals of internal analysis which covers the revealing of internal factors by using the suitable methods. We are trying to answer four important questions in this case: What, why, and how do we examine and analyze, at what we need to pay attention during the analysis? We are trying to concentrate on the next tasks:

Always concentrate on internal strengths and weaknesses of a company.

These elements can be affected or modified by the firm.

The analysis focuses only on the present circumstances or situations.

The analysis is subordinate to the mission and vision

Basically, it is advisable to reveal the resources of the organization. The method of *Resource-Based Approach* means taking the most important resource and capital categories in turn and then evaluating them into the main objective outlined in the vision. What are these resources? There are three major groups of resources: Physical resources and technological resources, Financial resources; Human resources; Organizational resources, Culture; Brand and goodwill

RBV theory asserts that resources are actually what help a firm to exploit opportunities and neutralize threats. Firstly, fixed assets, including intangible assets, tangible assets and financial assets, and current assets, their categories are stocks,

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receivables, securities and cash. In the analysis, we take a look at their internal composition and size, and examine how much we are able to meet the vision of the future. Following the tools, we examine human resources. We analyze whether there are enough graduates, men and women, the cost of the permanent employees, personal benefits, the fluctuation, the workplace atmosphere, the organization of the company, the corporate culture. Is there any personal development program for employees, are they aware of the company's mission and vision. Culture of an organization is quite important for the employees. The human affiliations and beliefs embedded in the life of the company, as well as the accepted common values, have been formulated in the Company's Code of Ethics.

If we evaluate the internal factors of an organization or an enterprise, we can apply the so called *Key Internal Factor Analysis (KIF).* In the case of an organization, the investigation should be extended to the next factors:

Management, Marketing, Financial accounting, Production service, Research and development, Management Information System (MIS) (Nábrádi at al, 2018)

The grouping of *Key Internal Factors* in this sense is not random. The most important element of a business in strategic terms is the management itself. As far as we know, no business can be successful just because it produced an excellent product or because it was not indebted. What are the tasks and areas of analysis in the management analysis? It is advisable to identify which areas of management are responsible for this purpose. The management has five well-defined tasks. Planning, organizing, motivation, staffing and controlling

Evaluation of the company's marketing area is not an easy task. Either. during the analysis phase of strategic planning, it is worthwhile to explain the advantages and disadvantages of the following areas (Nábrádi at al, 2018.): The Main Areas of Marketing evaluation are: Customer Analysis, Customer Analysis, Market Segmentation, Trends in Sales of Products and Services, Product and Service Design, Pricing Practice, Distribution, Evaluation of Distribution Channels, Existence and practice of marketing research, Possibility Analysis, Marketing Mix Analysis.

The analysis of financial-accounting conditions can be found in the company's balance sheets and profit and loss accounts. The analysis should now also follow the basic principles that we are examining in the present - analyzing the company in accordance with the principles set out in the vision and mission. Factors to be analyzed are influenced by the company and its operation. We are trying to find out what strengths and areas to be strengthened are currently in place. The analysis of financial-accounting conditions is examined in five major groups in the strategic planning literature (Nábrádi at al, 2018): Solvency, Liquidity, Leverage, Activity, Profitability, and Growth. In each case, we analyze the financial situation of the company by analyzing numerical indicators, and from the past we have experienced the results of the present. Although these indicators are industry-specific, they can be interpreted differently in the primary (mining, agriculture), secondary (processing, machine manufacturing) and tertiary (service, trade) sectors, but there are also sectors that are sector-neutral.

Evaluation of production and service consists of analyzing all activities that convert or transfer the expenditures into revenues for goods and services. The main areas

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of analysis for strategic purposes include: Production Service Process, Capacities and Capacity Utilization, Inventory and Inventory Management, Structure, Preparedness and Efficient Use of Labor, Quality and Quality Management, Quality assurance. Evaluation and certification of production and service is not an easy task. Some of them can be quantified, while more elements are subjective.

From a strategic point of view*, R & D* is not a particularly appreciable aspect of the primary sector producing mass products and small businesses. However, there is the discovery and application of innovation results that can be realized in their own or in clusters, but its numerical values in the Hungarian economy are still not significant. Although today large companies still have the privilege of R & D, there are examples in small and medium businesses to develop new technology or services and running a new start- up.

The Management Information System (MIS) generally refers to a computer system that allows managers to manage, evaluate, and effectively manage organizational units. The management information system is no longer an inevitable tool in our century. It can not only help managers, but also inform employees, "stakeholders" in business.

Value chain analysis is a novel approach to analyzing internal factors. Its novelty lies in the fact that it does not take into account traditionally functional areas such as the resource-based approach, or the methodology for analyzing key factors, but is based on building product service closely over time. Basically, it analyzes costs with a specific approach. The method is really effective if the company covers a whole product chain, but it can be used well even if it is limited to the narrower segments of the supply chain. The method is publicized by Porter as it was mentioned in the background.

The complexity of Internal Approach will be developed into the form of *Internal Factor Evaluation (IFE) Matrix*.

There are therefore several approaches to analyzing the internal factors of the business. Whatever we do, we are basically seeking answers to two questions: where we need reinforcement (weaknesses) and what are already the goals to be achieved (strengths) in order to realize our vision and maintain our mission. A suitable method for deciding this and quantifying strengths and weaknesses is the Internal Factor Evaluation Matrix (IFEM). IFEM is characterized by a single number of the strengths and weaknesses of the company, and we can use it to make an assessment of where the company needs to strengthen its vision for the future, and which factors are significant strength can be demonstrated in its business. The essence of the process is to select the most significant 10-20 internal factors that give the company strengths or weaknesses to realize the vision. The method of working out the matrix was worked out by Fred R. David, 2017. in the IFEM.

3. Results and Acknowledgements

During our educational practice of Strategic Planning we realized that student (especially corresponding students, who still have jobs) really enjoy this subject. A great benefit for them (as managers or employees), that they perform better when they understand how their work affects other areas and activities of the firm. When

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marketing and manufacturing managers or employees working in related divisions discuss issues related to internal strengths and weaknesses, they gain a better understanding of the issues, problems, tasks, and needs of all the functional areas. In organizations that do not use strategic management, marketing, finance, and manufacturing managers often do not interact with each other in significant ways. Compared to the external audit, the process of performing the internal audit provides more opportunity for participants to understand how their jobs, departments, and divisions fit into the whole organization.(Fred R. D, 2017) Performing an internal audit thus is an excellent tool or forum for improving the process of communication in the organization.

In an extended paper we could demonstrate the methods of Internal Audit and Approach and the advantages of them through real, organizational examples from operating companies.

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COMMUNICATION DEVICES. THE DENTISTS'CASE STUDY / DISPOSITIFS DE COMMUNICATION. LE CAS DES PRATICIENS DE L'ART DENTAIRE

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Abstract: *In order to be successful, the individual dental medicine offices, as well as the major dental clinics must constantly reinvent themselves. It is not enough for doctors to be very well trained, to attend conferences and congresses constantly, to use the latest equipment and technologies and to provide very good quality services. Without an impeccable brand image, a constantly updated promotion and communication strategy, they will hardly be able to attract new patients and retain their customers in the context of the increasing competition in the field. The rapid evolution of the media has led to the awareness of the importance of communication in the online environment. The use of new digital technologies does not exclude the use of traditional communication devices, but is a complement to them. There are few studies devoted to communication devices and strategies in the virtual environment, and most are specialists in the sociology of communication, semiotics, linguistics and marketing. We will show that the new communication devices (websites, social networks, computer programs dedicated to doctors) allow professionals in the field of dental medicine not only to make their image known, to inform and maintain contact with patients, but also to transform the patients' perception on treatments that can sometimes be extremely painful and complicated, to impress them in a positive way, even to "seduce" them.*

Keywords: *communication; organizational identity; reputation; site web; social media; software.*

JEL Classification: *Z19.*

1. Introduction

Pour occuper une place importante sur le marché des soins dentaires, les professionnels de l'art dentaire doivent savoir communiquer efficacement avec les patients. La formation des chirurgiens-dentistes, l'équipe qui travaille avec eux, l'emplacement et les dotations du cabinet, la qualité des services offerts ne sont pas suffisants pour assurer le succès. Il faut d'abord se créer une identité, établir des objectifs clairs, rester fidèle aux principes et aux valeurs choisis, étudier le marché, analyser la concurrence, développer une stratégie de marque, promouvoir son image et ses services. En outre, le comportement des chirurgiens-dentistes et de leur équipe au sein du cabinet, la façon dont ils s'adressent aux patients et dont ils

expliquent le plan de traitement, aussi bien que tous les documents émanant du cabinet doivent valoriser l'image du cabinet.

Par conséquent, la communication a un rôle important dans la gestion d'une affaire dans le domaine des soins dentaires. Il est essentiel de développer une expérience positive pour les patients et d'établir avec eux une relation de confiance.

Nous allons illustrer, en partant des études réalisées par les spécialistes en gestion et par les chercheurs en sociologie, linguistique, sémiotique et analyse du discours, les principaux dispositifs de communication auxquels recourent actuellement les professionnels de l'art dentaire pour présenter leur image de marque, pour acquérir et fidéliser les patients et pour communiquer, voire interagir et maintenir le contact avec eux.

Selon Meunier (1999 : 84), le concept de « dispositif » a une forte implication technique. Il est synonyme « d'agencement d'éléments quelconques » qui « procède toujours d'une intention et vise toujours un effet ». Ce chercheur rappelle qu'il y a un lien d'interdépendance entre la relation et la technique, entre la communication et le dispositif :

> « Les hommes, à travers leurs rapports de communication, construisent des dispositifs de communication à travers lesquels se structurent leurs rapports de communication. De ce point de vue, les médias modernes – le cinéma, la télévision […] sont de vastes dispositifs fusionnels fonctionnant à la séduction et au consensus. (Bougnoux, cité par Meunier 1999 : 87)

Nous adhérons à la conception de Meunier (1999 : 87), qui considère qu'un dispositif de communication comprend aussi bien un *arrangement spatial* qu'un *arrangement sémiotique*, à savoir « une combinaison de textes, d'images, de sons ». Il s'agit de *dispositifs relationnels* qui « s'enchâssent les uns dans les autres, constituant un vaste réseau ». Dans l'acception de Meunier (1999 : 89), les films, les textes, les livres seraient des « microdispositifs de construction du sens » et les médias un « macrodispositif ».

2. La communication dans le cabinet

La première consultation du patient est cruciale. Il faut savoir bien accueillir le patient, obtenir de sa part des informations sur son état général de santé, créer une image positive et établir une relation de confiance pour que le patient revienne dans le cabinet dentaire et recommande le chirurgien-dentiste auprès d'autres personnes. En général, le médecin ou une de ses assistantes donnent au patient une carte de visite, une carte de rendez-vous imprimée, un dépliant, une plaquette ou une brochure contenant des informations médicales et des conseils sur la santé et le bien-être. Ce sont des outils très connus, utilisés dans plusieurs domaines d'activité, qui servent à présenter les organisations, leurs marques, leurs activités.

Pour faire connaître le cabinet, l'équipe et les soins dentaires proposés, aussi bien que pour surprendre le patient, en 2013 la revue *Le fil dentaire* recommandait aux chirurgiens-dentistes d'utiliser un « package de bienvenue » à remettre aux

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nouveaux patients. Il s'agit de *dossiers personnalisés* avec le nom du chirurgien-dentiste ou le nom du cabinet sur la couverture, contenant :

- la biographie du chirurgien-dentiste, avec une sélection des données relatives à la carrière professionnelle : formation, spécialités pratiquées, distinctions et honneurs obtenus ;
- la liste des services offerts ;
- des informations concernant les urgences ;
- une brève présentation de l'équipe ;
- la philosophie du travail.

Ces dossiers personnalisés, ayant principalement une fonction informative, mais aussi une fonction de captation, sont des dispositifs communicationnels qui contribueraient à promouvoir le cabinet ou la clinique, à renforcer l'autorité du chirurgien-dentiste et à instaurer une relation de confiance. Ceux qui décident ce que doit contenir le « package de bienvenue », qui rédigent et qui sélectionnent les documents sont l'équipe du cabinet ou de la clinique ou bien le personnel d'une agence de communication.

3. Médias traditionnels versus médias numériques

Un patient content sera toujours désireux de continuer les soins dentaires et recommandera le chirurgien-dentiste à d'autres potentiels patients. Toutefois, pour acquérir de nouveaux patients les professionnels de l'art dentaire doivent rendre connue leur activité à l'aide de nombreux supports.

Au début, la promotion d'un cabinet ou d'une clinique était réalisée par la pose d'affiches dans la rue, la distribution de tracts/prospectus/flyers ou de brochures ou par l'installation de panneaux déroulants dans le métro.

Ensuite, on a fait de la publicité dans la presse écrite, à la radio et à la télévision. Ces dernières années, l'internet a révolutionné les stratégies publicitaires et les professionnels de l'art dentaire ont reconnu eux aussi l'importance d'une présence en ligne. La communication à l'aide du site internet ou des réseaux sociaux numériques a de nombreux atouts, car sur la toile l'audience ne cesse de croître. C'est pourquoi les professionnels de l'art dentaire ont adapté leur stratégie marketing en créant des sites internet et/ou des comptes sur Facebook, Twitter ou Instagram.

3.1. La publicité dans la presse écrite

La presse écrite a du mal à faire face à la concurrence de la télévision et à l'évolution rapide du Web ; les ventes des journaux et des revues baissent constamment et l'intérêt des personnes de tout le monde pour la lecture des quotidiens est actuellement très faible. C'est pourquoi peu de chirurgiens-dentistes recourent à la presse écrite pour faire connaître leurs services.

Il y a quand même des magazines qui prospèrent encore, surtout en Europe et aux États-Unis (moins en Asie où ils subissent la concurrence du digital, des tablettes et des e-magazines), les magazines de bords, dits *inflight*. Ce sont des revues gratuites, que l'on peut lire en avion et qui sont devenues un espace publicitaire propice grâce au fait qu'elles monopolisent l'attention des passagers et que le

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tourisme a connu une forte progression. Dans les magazines des compagnies aériennes on trouve principalement des reportages, des interviews mais aussi un nombre important de *réclames* et de *publicités* (genres de l'espace payant, non événementiel) des représentants des industries du luxe, des professionnels de l'art dentaire (surtout de ceux qui se sont lancés dans le tourisme dentaire) et des chirurgiens esthéticiens plasticiens. Ils ciblent les voyageurs réguliers et les consommateurs haut de gamme, à savoir les hommes d'affaires et les personnes aux revenus élevés.

3.2. Les sites web

Alors qu'au début un nombre restreint d'organisations avaient un site web, de nos jours avoir un site web est presqu'une obligation pour toute entreprise. De plus en plus de personnes s'informent en ligne avant de prendre la décision d'acheter un produit ou un service. En 2019, le nombre d'internautes s'élevait à 4,39 milliards à travers le monde.

Il existe de nombreuses définitions du site web, données par les chercheurs en sciences de l'information, les sociologues, les linguistes. Nous retenons la définition donnée par Rouquette (2017 : 6), car ce chercheur combine la dimension technique et la dimension éditoriale :

> « Un site internet se définit comme un ensemble de pages interconnectées, disponibles à partir d'une même adresse et relevant d'une identité éditoriale commune. »

On peut ajouter la perspective sémiotique, en considérant le site web comme « *un lieu de prestations* (d'information, de communication, de service, de divertissement, etc.) autour desquelles s'organisent des activités et pratiques spécifiques de leur *mise à disposition* et *appropriation* par les visiteurs-utilisateurs constituant la *communauté* dite virtuelle du site ». (Stockinger, 2005 : 9)

Le site web constitue un dispositif de communication privilégié, pour de multiples raisons :
- il offre la version officielle et structurée des informations sur l'organisation, sur son identité, sur sa mission, ses produits et services ;
- il fournit une grande quantité d'informations, que l'on peut mettre à jour ;
- grâce à son architecture et aux liens hypertexte, l'on peut organiser et hiérarchiser les informations, ainsi qu'orienter la lecture ;
- son contenu est très varié : le texte alterne avec des photographies, des documents vidéo, des films ;
- les informations sont accessibles en tout lieu (depuis un ordinateur fixe ou portable, une tablette, un smartphone), à toute heure ;
- il est toujours un indice d'autorité, de sérieux, de crédibilité.

Rouquette (2017 : 6-11), résume les principaux atouts communicationnels des sites internet :
- l'internaute s'expose volontairement à la communication de l'organisation ;
- un site internet donne une meilleure visibilité à l'activité de l'organisation ;

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- ▪ en cas de crise, il permet de réagir rapidement et de poster des informations ou des messages instantanés, de relayer en continu des informations nouvelles, de faire des modifications, d'appliquer une ligne de défense ;
- ▪ un site internet simplifie l'accès à une communication internationale ;
- ▪ un site internet permet de mieux connaître les motivations, les intérêts, les souhaits de son public.

En sciences de gestion, le site web est considéré aussi bien une « modalité de communication » avec les clients et les partenaires, qu'un « instrument stratégique de marketing » (avec des fonctionnalités telles que la vente, la promotion, la recherche, les relations publiques, le marketing direct) (Popescu, 2008 : 39). C'est un élément de la « stratégie de développement sur le marché virtuel à long terme ». (Popescu, 2008 : 44)

En se rendant compte des avantages incontestables de la communication numérique et des possibilités multiples de mise en scène de l'information et d'interaction avec les patients que ce dispositif communicationnel offre, la plupart des praticiens de l'art dentaire ont décidé de créer des sites internet, en essayant de les rendre aussi bien fonctionnels, que séduisants.

Nous avons consulté un grand nombre de sites web des chirurgiens-dentistes et nous avons constaté que ces dispositifs de communication ont une architecture arborescente, avec une page d'accueil qui, à l'aide de liens hypertexte, renvoie ensuite à d'autres pages.

Comme dans le cas des sites web d'autres organisations, la page d'accueil contient le nom, le logo, la devise, des slogans et un menu horizontal ou vertical. La différence consiste cependant dans le fait qu'en ce qui concerne les sites web des chirurgiens-dentistes, sur la page d'accueil la place et le rôle des photographies (souvent de grandes dimensions) sont plus importants et le texte a une place plus réduite. L'image est toujours signifiante : il y a des photographies de qualité exceptionnelle représentant des dents parfaites, des détails sur les dents, des sourires à pleines dents, des visages de femmes. En effet, ici la fonction de captation ou de séduction est primordiale.

La présentation du cabinet/de la clinique et de l'équipe commence sur la page d'accueil (nom, logo, devise, slogans) et continue dans les rubriques consacrées à la présentation de l'identité organisationnelle (présentation du/des chirurgien/s-dentiste/s et de son/leur équipe, description de la „vision"/mission, présentation du cabinet/de la clinique). Ce sont des informations essentielles, présentes sur tous les sites web consultés. La rubrique *Prestations/Services/Traitements* est elle aussi fondamentale, ainsi que la rubrique *Contact*. En outre, la plupart des sites donnent la possibilité de prendre rendez-vous via un formulaire de contact.

Beaucoup de ces éléments sont inclus dans les dossiers personnalisés mentionnés ci-dessus, mais dans le cas des sites web la quantité d'informations que l'on peut fournir est plus grande, les types de documents sont plus variés (ex. : visites virtuelles du cabinet dentaire, films, etc.) et le parcours de lecture est différent.

Les sites web des cabinets dentaires se distinguent par les rubriques non essentielles, ayant un grand impact sur les visiteurs du site. On peut trouver des rubriques qui se réfèrent aux spécialités médicales du chirurgien-dentiste, à savoir *Chirurgie orale, Implantologie, Orthodontie, Maladie parodontale,*

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Radiologie/Imagerie médicale, Esthétique dentaire. Ces pages contiennent de nombreuses explications concernant les notions et les procédures médicales dans un langage facilement compréhensible, des détails sur les traitements, les bénéfices de certaines interventions chirurgicales ou de certains soins bucco-dentaires, ou ceux des appareils dentaires. Grâce à l'introduction de rubriques ou sections facultatives, inédites et originales (*Cas avant/après, Galerie photo des cas cliniques, Livre d'or, Actualité du cabinet ou News, Tourisme dentaire, Blog*), les sites deviennent plus spectaculaires, pouvant attirer un nombre croissant de patients. La rubrique *Sédation consciente*, présente sur certains sites web, s'adresse aux patients phobiques, anxieux, et a l'objectif d'enlever la peur du dentiste. Certaines rubriques sont interactives, les patients peuvent intervenir, faire part de leurs expériences, parfois donner des notes (*Livre d'or, Blog*).

Comme nous l'avons déjà dit, ce dispositif communicationnel permet de mettre à jour les informations et d'intervenir très vite en cas d'urgence. Ainsi, dans le contexte de l'épidémie provoquée par le nouveau coronavirus, les chirurgiens-dentistes ont annoncé sur leurs sites web la fermeture provisoire de leur cabinet dentaire ou, au contraire, la continuité des soins (pour les urgences). En cas de fermeture, ils mettent à la disposition des patients un email ou un numéro de téléphone pour des questions liées aux traitements ou pour la prescription à distance de médicaments antidouleur. Certains chirurgiens-dentistes proposent, sur la page d'accueil, une consultation virtuelle permettant d'évaluer à distance la condition buccodentaire des patients (sur la base des photos de la bouche prises par les patients eux-mêmes) et de leur transmettre un avis pertinent. Il s'agit de la dentisterie à distance et d'une solution provisoire dans une situation rendant impossible le déplacement.

Les sites web contiennent également un lien hypertexte qui donne accès aux comptes sur les réseaux sociaux. Ceux-ci sont des dispositifs communicationnels très utiles pour personnaliser les relations avec les patients. En effet, beaucoup de chirurgiens-dentistes ont des comptes Facebook, mais Facebook n'est pas indexé par les moteurs de recherche, par conséquent il ne peut pas remplacer le site web. Il est quand même utile d'avoir une page Facebook, car elle permet le rapprochement des patients, une meilleure gestion de la relation médecin/patient, une promotion plus large des services, une augmentation de la visibilité sur Google, l'ajout de matériels informatifs sur le site internet en fonction des avis et des nécessités des patients.

3.3. Logiciels

Les logiciels de gestion pour les cabinets dentaires proposent des fonctions bureautiques, telles que la cartographie clinique, l'imagerie dentaire, la gestion des rendez-vous, les plans de traitement, la facturation. Certains logiciels ont également les fonctionnalités suivantes : la gestion de la comptabilité, la gestion des stocks, le contrôle de la stérilisation.

La fonction de communication n'est pas primordiale, mais grâce à ces logiciels, les chirurgiens-dentistes peuvent communiquer avec les patients, rester toujours en contact et optimiser les relations avec ceux-ci. Ainsi, les logiciels envoient des mails ou des textos aux patients pour rappeler les rendez-vous. De plus, ils contiennent un portail client permettant le contact direct entre les médecins et les patients. À

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l'aide d'un nom d'utilisateur et d'un mot de passe, les patients ont accès à ce portail, ils peuvent visualiser des informations concernant le cabinet dentaire et les services (organisées en rubriques tout comme sur le site web), consulter directement leur rendez-vous en ligne ou même payer.

En enregistrant toutes ces données, le chirurgien-dentiste a toujours à disposition les informations concernant son activité et ses patients. Cela permet d'améliorer la qualité des services offerts et de réagir plus vite en cas de contentieux.

4. Conclusion

L'un des objectifs principaux des praticiens de l'art dentaire est d'établir une communication efficace avec les patients. Ils se préoccupent constamment de la création de liens avec les patients, de l'instauration d'un rapport de confiance, de la formation d'une image positive. Pour faire connaître leurs activités et pour promouvoir leurs services ils font tout pour informer, séduire et surprendre les patients, en utilisant les dispositifs de communication les plus modernes.

Parmi les dispositifs décrits ci-dessus, nous considérons que le site web est le dispositif privilégié, car il permet de concevoir des solutions pour faire face aux exigences de visibilité, notoriété, performance, crédibilité, engagement, réactivité, attractivité, interactivité.

Les internautes recherchent toujours le site web d'une organisation quand ils veulent des données officielles, précises et fiables et quand ils ont besoin d'un produit ou d'un service.

Il y a des chercheurs qui ont commencé à s'interroger sur l'actualité de ce dispositif. Selon nous, le site web n'est pas encore un outil dépassé, au contraire, il offre de multiples atouts aussi bien du point de vue technique que du point de vue éditorial.

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THE EXCHANGE OF INFORMATION BETWEEN COMPETITORS AND THE ANTITRUST RULES

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Abstract: *The exchange of information between market competitors has been analyzed from multiple economic perspectives. Taking into account the competition policy and its antitrust rules it is important that the exchange is evaluated exactly by the people who participate in discussions and meetings, because there is a real danger that the exchange of economic information might turn into a cartel. Thus, companies represented at meetings where such discussions take place are exposed to serious sanctions from the competition authorities, which can affect not only their commercial reputation but also the solidity of their market position. Cartels represent illegal agreements between undertakings and are one of the most pernicious anti-competitive practices, being targeted by competition authorities around the world. They create allocation inefficiency and reduce companies' incentives to provide new or better products and services at competitive prices. The companies involved in a cartel are sanctioned in all European jurisdictions with fines up to 10% of their turnovers. The information exchanged may consist in future prices or future quantities, individual data about costs and demand, statistical data, aggregated data. The analysis of the competition risks over the collusive potential of information exchanged has to be done on a case by case basis and the undertakings should take into account factors like the market's concentration degree, the elasticity of the demand on the market, the age of information exchanged, the public/non-public character of the data and the frequency of the information exchange. Sometimes it is difficult to draw a clear line between the legitimate exchanges of information on the market and the illegitimate exchanges. This paper analyzes the good practices in the field, as well as concrete examples of information exchanges to be avoided by companies, based on the enforcement activities of the European Commission and of the Romanian Competition Authority. The impact of COVID-19 outbreak over the antitrust rules on exchange of information is tackled in the paper as well, as unprecedented approaches are put into practice by the European Commission. The paper concludes with practical recommendations for the business environment, presenting the do's and don'ts framework in a concise manner. Compliance with the antitrust rules regarding the exchange of information is a need for most of the undertakings, regardless of size, especially for those that are part of trade associations and / or professional organisations.*

Keywords: *exchange of information; competition; antitrust; cartel; compliance.*

JEL Classification: *K21; L41.*

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1. Competition policy and anti-cartel enforcement

1.1. Competition Policy

The first modern competition rules can be identified in the United States in 1890, when the Sherman Antitrust Act was adopted. The law was intended to prevent the restriction of competition by large United States companies which cooperated to establish prices, production levels or market shares.

At the European Union (EU) level, competition policy is one of the first common policies adopted and is having a fundamental role in creating and strengthening the common market (Prisecaru, 2004). EU competition rules were originally inserted in the European Coal and Steel Community Agreement in 1951. Art. 65 of the agreement prohibited cartels and art. 66 made provisions for economic concentrations, or mergers, and the abuse of a dominant position by companies (Papadopoulos, 2010). Afterwards, the 1957 Treaty of Rome, or the EC Treaty, which established the European Economic Community, included these competition rules at art. 85 and art. 86.

Today, art. 101 and art. 102 of the Treaty on the Functioning of the European Union are the community provisions that establish the principles of the economic activities based on fair competition mechanisms, by identifying the types of prohibited unilateral agreements and practices that restrict, impede or distort competition in the common market. These provisions also indicate the situations in which certain types of agreements that may raise competition preoccupations can be exempted from the application of antitrust rules. These are the agreements between companies which contributes to improving the production or distribution of goods or to promoting technical or economic progress, while allowing consumers a fair share of the resulting benefit, and which does not: *(i)* impose on the undertakings concerned restrictions which are not indispensable to the attainment of these objectives; *(ii)* afford such undertakings the possibility of eliminating competition in respect of a substantial part of the products in question.

The competition rules laid down in the Treaty on the Functioning of the European Union are enforced by the European Commission and at the level of each EU Member State the competition authorities apply the national competition rules. Competition rules at the national level are congruent with those at community level.

The objective of the common competition policy is to stimulate competitive markets to ensure the optimal functioning of the common market, an intrinsic condition for the competitiveness of the European economy. In the end, competition policy puts consumers at the center of its concerns and protects their interests. By strengthening and supervising pro-competitive mechanisms it is stimulated the efficient allocation of resources from the economy and the intensification of competition between companies. This leads to the relief of honest economic forces that aim to sell goods and services, through price reductions in order to increase or protect market shares or through the intensification of innovation.

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1.2. Anti-cartel enforcement

In most jurisdictions cartels are considered to be one of the most ruinous anti-competitive practices.

According to Berinde (2008), the cartel definition consists in an agreement whereby a group of producers or distributors of the same product set the prices or shares the market and is considered to be synonymous to an explicit form of secret arrangement; the analysis of the economic effects of cartels is based on the theory of cooperative oligopoly. Cartels may consist as well in practices limiting production or sales, or agreements for customers' allocation.

European Commission (2019) clarifies that even if the undertakings are supposed to compete on the market, "*cartel members rely on each others' agreed course of action, which reduces their incentives to provide new or better products and services at competitive prices. As a consequence, their clients - consumers or other businesses - end up paying more for less quality*".

Cartels, as horizontal agreements, are considered to be one of the most harmful types of anti-competitive practices due to the major impact they have on the welfare of consumers and the economic environment. They create allocation inefficiency, for example by reducing production in order to increase prices, and encourage productive inefficiency by protecting inefficient producers, which can increase average production costs in a given industry (Leslie, 2006).

The attitude towards cartels in most jurisdictions is reflected in the view of OECD: "*hard core cartels are the most egregious violations of competition law and they injure consumers in many countries by raising prices and restricting supply, thus making goods and services completely unavailable to some purchasers and unnecessarily expensive for others*". Hard core cartels "*create market power, waste, and inefficiency in countries whose markets would otherwise be competitive*" (OECD, 2002).

Because of those economic negative effects, cartels are considered illegal under EU and national competition laws. The companies involved in a cartel are sanctioned in all European jurisdictions with fines up to 10% of their turnovers.

Regarding the anti-competitive agreements, which include cartels, the EU legislation, as well as the legal provisions of the Member States, including Romania, provide that are prohibited all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect the markets/the trade and which have as their object or effect the prevention, restriction or distortion of competition.

The difference between the practices that have as *object* and the practices that have as *effect* the restriction of the competition is to be noted. While some horizontal agreements (at the same level of production/distribution) and vertical agreements (at different levels of production/distribution chain) are not prohibited *per se*, being analized the potential anti-competitive effect, other types of practices, respectively the cartels, are considered so harmful to the economic environment, that they are prohibited *per se*, when the object of the respective practice is identified. In these cases, the competition authorities no longer have the obligation to analyze the economic effects of the anti-competitive agreement, the practice being prohibited

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and sanctioned when identifying the anti-competitive object - e.g. setting prices, dividing markets.

However, even for cartel type agreements companies benefit from the legal right to argue the possible exemption from applying the competition rules, by proving the positive effects of the agreement. In such cases, however, the possibilities of an undertaking to highlight positive economic effects that are able to remove concerns of a competitive nature are extremely unlikely.

1.3. Certain factors might facilitate the occurrence of cartels

Cartels tend to primarily occur in oligopoly markets, due to the small number of companies, which might facilitate cooperation and might lead to the implementation of secret arrangements. In an oligopoly market, there can be strong interdependencies between the actions of the companies, thus being easier to observe if the members of the cartel respect the terms of the secret agreement.

There can be two types of factors that facilitate cartels: *(i)* supply and demand factors and *(ii)* behavioral factors - *(i)* factors related to the demand and supply that facilitate the emergence of such agreements can consist in: the existence of a homogeneous product, the existence of mature or very young markets, the existence of markets characterized by a low degree of technical advance, demand that is stagnant or declining, inelastic demand; *(ii)* behavioral factors that facilitate the appearance of cartels can consist in: the existence of trade associations, organisations and unions on the market, exchanges of information, publication of list prices, pre-notification of price changes or various contacts.

2. Exchange of information between competitors and the risk of establishing a cartel

2.1. Horizontal agreements

Antitrust rules try to remove certain types of anti-competitive agreements between the companies active on the market.

Generally, the agreements between the companies can be horizontal or vertical agreements. Horizontal agreements take place between companies at the same level of the production or distribution chain (e.g. agreement between cement producers, agreement between drug distributors). Vertical agreements take place between undertakings at different levels of the production-distribution chain (e.g. agreement between a drug manufacturer and its distributors).

In terms of horizontal agreements, these agreements have the highest potential to turn into real cartels, with special negative economic effects. As Adam Smith observed back in 1776, "*People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices*". Even if at the time Smith did not advocate legal measures to combat cartels, his observations and the work of other major economists who followed him eventually led to the adoption of antitrust rules in Western societies.

Horizontal agreements can consist in mere exchange of information or can take the form of co-operation agreements like research and development agreements,

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production agreements, purchasing agreements, agreements on commercialisation and standardisation agreements. The exchange of information between competitors might appear at a first glance as a benign type of economic co-operation, but depending on the type of information exchanged, it may lead to practices contrary to competition law.

2.2. Exchange of information between competitors

The exchange of information between competitors is well addressed by the European Commission's Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (EC Guidelines) and the EU antitrust cases, which provide a helpful approach; the following section draws upon European Commission's regulations and enforcement activity, as well as on the Romanian Competition Authority's practice.

2.2.1. Legitimate exchange of information

EC Guidelines provides that information exchange is a common feature of many competitive markets and may generate various types of efficiency gains. It may solve problems of information asymmetries, thereby making markets more efficient. Moreover, companies may improve their internal efficiency through benchmarking against each other's best practices. Sharing information may also help companies to save costs by reducing their inventories, enabling quicker delivery of perishable products to consumers, or dealing with unstable demand etc. Furthermore, information exchanges may directly benefit consumers by reducing their search costs and improving choice.

Cases of pro-consumer information exchange between competitors are to be found e.g. in Greece and Romania, where the competition authorities in co-operation with governmental structures implemented on-line price comparisons platforms of food items - in addition, in Romania the platform is also comparing the pump fuel prices. According to the Romanian Competition Authority (2019), consumers are able to identify through the platform the stores available in the area of their location, the stores where the products they want to buy are available, as well as their prices. The web site compares various consumer baskets in major cities of the country, on chain stores, in order to inform the consumers when making the purchase decision. Thus, consumers make a motivated choice between the offers of several stores, which helps to increase competition in the retail market food. The Romanian Competition Authority manages the platform and the data is loaded in application by the national level partner companies. According to the representatives of the Romanian Competition Authority one of the models for setting the food items price platform was Greece. The Southern European country implemented such a platform in 2009, with a result of 7% decrease in prices in the first three months of the implementation.

The examples above offer the possibility to acknowledge the modalities of legitimate exchange of information, in the sense that, practically, through online platforms but in the interest of the final consumers the companies have in the end the possibility to find out the competitors' final products prices. As long as the transparency of the information at the competition level concerns only the final prices, to the benefit of the clients, such practices do not harm the competitive environment. This is

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especially the case when the market is characterized by the existence of many buyers and sellers.

2.2.2. Anti-competitive exchange of information

Exchange of information between competitors and the creation of a transparent market is also able to harm the competitive structure of the market. Dissemination of information, especially on an oligopolistic market, may increase the transparency of a framework that is already characterized by limited and insufficient competition.

EC Guidelines provide that the exchange of market information may also lead to restrictions of competition in particular in situations where it is liable to enable undertakings to be aware of market strategies of their competitors. The competitive outcome of information exchange depends on the characteristics of the market in which it takes place (such as concentration, transparency, stability, symmetry, complexity etc.) as well as on the type of information that is exchanged, which may modify the relevant market environment towards one liable to coordination. Moreover, communication of information among competitors may constitute an agreement, a concerted practice, or a decision by an association of undertakings with the object of fixing, in particular, prices or quantities. Those types of information exchanges are normally considered and fined as cartels. Information exchange may also facilitate the implementation of a cartel by enabling companies to monitor whether the participants comply with the agreed terms. Those types of exchanges of information are assessed as part of the cartel.

In 2018, the Romanian Competition Authority sanctioned nine insurance companies and the National Union of Insurance and Reinsurance Companies of Romania (UNSAR) with fines amounting to ca. € 53 million for violating the national and European competition regulations, because they coordinated the behavior on the market in order to increase the tariffs of compulsory civil liability insurances (RCA insurances).

The Romanian Competition Authority established that the RCA insurance market in Romania was defined by the following characteristics: inelastic demand related to price, limited number of competitors, the market was characterized by high barriers to entry, competitors frequently interacted with each other, there was a high transparency on the market and an increased demand, the market was not an innovative one, insurance products were homogeneous, consumers had no bargaining power. On this market, the companies had a few series of direct and indirect contacts, expressed their future intentions to raise the RCA insurances' prices between 2012 and 2016 and also announced in mass-media the rates of the future price increases, along with UNSAR. These practices accounted for an anti-competitive concerted practice, facilitated by UNSAR, because the insurance companies no longer independently set their tariffs.

It is worth noting that in this case the Romanian Competition Authority incriminated a concerted practice of the insurance companies and not an actual agreement. If economists do not have a particular interest in distinguishing between a real agreement and a concerted practice, because the economic effects of such anticompetitive practices are the same, regardless of the legal framework, for legalists this differentiation is important. The concept of concerted practice was

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created in order to prevent situations where companies circumvent the application of competition rules through an anticompetitive practice that does not fall within the scope of an actual agreement, even if the notion of understanding in competition law has a wider scope than the will agreement in civil law or commercial law. In ICI vs. The Commission (1972), the European Court of Justice has ruled that "*the object is to bring within the prohibition […] a form of coordination between undertakings which, without having reached the stage where an agreement properly so-called has been concluded, knowingly substitutes practical cooperation between them for the risks of competition*".

In Methylglucamine case (2004), the undertakings Rhône-Poulenc Biochimie SA, Aventis Pharma SA and Merck KgaA were fined with 2,85 million euro by the European Commission. The anti-competitive agreement took place in regard with the product methylglucamine of pharmaceutical quality used as an intermediate chemical product for the synthesis of x-ray media, pharmaceuticals and colourings. Beginning in November 1990 and continuing until December 1999 the main producers of methylglucamine formed a clandestine cartel, by which they fixed market shares for the product, agreed on price targets for the product, agreed on price lists for the product and agreed on how to share the largest customers. The cartel meetings started with an exchange of information and views on the worldwide demand for the product, referring to the volumes sold to the respective main clients during the previous year. However, in respect with the exchange of information, the European Commission concluded that the practice had not materialized into a full systematic exchange of sales data (Jones; Sufrin, 2004).

According to Jones and Sufrin (2004), in such cases the difficulty is to distinguish between legitimate and anti-competitive exchanges of information. Two issues, in particular, are crucial to the making of such a determination: the market structure – with a special attention for the oligopolistic markets, as mentioned above – and the type of information exchanged.

2.2.2.1. Types of information exchanged

Related to the characteristics of the information exchanged between competitors, the European Commission and the national competition authorities classify these information as follows:

- Strategic information

Generally, the dissemination of information between competing companies regarding future prices or future quantities are most likely to be anti-competitive. Knowing in advance strategic data of the competition, and replying by sharing the same type of information, may allow competitors to arrive at a common higher price level without incurring the risk of losing market share. Individual data about costs and demand represent as well strategic information very likely to be regarded as anti-competitive. Other data exchanged that are susceptible to fall under the antitrust rules are information about capacity increases, investment plans, research projects, or individual output and sales figures. By contrast, statistical data which enables undertakings to assess the level of demand or the level of output in the industry may be beneficial and are not from start objectionable (Jones; Sufrin, 2004).

- Aggregated/individualised data

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EC Guidelines provide that dissemination of aggregated market data (such as sales data, data on capacities or data on costs of inputs and components) by a trade organisation may benefit suppliers and customers alike by allowing them to get a clearer picture of the economic situation of a sector. On the other hand, when the market structure is of tight oligopoly, even the aggregated data could represent a competition problem. If the oligopoly acts unitarily, as a result of an agreement, and the aggregate data indicate an average market price lower than in the past, the conclusion may be that one of the members of the oligopoly has lowered prices. Retaliation measures could be taken in the case against the respective company.

- Age of data

As older the data base that is exchanged is the less competition issues might occur.

- Frequency of the information exchange

Frequent exchanges of information between competitors might lead to a superior common understanding of the market and to a deviations' monitoring system which increase the risks of a collusive result. However, the potential anti-competitive effect depends on the type of data disseminated, the age of these data and the degree of aggregation involved.

- Public/non-public exchange of information

EC Guidelines provide that the fact the information is exchanged in public may decrease to a certain extent the likelihood of a collusive outcome on the market to the extent that non-coordinating companies, potential competitors, as well as clients may be able to constrain potential restrictive effect on competition.

2.2.2.2. A new approach on the exchange of information in the context of urgency stemming from COVID-19 outbreak

On the 8th of April 2020, the European Commission issued a Communication regarding the Temporary Framework for assessing antitrust issues related to business cooperation in response to situations of urgency stemming from the COVID-19 outbreak.

As presented above, certain exchanges of information between competing companies normally raise competition preocupations and are susceptable of altering the economic environment. In the context of the health crisis related to COVID-19 - the World Health Organization declared the pandemic status in March 2020 - and taking into account the exceptional situation of the emergency regarding public health (global lack of sanitary protection disposals, disinfectants, drugs or mechanical ventilators), it is for the first time in its history when the European Commission provides clarifications and initiates temporary approaches regarding the exchange of information between companies, from the antitrust rules' perspective.

In essence, the European Commission's Communication provides:
- The Commission understands that cooperation between undertakings might help in more efficiently addressing the shortage of essential products and services during the COVID-19 outbreak;
- Cooperation in the health sector might need to extend to coordinating the reorganisation of production with a view to increasing and optimising output so that not all firms focus on one or a few medicines, and other medicines remain in underproduction;

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- Measures to adapt production, stock management and, potentially, distribution in the industry may require exchanges of commercially sensitive information and a certain coordination; such exchanges and coordination between undertakings are in normal circumstances problematic under EU competition rules;
- Nevertheless, taking into account the exceptional circumstances, such measures would not be problematic under EU competition law or – in view of the emergency situation and temporary nature – they would not give rise to an enforcement priority for the Commission, to the extent that such measures would be: *(i)* designed and objectively necessary to actually increase output in the most efficient way to address or avoid a shortage of supply of essential products or services, such as those that are used to treat COVID-19 patients; *(ii)* temporary in nature (i.e. to be applied only as long there is a risk of shortage or in any event during the COVID-19 outbreak); and *(iii)* not exceeding what is strictly necessary to achieve the objective of addressing or avoiding the shortage of supply;
- The Commission will not tolerate conduct by undertakings that opportunistically seek to exploit the crisis as a cover for anti-competitive collusion;
- The Communication shall remain applicable until the Commission withdraws it (once it considers that the exceptional circumstances are no longer present).

3. Conclusion

Information exchanges between companies represent a normal working situation, up to a certain degree. The economic activity itself, which means the sale of goods and services to consumers, involves contacts between companies, either vertically or horizontally, in order to deliver raw materials, to establish general qualitative conditions for carrying out the activity in an economic branch, to achieve cooperation agreements when production or research in a particular sector can be improved.

The exchange of information between companies presents a higher risk for the competitive environment when the companies involved are current or potential competitors. Even in this situation, horizontal cooperation can be an efficient mean of risk sharing, cost savings, increased investment, shared know-how, increased quality and variety of products and faster launch of innovations.

However, from a certain level, the discussions and exchanges of information between competitors may attract the legal responsibility for establishing a cartel or a concerted practice that is not in line with antitrust rules. This risk is relevant for absolutely all businesses, regardless of size, as long as they are part of trade associations or professional organisations. Meetings within the frame of such bodies can turn into agreements or concerted practices that go beyond the legal framework, as they produce negative effects on the economy, such as rising prices or lowering economic efficiency. Basically, such exchanges of information could have the potential effect of diminishing competition between companies, with negative effects on final consumers.

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Extended meetings and discussions within the branch associations / bodies can lead to the dissemination of strategic information, thereby increasing the likelihood of coordination between undertakings within or outside the field of cooperation.

From a business perspective, complying with the competition rules in the field of information exchange involves assessing the risks the undertakings are exposed to when attending meetings where such exchanges / debates / evaluations take place. When the competition authorities intervene in the equation, the following actions of the companies may already be late and the costs incurred will consist in important sanctions that can reach 10% of the turnover of the company.

In summary, the risk assessment of the collusive potential of information exchange could be done taking into account the table below.

Table 1: The risk assessment of the collusive potential of information exchange

Collusive potential	Information exchanged
High	Private communications of future commercial or strategic plans
	Exchange of individual data on prices and quantities
Medium / High	Exchange of individual data on demand and costs
Low / Medium	Exchange of aggregate data
Low	Public exchange of old aggregate data

The analysis of the competition risks still has to be done on a case by case basis and the undertakings should take into account factors like the market's concentration degree, the elasticity of the demand on the market, the age of information exchanged, the public/non-public character of the data and the frequency of the information exchange.

In the context of exceptional circumstances like the COVID-19 pandemic, it is to be noted that the general competition rules regarding exchange of information are not being suspended, at least not for the vast majority of the undertakings. The approach of the European Commission towards the present sanitary crisis is to temporarily allow companies involved in the health care effort to increase cooperation and even exchange sensitive information in order to better face the enormous demand for life-saving medical instruments. It is a rapid response from the European Commission to the economic environment transformed realities and it comes with the warning that the anti-competitive agreements of companies that only use the crisis as a cover will continue to be pursued. Competition policy must be applied continuously as an instrument for economic recovery after the sanitary crises will end.

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ECONOMICS OF MILK PRODUCTION IN 2010-2016 – A HUNGARIAN CASE STUDY

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Abstract: *The Hungarian dairy sector had to face quite a few challenges due to the main global and European events over the past years. Among other things, the Russian's embargo and the abolition of the milk quota system were the key reasons why the milk sales prices drastically reduced both in the EU and in Hungary in 2015. As a result, many Hungarian dairy farmers – mainly smaller ones – have gone bankrupt and ceased farming. The aim of the study is to present – as a case study – how the economic situation of the Hungarian milk production has changed in the period 2010-2016 based on a dairy farm operating in Eastern Hungary. Data collection was based on data from 2010-2016 and primarily focused on the change in the animal stock, production and technological parameters, input and output prices, as well as average cost items. Based on the collected data, the cost and income situation of milk production in the analysed farm were determined using a deterministic model calculation. The main indicators of the farm were also compared to the Hungarian and international figures. During the analysed period, modernisation investments were implemented which improved production and financial parameters. The obtained results show that the specific milk yield increased by 7% and the efficiency of human resource use improved by more than 100% between 2010-2016. Production costs increased by 50% between 2010-2014, then declined by 15% by 2016. Sales price in the farm increased by nearly 40% between 2010-2014, followed by a 21% decrease. Net income was fluctuating during the given period but the production was profitable in the analysed farm. However, the milk production was unprofitable without subsidies in 5 years.*

Keywords: *Hungarian milk production; dairy farm; economic analysis; profitability; efficiency.*

JEL Classification: *M11; Q12.*

1. Introduction

The global milk production was 829 million tonnes in 2017 (OECD-FAO, 2019). The production quantity has been constantly increasing, which became more intense in the last decade due to the increasing demand for milk and dairy products and favorable weather conditions for milk production (Vőneki – Mándi-Nagy, 2014). World milk production and the closely related milk processing are concentrated in Europe and the North American continent. In 2017, the EU-28 countries accounted

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for more than 25% (170.1 million tonnes) of global milk production, which has been growing intensively since 2013 (Eurostat, 2018). The Hungarian dairy sector produced 1.92 million tonnes of milk in 2017, representing only 1.1% of EU production (HCSO, 2019). Thus, the importance of the Hungarian dairy sector within the EU is small, and significant changes affected the dairy sector in recent years, which made the Hungarian dairy industry more exposed than other Western European Member States.

Russia has been banning imports of EU products since the summer of 2014. As a consequence, Russia stopped importing milk and dairy products from the Member States, including Hungary (Boulanger et al., 2016). As a result, the EU-28 countries were looking for other outlets where they could sell their products, thus delivering more products to markets where Hungarian dairy products were more prevalent, thereby making it more difficult to sell Hungarian products in these markets due to the strengthening competitors.

In 2015, the EU milk quota system to regulate the EU dairy market was also abolished. As a result, Member States are no longer bound in terms of milk production, and more advanced, primarily Western European countries are able to produce more milk, creating further difficulties for less developed countries, including Hungary, which could never even reach their quota (Xiaodong, 2017). Hungary only used 72-76% of the quota framework during the years leading up to the abolition of the milk quota, i.e., the milk quota did not limit milk production in Hungary both before and after the accession (Szűcs – Szőllősi, 2015). Most dairy farms in countries with increasing milk production are able to produce milk in a more cost-effective way, making Hungarian producers even less competitive, not to mention that the abolition of quotas has led to a drastic reduction in European milk prices.

As a result of these two major events, as well as other trends in supply and demand on the dairy market, a "milk crisis" emerged in 2015-2016.

The profitability of milk production in Hungary is relatively low compared to other agricultural sectors, which is due to low purchase prices and high average cost. This finding is supported by Blaskó et al. (2012), adding that the demand for dairy products with higher added value tends to decrease. Low purchase prices are basically due to the fact that producers are exposed to processors. Although the Milk Package, introduced in 2012, has slightly improved the position of producers vis-à-vis processors, they are still in a difficult position to negotiate prices. Moreover, there is still not a strong enough horizontal unification of interests at the level of milk producers to strengthen their bargaining power against processors.

The importance of small-scale milk production in Hungary has declined in recent decades. Large-scale and industrial technology dominates Hungarian milk production. Contrary to the global and European structure, more than 80% of the milk produced in Hungary comes from farms with large cow population (only 5% of farms can be called large farms) and the number of cows is the highest on these farms (over 350). For this reason, Hungary has a comparative advantage from the aspect of economies of scale on an international scale, which is expected to continue in the future. In Hungarian dairy production, housing methods and feeding technology (as well as its quality), farm size, and feed production and preservation issues are cardinal factors, as most Hungarian farms are lagging behind in this area.

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Feed costs make up the largest part of milk production cost. In Hungary, extensive grassland management is dominant, with yields far below those of Western European countries. Therefore, on the one hand, the cost of hay is relatively high and, on the other hand, grazing is almost completely excluded from feed technology. In addition, mono-diets are dominated by maize-based fodder, which makes the sector vulnerable through volatile feedstock prices. Moreover, the dominance of maize (a feed system based on grain and silage maize) degrades breeding performance, resulting in a high cull rate and a short useful life (1.8-2.2 years/cow), which also increases average cost through the use of "unused" breeding stock (Szűcs – Szőllősi, 2015).

At the same time, the useful life of producing cows is extremely low, not only in Hungary, but in all producing countries with high specific yields. Therefore, no significant improvement is expected in the lactation number of 2.2. The age at first calving of cows can be an important indicator for breeding and economic efficiency. Dairy breeds, such as the Holstein Friesian, are suitable for early rearing, and calving can take place by 24 months with appropriate heifer rearing technology. Internationally, Hungary has a 1-2 month lag, which is clearly due to inadequate heifer rearing technology and the professional excellence behind it. However, Hungary has a significant reserve (10-20 days) between the two calvings, which is currently over 440 days. Furthermore, this figure is over 400 days in most high-income countries. The solution is to raise the standard of housing and feeding technologies, quality expertise and adequate reproductive biological management (Szűcs et al., 2015).

Currently, about 92% of the Hungarian dairy cattle population is Holstein Friesian and crossbred, which is of similar importance internationally. Hungarian dairy cattle breeding has become internationally significant in recent decades as a result of specialisation and specialised production. Hungary ranks high in Europe and globally in terms of milk per cow and milk hygiene parameters. No significant improvement in these parameters is expected in the future. At the same time, the content of the milk produced (3.6% fat, 3.3% protein) is below the EU average, and, currently, quantitative parameters are preferred over quality. In this field, partial change of breeds, the greater spread of crossing and the modifying of feeding technologies can bring progress (Szűcs et al., 2015).

Over the past 15 years, Hungarian dairy farmers have been facing serious problems. Milk production was unfavourable at the time of EU accession (2004), and the economic situation of the sector was more or less stabilised by 2006. The Russian embargo starting in 2014 and the abolition of the milk quota in 2015 again had a negative impact on the sector. Between 2010 and 2016, the cost of producing milk increased steadily from 1 711 to 2 581 EUR per cow (Table 1). Despite the improving average yields, this tendency is also evident in the average cost, which has increased from 22 to more than 30 Eurocents per litre. At the same time, due to favorable international market conditions, the purchase price of raw milk increased until 2014, and it decreased significantly by 2016, even below the 2011 level. As a result, the profitability of milk production was favourable until 2014, but in 2015 and 2016, producers were able to realise income only with subsidies.

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Table 1: The cost and income situation of dairy sector, averaged over the determinant producer farms (2010-2016)

Item	2010	2011	2012	2013	2014	2015	2016
Sales price (Eurocent/litre)	23.4	28.0	29.2	32.0	34.2	26.7	24.1
Production value (EUR/cow)	2 239	2 593	2 745	2 886	3 238	2 855	2 923
Production cost (EUR/cow)	1 711	1 819	2 055	1 991	2 177	2 312	2 581
Average cost (Eurocent/litre)	22.2	23.5	25.4	26.2	27.3	28.8	30.1
Income (without subsidies) (Eurocent/litre)	1.2	4.5	3.8	5.7	6.9	-2.0	-1.8
Income (EUR/cow)	528	774	690	897	1 060	544	295
Cost profitability (%)	30.8	42.6	33.6	45.1	48.7	23.5	11.5

Source: Hungarian Farm Accountancy Data Network (FADN) averaged over the determinant producer farms, In: Béládi – Kertész, 2012; 2014; Béládi et al., 2017 and Szili – Szlovák, 2018

The Hungarian dairy sector has received considerable government assistance in recent years. In addition to an EU aid of 68 million EUR in 2018, farmers received nearly 50 million EUR of national funding in 2018 under a temporary national aid. In 2018, Hungarian farmers produced more than 1.9 million tonnes of milk. The sector is stable regarding production, but the number of cows is stagnating. The average cost of milk increased significantly, with the average price of milk being 30.5 Eurocents per kilogram and the average cost of milk fluctuating between 29 and 32 Eurocents. Some dairy farmers would be unprofitable without subsidies. The balance between milk imports and milk exports is still negative, with about 20% more value entering the country. The sector's export earnings were close to 203 million EUR in 2018 (HCA, 2019).

The aim of the study is to present – as a case study – how the economic situation of Hungarian milk production has changed in the period of 2010-2016 based on a given dairy farm operating in Eastern Hungary.

2. Material and methods

During data collection primary and secondary data is also applied. The latter one is used by different kinds of database. Primary data was collected from a Hungarian farm. Primary data collection was based on data from 2010-2016 and primarily focused on the change in the animal stock, production and technological parameters, input and output prices, and average cost items. Based on the collected data the cost and income situation of milk production in the analysed farm were determined using a deterministic model calculation. Financial results were converted to EUR using a base year exchange rate of the Central Bank of Hungary in 2016 (311.46 HUF/EUR). The main indicators of the farm were also compared to the Hungarian and international figures. For the comparison we used the average data of the Hungarian Farm Accountancy Data Network (FADN) on the determinant producer

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farms (Béládi – Kertész, 2012; 2014; Béládi et al., 2017; Szili – Szlovak, 2018) and the EC (2016) database.

3. Results and discussion

During the examined period, the farm had 1 500 to 2 000 cows, and their offsprings, which were kept on two farms. On one of the farms, a complex milking parlor and two sheds were built in 2011, both of which having a capacity of 528 cows, while in 2014, two sheds with the same capacity were built. Until the end of 2011, all age groups of cattle were kept on both farms. However, the population was divided after the investment to provide efficient production. The site where the investment was made was the "main farm" (Farm A) while the site where no development was done is the secondary site, a rearing farm (Farn B). Cows and their offsprings are kept in Farm A until they reach 90 kg. The bulls are then sold and the heifers are moved to Farm B, where they are first inseminated after rearing and maturation, and are returned to Farm A two weeks before calving to get into production immediately after calving. The cows remain on Farm A until they are culled. At the end of the production process, the raw milk produced and already chilled, which is sold for further processing, is purchased 100% by a local dairy.

The mortality, culling rates and the number of lactations on the farm showed continuous improvement during the examined period (Table 2). The lactation average was much better than the Hungarian average of 2.2. The number of days between calvings was also favorable, with an average of 397 days.

Table 2: Mortality and culling rates and number of lactations in cow group

Year	Mortality	Culling	Total removed	Number of
2010	7	26	33	3.3
2011	5	31	36	2.7
2012	6	29	36	2.7
2013	5	29	33	3.3
2014	6	26	32	3.1
2015	5	28	33	3.3
2016	5	25	30	3.3

Source: own data collection, 2017

Milk is the main product of the farm's dairy sector, while the by-products are sold animals of different age groups and manure. Subsidies received also increase production value. The farm's production value per cow ranged between 3 200-4 400 EUR during the examined period (Figure 1). 55-75% of the production value came from milk sales, 5-15% from the sales of by-products and 15-40% from subsidies received. From 2010 to 2014, milk sales revenue increased steadily from 2 025 to 2 807 EUR per cow. In the last examined year, this figure was 2 395 EUR per cow. There is no trend in the value of the subsidies received. The received subsidies were the highest in 2016 (1 656 EUR/cow).

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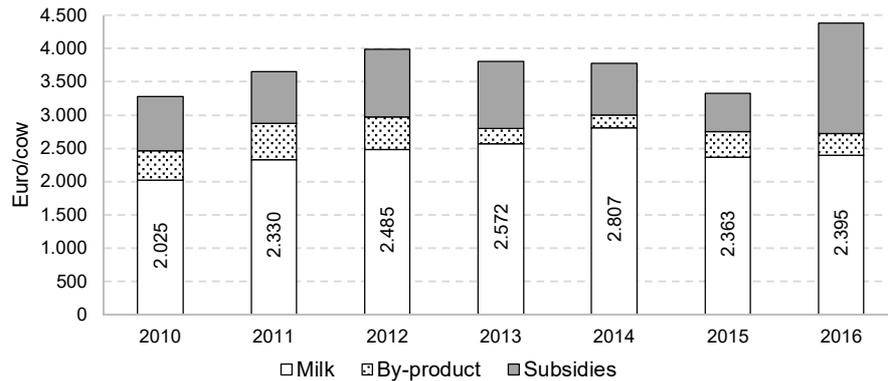
Figure 1: Production value per cow (2010-2016)
Source: own data collection

Table 3 compares the average prices of the examined farm between 2010 and 2016 with the average sales prices in Hungary and in the EU-28 countries. The average prices of the farm were above average national sales prices each year, while EU-28 average prices were generally 3-15% higher. Between 2010 and 2014, sales prices increased steadily in all years. However, it declined in 2015 and 2016.

Table 3: Average sales price of raw milk (2010-2016)

Year	Average sales price (Eurocent/kg)			Difference (%)	
	Examined farm	Hungary	EU-28	Farm / Hungary	Farm / EU-28
2010	23.79	22.89	27.03	3.93	-12.00
2011	27.71	27.61	30.47	0,35	-9.06
2012	29.44	27.71	30.34	6.26	-2.96
2013	31.53	30.82	35.45	2.29	-11,05
2014	33.26	33.12	36.83	0.39	-9.68
2015	27.80	25.81	31.21	7.71	-10.91
2016	26.26	23.79	29.51	10.39	-10.99

Source: own data collection; RIAE MPIS, 2017; EC, 2016

Table 4 shows the average annual milk yield per cow between 2010-2016 for the farm, Hungary, the EU-15 and EU-13 countries. The milk yield of the examined farm was 10-20% higher than the Hungarian average value. Moreover, it was 13-19% more favorable than the specific yields of the EU-15 Member States. The Hungarian dairy sector performs 40-50% better than the EU-13 average, which includes less developed Eastern European countries. In Hungary, as well as the EU-15 and EU-13 countries, milk yields continued to increase on a yearly basis, while the milk yield per cow of the examined farm showed a different tendency. The milk yield of 8 500 kg/cow/year in 2010 decreased to 8 160 by 2013. From 2014, after the investments, specific yield started to increase and it reached 9 120 kg per cow by 2016. In our opinion, this tendency is due to good nutrition and advanced technology, which has

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an outstanding performance compared to the farms of developed European Member States.

Table 4: Specific milk yields (2010-2016)   Unit: kg/cow/year

Year	Examined farm	Hungary	EU-15	EU-13	Difference (%)		
					Farm / Hungary	Farm / EU-15	Farm / EU-13
2010	8 508	6 890	6 961	4 288	23.48	22.22	98.41
2011	8 409	6 863	7 137	4 388	22.53	17.82	91.64
2012	8 439	7 122	7 082	4 621	18.49	19.16	82.62
2013	8 160	7 133	7 040	4 684	14.40	15.91	74.21
2014	8 444	7 457	7 275	4 951	13.24	16.07	70.55
2015	8 499	7 718	7 356	5 130	10.12	15.54	65.67
2016	9 120	7 781	7 442	5 341	17.21	22.55	70.75

Source: own data collection; HCSO, 2016; EC, 2016

Table 5 summarises the production cost per cow over the examined period. In terms of direct costs, material costs account for the largest proportion. Material costs generally ranged from 1 500 to 2 100 EUR/cow. More specifically, the largest item is feed costs, which account for 70-80% of material costs.

In terms of labour costs, there was an increase from 2010 to 2013, but as a result of the investments, the value decreased. Labour costs accounted for 16% of production costs in 2010 and only 13% in 2016. In 2010, the headcount was 93, which decreased by 11% to 83 by 2016, while the average number of cows increased by 150. The number of hours worked decreased by 40.2% from 191 000 in 2010 to 136 000.

Table 5: Production cost per cow (2010-2016)   Unit: EUR/cow

Item	2010	2011	2012	2013	2014	2015	2016	2016 / 2010
Material cost	1 507	1 727	1 748	1 802	1 919	2 000	2 081	138%
from this: feeding cost	*1 047*	*1 175*	*1 406*	*1 435*	*1 416*	*1 599*	*1 580*	*151%*
Labour cost	390	422	416	439	420	378	380	97%
Depreciation	163	335	308	296	301	122	168	102%
Machinery cost	98	121	104	105	100	81	5	7%
Other direct cost	166	161	110	125	154	161	224	135%
Total direct cost	2 325	2 765	2 686	2 763	2 894	2 742	2 859	123%
Overheads	126	127	127	120	130	100	114	92%
Production cost	2 451	2 892	2 813	2 888	3 024	2 842	2 973	121%
Production cost of Hungarian average*	1 711	1 820	2 055	1 981	2 177	2 312	2 488	135%
Cost of farm/Hungarian average cost (%)	143	159	137	146	139	123	120	-

*Average of determinant producer farms of the Hungarian FADN
Source: own data collection; Béládi – Kertész, 2012; 2014; Béládi et al., 2017 and Szili – Szlovák, 2018

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Machinery costs were between 95 and 125 EUR/cow between 2010 and 2014, but subsequently followed a downward trend, with only 5 EUR/head/year in 2016. This is because the company has sold its own machines and started hiring machines from other contractors.

We also examined the depreciation and obsolescence of the tangible assets of the dairy farm. Depreciation was between 120-340 EUR/cow. There was an increase in 2011 and 2014, which could be attributed to investments (newly built milking sheds and stables). The obsolescence rate decreased from 51% in 2010 to 13% after the first investment and then to 3% after the second investment in 2015.

Overheads ranged between 100 and 130 EUR/cow during the examined period, representing 4-5% of the production cost.

The total cost of production during the examined period was between 2 400 and 3 100 EUR per cow. Compared to the average production costs of the determinant producer farms of the Hungarian FADN, it can be seen that the examined farm had around 30-60% higher production costs.

The farm's average cost was 23-26 Eurocent/kg in the examined period and it increased by almost 40% between 2010 and 2014, while the average cost of milk in the determinant producer farms of the Hungarian FADN increased by 45% over the same period. Subsequently, a decrease was observed, similarly to the national trend. In 2016, the average cost of milk at the farm was 26.3 Eurocent/kg, which was 21% lower than the average cost of 2014, but 10% higher than the 2010 value. Compared to the Hungarian average, it can be found that the farm usually produces 1 kg milk at a 10-25% higher cost. However, as it was shown above, the specific yield indicators of the farm are significantly better than the Hungarian average.

Table 6: Changes in income (2010-2016)   Unit: EUR/cow

Item	2010	2011	2012	2013	2014	2015	2016	2016 / 2010
Production value								
- Analysed farm	3 278	3 656	3 995	3 828	3 780	3 322	4 377	133%
- Hungarian average*	2 237	2 594	2 745	2 886	3 236	2 854	2 922	131%
Production cost								
- Analysed farm	2 451	2 892	2 813	2 888	3 024	2 842	2 973	121%
- Hungarian average*	1 711	1 820	2 055	1 991	2 177	2 312	2 488	145%
Gross income (production value – direct cost)								
- Analysed farm	954	891	1 179	1 060	885	580	1 518	145%
- Hungarian average*	710	941	896	1 108	947	793	1 503	212%
Net income								
- Analysed farm	828	764	1 182	940	755	480	1 404	170%
- Hungarian average*	527	774	690	895	1 060	543	433	82%
Net income without subsidies								
- Analysed farm	80	-24	169	-75	-25	-91	-257	-
- Hungarian average*	No available data							

*Average of the determinant producer farms of the Hungarian FADN
Source: own data collection; Béládi – Kertész, 2012; 2014; Béládi et al., 2017 and Szili – Szlovák, 2018

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Net income in the 2010-2016 period was between 480 and 1 500 EUR per cow (Table 6). The best year was 2016, when the farm realised a profit of EUR 1 404 per cow, which was mainly due to subsidies, with the highest proportions being 'Transitional national milk aid', 'Special milk aid for the structure of the milk sector' and 'Dairy cattle management support'. The former two were introduced to milk producers in 2015 in view of the crisis in the sector, replacing "Milk quota aid" and the "Special milk aid". The farm received the "Fattened Bull Support" for the existing bull stock. Compared to the Hungarian average, the company's net income was less favorable only in the years when the company made modernisation investments. However, net income without subsidies was positive only twice out of the seven examined years. The farm was able to make 80 EUR per cow in 2010 and 169 EUR per cow in 2012. It can also be seen that subsidies are of great importance in this sector.

Table 7: Efficiency indicators (2010-2016)

Denomination	2010	2011	2012	2013	2014	2015	2016	2016/2010
Profitability *(%; ROS; net income/turnover)*	34.2	27.4	40.5	33.1	25.7	17.4	52.2	153%
Direct cost profitability *(%; gross income/direct cost)*	41.0	32.2	43.9	38.4	30.6	21.2	53.1	130%
Cost profitability *(%; net income/production cost)*	34.1	26.9	42.0	33.5	25.6	17.3	47.9	138%
Net income per product unit *(Eurocent/kg)*	9.7	9.1	14.0	11.5	9.0	5.7	15.4	150%
Turnover per one working hour *(Eurocent/working hour)*	2.4	2.9	3.6	3.5	4.1	4.0	4.0	186%
Production value per one working hour *(Eurocent/working hour)*	3.2	3.6	4.8	4.7	5.1	4.9	6.5	203%
Net income per one working hour *(Eurocent/working hour)*	0.8	0.8	1.4	1.2	1.0	0.7	2.1	239%

Source: own data collection; Béládi – Kertész, 2012; 2014; Béládi et al., 2017 and Szili – Szlovák, 2018

Table 7 summarises the main efficiency indicators of the dairy farm for the examined period. Profitability (ROS) was between 17-52% and cost-profitability ranged between 17-48% during the examined period, of which 2015 was the least favourable year. Improvements have also resulted in improved labour efficiency. This finding is also supported by the continuous improvement in the production value per workhour from 3.2 Eurocent/workhour in 2010 to 6.5 Eurocent/workhour in 2016.

4. Conclusion

Due to events in recent years, Hungarian dairy farmers have been through a difficult period. The backlogs of most farms are due to the housing and feeding technology,

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economies of scale and the problems of feed production and preservation. Most of the available milk production capacities are obsolete and their renovation is timely. In the analysed farm, modernisation investments were implemented between 2010-2016 which improved production and financial parameters. The obtained results show that the specific milk yield increased by 7% and the efficiency of human resource use improved by more than 100% between 2010-2016. The farm's specific yield indicators are outstanding both in Hungary and internationally. At the same time, the greatest weakness is seen in feed costs. In this area, it is recommended to develop and modernise the crop production activities, i.e., the average cost of self-produced feedstuff would be reduced, so that feeds could be involved to the milk production at lower costs. Continuous monitoring of the effectiveness of the formulas and minimising unnecessary waste would also help. On the other hand the sales price in the farm increased by nearly 40% between 2010-2014, then decreased by 21%. The average sales prices of the farm were also above the average at the Hungarian level. Net income was fluctuating during the given period but the production was profitable in the analysed farm. However, the milk production was unprofitable without subsidies in 5 years.

5. Acknowledgements

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PERCEIVED BARRIERS TO E-COMMERCE IN ROMANIA – A CONSUMERS PERSPECTIVE

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Abstract: *The e-commerce has changed the way companies conduct business in Romania, leading to lower costs and greater expansion possibilities. The Romanian e-commerce market is constantly growing and exceeded 4.3 billion Euros in 2019. There are several types of e-commerce, according to the nature and dynamics of the transactional relationships, but this paper refers to the most common and relevant for the end consumer: the business to consumer (B2C) e-commerce activities. The purpose of this paper is to present the major barriers to B2C e-commerce adoption perceived by Romanian consumers, from social, behavioural, educational and economic perspectives. There is still a large gap between Romania and the other European Union countries regarding the adoption of e-commerce. Even though the Romanian e-commerce market registers a double-digit yearly increase, it has not yet reached its maturity level, as only 23% of the Romanians made at least one online purchase in 2019, compared to 63% of all the European Union citizens. The most significant barriers to e-commerce adoption in Romania are social and behavioural, followed by educational and financial. 43% of the Romanian population didn't shop online due to the need for human interaction when shopping, lack of trust or force of habit, compared to 23% of the Europeans. 7% of the Romanians consider themselves not skilled enough to shop online and 5% did not engage in e-commerce activities because they do not possess a payment card, although most of online shops accept cash on delivery as a payment method. Moreover, 80% of the Romanian buyers prefer it instead of card payment. From the managerial point of view, understanding the major perceived barriers the Romanian consumers face when purchasing online is an important endeavour of the e-commerce companies. Consequently, they can adjust the business models, promotional activities and advertising efforts to help consumers overcome their perceived barriers to e-commerce and therefore, expand their clients' base.*

Keywords: *e-commerce; electronic commerce; barriers to e-commerce; consumer-oriented e-commerce; online sales.*

JEL Classification: *M310; M210.*

1. Introduction

The strong expansion of electronic commerce is reshaping the way companies conduct their businesses, helping them to lower the costs and expand to new markets that would otherwise have not been accessible through conventional selling channels. Electronic commerce has been perceived as a new driver of economic

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growth, especially for developing countries (Humphrey et al., 2004), generating unprecedented opportunities to innovate and create value.

The total value of the e-commerce market is constantly growing as the number of firms selling online is increasing, especially small and medium-sized enterprises. The global e-commerce market reached 29 trillion US Dollars in 2017 and is mainly dominated by business to business (B2B) transactions. Moreover, according to the World Economic Forum, it is expected that the share of online sales in the global commerce will increase from around 10% today to 40% in some sectors by 2027 (Lesher and Tscheke, 2019).

New digital technologies, like cloud computing, artificial intelligence, machine learning and autonomous delivery devices are transforming the e-commerce landscape by forcing companies to adapt and transform their online business models. Some traditional firms, like major retailers, are now going digital by making full use of e-commerce websites, mobile applications, digital customer loyalty programs, affiliate marketing and so on. On the other hand, some online retailers are now combining both digital and physical components by using a mix of online and off-line business models.

In Romania, the e-commerce market registered a constant growth in the recent years, mainly due to factors like the increase of the total number of mobile devices connected to the Internet accompanied by lower costs of mobile data connection plans, increase in wages, lower prices than in traditional trade, a wider variety of products to choose from and the convenience of online shopping. According to the GPeC 2019 Romanian E-Commerce Report (2020), the total value of the Romanian e-commerce market in 2019 exceeded 4.3 billion Euros, registering an increase of 20-22% compared to 2019.

Given the constantly growing importance of e-commerce in the Romanian and European marketplaces, this paper examines the major social, behavioural, educational and financial barriers perceived by the Romanian consumers regarding online shopping.

2. Definition and perspectives on e-commerce

E-commerce involves the use of the Internet and mobile applications for digitally enabled commercial transactions between and among organizations and individuals. This does not include only online shopping, but also other types of business activities conducted on the Internet that involve the exchange of value in return for products or services (Laudon and Traver, 2017).

The Internet created new global digital markets, where prices are more transparent and the trading process is more efficient. According to Laudon and Traver (2017), there is a working distinction between the concepts of e-commerce and e-business, as each refers to a different business phenomenon. In contrast to e-commerce, e-business refers to the digital processes and informational transactions within a company, using the information infrastructure controlled and managed by that company, without any value-based exchanges to the outside environment. Although both e-commerce and e-business are using the same infrastructure to operate within a company, they serve different functions, the latter being mainly used as a

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foundation to e-commerce, up to the point where an exchange of value occurs outside the organization.

There are several types of e-commerce categorized by the nature of the transactional relationship: who is the seller, who is the buyer and what is the dynamic of the value created by the transaction (as shown in Figure 1). The most important types of e-commerce transactions are:

- Business to consumer (B2C) - refers to transactions of goods, services and online content from companies to individual consumers. Authors like Laudon and Traver (2017) believe that B2C e-commerce started to grow exponentially from 2015 and will continue this trend in the next couple of years.
- Business to business (B2B) - describe the transactions taking place between and among companies. This is the largest form of e-commerce and still has significant growth potential (Laudon and Traver, 2017). According to Turban et al. (2018), 85% of the total worldwide e-commerce volume is now business to business.
- Consumer to consumer (C2C) acts as an intermediary, providing a way for the consumers to sell and buy products and services to and from each other, through web-based and mobile platforms.
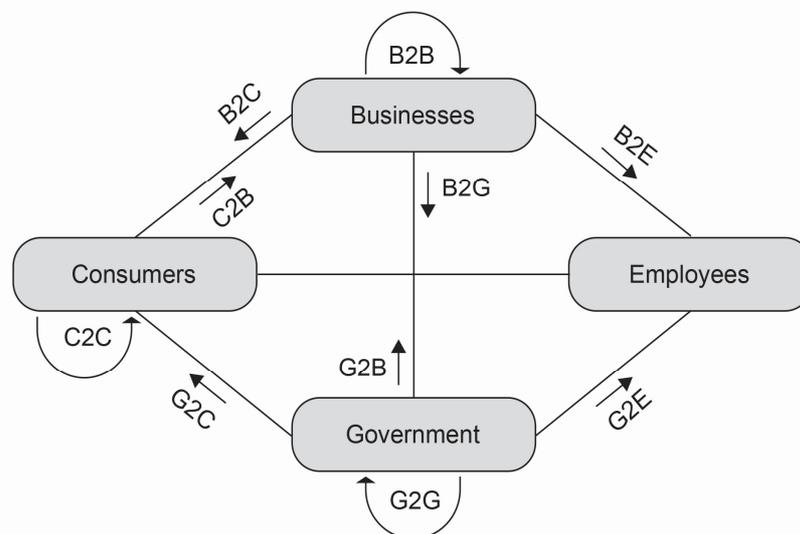

Figure 1: Categories of transactions in e-commerce
Source: Turban et al. (2018), p. 11

This paper will analyse only the business to consumer (B2C) component of e-commerce. The mechanism of B2C e-commerce includes a wide range of elements that facilitate the interaction between the seller and the buyer, in all the stages of the transaction: a search engine or product catalogue to facilitate finding the

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products or services, an online shop or platform with an electronic shopping cart, customer service, a payment processor and a method to physically or digitally deliver the products or services sold to the consumers. Advertising and promotions have an important role in e-commerce as a means to find and convince consumers to buy (Chaffey, 2009).

Social commerce is a form of e-commerce enabled by the social media that has grown in popularity over the years, allowing the social networks to integrate e-commerce tools like buy buttons, shopping tabs, virtual shops, social search and recommendations or sharing the approval or disapproval of third party products, services, and content (Laudon and Traver, 2017).

The development of smartphones and mobile data connections determined a wider scale adoption of mobile commerce, that involves the use of a smartphone or tablet to purchase products or services or access online content. Factors like the increasing amount of time that consumers spend using mobile devices, larger smartphone screen sizes and better e-commerce platforms optimization for mobile devices determine a substantial growth of mobile commerce (Laudon and Traver, 2017), offering new opportunities for online businesses to expand in the future.

3. The consumers' perspective on barriers to e-commerce in Romania

The e-commerce sector in Romania exceeded a threshold of 4.3 billion euros at the end of 2019. This figure represents only the tangible (physical) products that were bought online. Intangible products like services, plane tickets, hotel reservations, events, software or downloadable content, payment of utility bills and so on, are not included (GPeC, 2020). The Romanian e-commerce market increased by almost 22% in 2019 compared to the previous year. This double-digit growth rate shows that the Romanian e-commerce market has not yet reached its maturity level. According to a Eurostat study regarding Internet purchases by individuals (2020), only 23% of the Romanians made at least one online purchase in 2019, compared to 63% of all the European Union citizens.

The GPeC 2019 Romanian E-Commerce Report reveals that online shoppers visit, on average, 9 online stores per year, with a frequency of 3-4 times a week, while non-shoppers visit 5 online stores in 12 months, with a lower frequency of 1 time per week (GPeC, 2020). Therefore, online stores are visited often even by those who have not yet engaged in e-commerce transactions.

3.1. Social and behavioural barriers

For many people, shopping is perceived as a social activity, therefore the social interaction between the vendor and the customer is important. The limitation of personal social interactions is one of the major barriers to e-commerce adoption in Romania. According to Eurostat (2020), 43% of the Romanians haven't ordered goods or services over the internet in the last 12 months, because they prefer to shop in person, they like to see the product, loyalty to shops or force of habit, compared to only 18% of the EU citizens.

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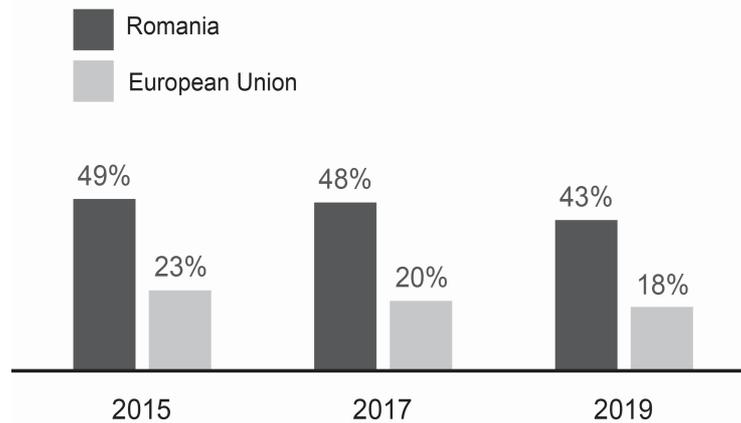
Figure 2: Individuals who, in the last 12 months, haven't ordered goods or services over the Internet, because they prefer to shop in person, they like to see the product, loyalty to shops or force of habit (% of all individuals).
Source: Eurostat, *Perceived Barriers to Buying/Ordering Over the Internet Database* (2020)

In 2015, almost half of the Romanian population didn't shop online due to the socio-cultural barriers like the need for human interaction, lack of trust, or force of habit, compared to 23% in the European Union. Two years later, in 2017, the figures have not changed much for the Romanian population. Only in 2019, the decreasing trend starts to be more noticeable.

The propensity for shopping in person and the desire to physically see the products before buying is represented by a lack of trust in the online vendors, in the payment systems, the delivery process, or all of the above. Trust is an essential component of the e-commerce environment. The geographical separation between the sellers and the buyers, along with no physical social interaction creates a barrier to wider e-commerce adoption. Moreover, the physical absence of the product that is being replaced with a virtual representation might affect the buyer's ability to fully visualize the product's features and characteristics.

According to Sanner (1997), there are three bases of trust: personality-based trust, knowledge-based trust and institution-based trust.

The first category, personality-based trust, is generally associated with the attributes of the person or to be trusted and it is highly influenced by cultural background and personality type. Some researchers believe that the propensity to trust is directly linked to trust in e-commerce (Chao-Jung, 2008). This is the case especially for new customers, who, in the absence of direct social interaction or previous experience with the vendor, have to rely on their socialized propensity to trust.

The second group of factors is related to the knowledge level of the other party, the seller, including familiarity with the online seller or product, brand, reputation, website quality and customer service.

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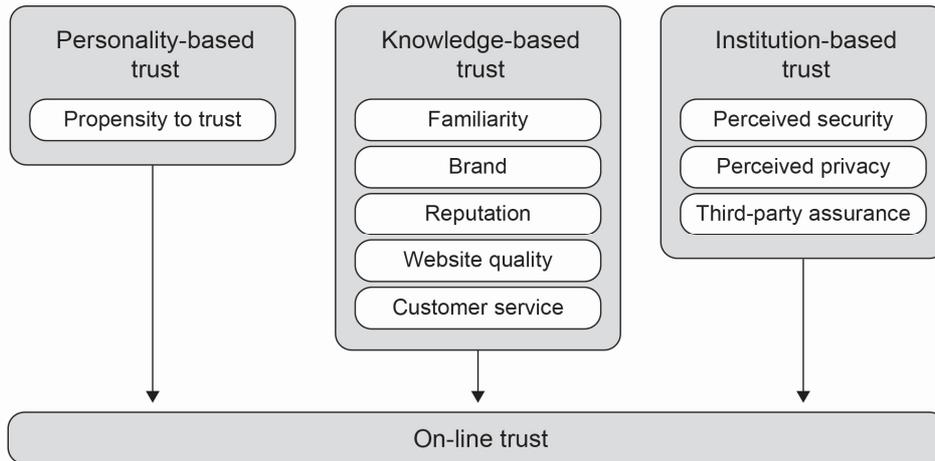
Figure 3: Factors in online trust.
Source: Chao-Jung (2008)

Familiarity with an online vendor reduces the uncertainty associated with the buying process through a good understanding of the functionalities, transactional flows and store policies. In many cases, in the absence of previous interactions, consumers do not trust an online store enough to engage in transactions that involve sharing personal information or making online payments (Hoffman et al., 1999).

Kotler et al. (2005) consider the brand to be a name, a symbol or design, or a combination of both which allows identifying the goods and services corresponding to a seller and differentiate them from those of the competitors. In e-commerce, brands increase consumers' trust in the products they cannot physically interact with and the buying process in terms of electronic payment and delivery, therefore decreasing the perceived risk associated with the purchase.

Reputation is defined as "the extent to which consumers believe a store is honest and concerned about its consumers" (Chao-Jung, 2008, p. 166). In e-commerce, a good reputation of a vendor implies a lower risk in conducting business, therefore influencing the buyer's trust towards that vendor. When consumers did not previously have any interaction with the vendor, hearing positive experiences from other buyers can help change their perception of risk.

The quality of a website is analysed in terms of content, information structure, ease of navigation and functionality (Chao-Jung, 2008). Good design along with relevant, useful and engaging information makes a website's content more appealing to the consumers. Structure and navigation refer to how the information is organized on a website and the method used for navigation through different pages or sections. The functionality includes more technical aspects of a website, such as search algorithms, multi-platform responsiveness and generally the use of the latest technologies to increase the relevance for the intended audience. One of the major differences between traditional and electronic commerce is that the salesperson is

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often replaced by search algorithms, help buttons, rankings and reviews. A well-designed website can minimize or even cancel the need for a human salesperson, therefore increasing the consumer trust associated with that website.

According to Wagenheim and Reurink (1991), customer service represents the process oriented towards achieving users' expectations by executing actions that users require or expect in the proper time frame. In e-commerce, good customer service via digital channels can build the same trust as a traditional sales interaction if the consumer's issues and questions are addressed in a professional, timely manner.
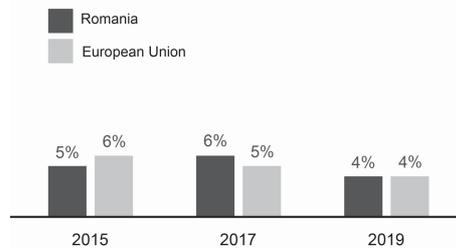

Figure 4: Individual who, in the last 12 months, haven't ordered goods or services over the Internet, because of trust concerns about receiving or returning goods, complaint/redress concerns (% of all individuals).
Source: Eurostat, *Perceived Barriers to Buying/Ordering Over the Internet Database* (2020)

Lack of knowledge-based trust regarding the online retailers in terms of concerns about receiving and returning goods and customer service represented in 2019 a barrier to e-commerce for almost 4% of both the Romanian and European Union population, according to the Eurostat (2020).

The institutional-based trust issues focus on consumer's beliefs about impersonal situations and favourable conditions that allow them to feel safe and comfortable during online transactions (McKnight et al., 1998). Many online trust-building strategies are based on using trustworthy third-party intermediary entities in assuring the buyers that the transaction is safe.

It is widely recognized that security is one of the major obstacles to the adoption of e-commerce (Furnell and Karweni, 1999). Perceived security in e-commerce is the consumers' perception of the degree of protection against cyber threats like the theft of credit card information or unauthorized access to personal data. Perception about the risk involved in an electronic transaction is inversely proportional to the consumers' trust in an online store.

In 2019 only 3% of the Romanians did not engage in e-commerce transactions because of payment security concerns, compared to 6% of the Europeans.

Privacy is an important concern in e-commerce and involves the protection of personal information disclosed by the consumer during a digital transaction. Therefore, perceived privacy is the extent to which the consumers believe their personal information is protected from malevolent threats and not disclosed to other

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parties without their consent. Starting with May 2018, a new set of regulations in EU law on data protection and privacy were adopted, addressing the rules of collecting and transferring the personal data of the consumers within and outside the European Union (General Data Protection Regulation 2016/679).
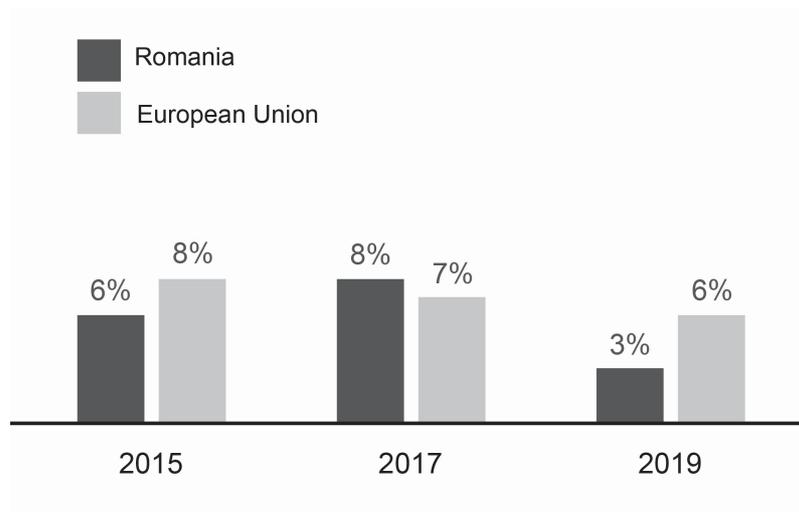

Figure 5: Individual who, in the last 12 months, haven't bought/ordered goods or services over the Internet for their own private use, because of payment security concerns (% of all individuals).
Source: Eurostat, *Perceived Barriers to Buying/Ordering Over the Internet Database* (2020)

Third-party assurance underlines the important role of certified intermediary mechanisms like secured payment processors or digital signature providers to create trust between the online vendors and the consumers. According to Chao-Jung (2008), the independent nature of third-party certification has been adopted by the e-commerce industry to help buyers feel more trusting when engaging in business transactions online by protecting their personal data and reducing the perceived risks.

3.2. Educational barriers
The educational barriers to e-commerce adoption in Romania became less significant along with the widespread expansion of cheap, high-speed Internet connections and mobile computing devices. In 2019, even thou 84% of the total households in Romania had access to the Internet in 2019, only 23% of the individuals made at least one online purchase in the last 12 months, compared to 63% of the European Union citizens, according to Eurostat (2020).

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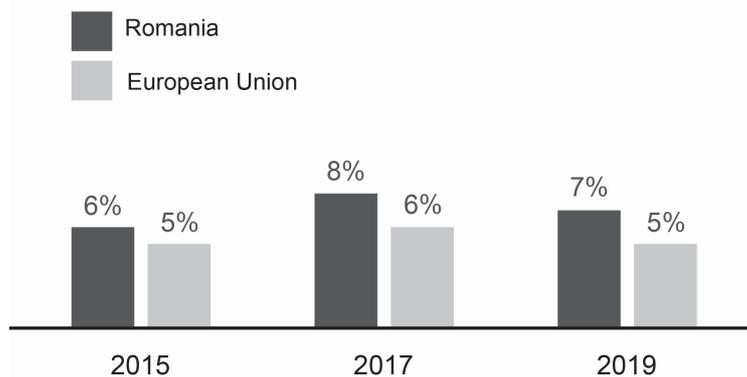
Figure 6: Individual who, in the last 12 months, haven't ordered goods or services over the Internet, because they lack the necessary skills (% of all individuals). Source: Eurostat, *Perceived Barriers to Buying/Ordering Over the Internet Database* (2020)

The lack of ICT (Information, communication, technology) skills represents another barrier in e-commerce adoption in Romania. A study on perceived barriers to buying over the Internet (Eurostat, 2020) shows that 7% of the Romanian individuals failed to engage in e-commerce transactions in the last 12 months due to a lack of necessary skills. In this case, digital skills refer to the user's ability to access the Internet, search for the relevant information, understand the functionalities of an online store and use digital communication tools like e-mail or instant messaging systems to connect with the store if necessary.

3.3. Financial barriers

At the end of 2019, the total number of active payment cards in Romania was around 14.26 million, representing almost 73.5% of the total population, according to the Payment Statistics provided by the National Bank of Romania (2020). Possessing a payment card is not a mandatory condition to shop-online as long as the majority of online stores accept cash on delivery as a payment method. Services and other intangible goods like downloadable software or digital subscriptions are only accessible via online payment.

The favourite payment method for Romanians in e-commerce is cash on delivery. PayU, one of the main payment processors, estimates that almost 20% of the online orders in Romania are paid via online payment, while the rest of 80% are paid cash on delivery (GPeC, 2019). Not possessing a payment card is considered a barrier to e-commerce for 5% of the Romanians who did not order any goods or services over the Internet in the last 12 months (Eurostat, 2020).

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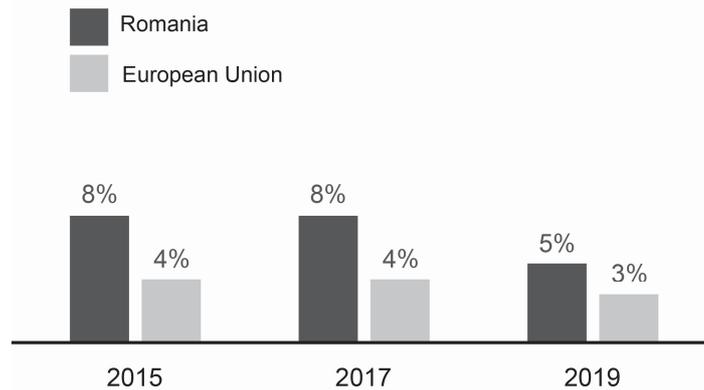
Figure 7: Individual who, in the last 12 months, haven't ordered goods or services over the Internet, because they don't have a payment card (% of all individuals). Source: Eurostat, *Perceived Barriers to Buying/Ordering Over the Internet Database* (2020)

4. Conclusions

The most important barriers to e-commerce adoption in Romania are related to the consumers' trust, risk-aversion, education and access to electronic payment methods. From a managerial perspective, e-commerce companies need to understand the consumers' limitations and the perceived barriers to purchase to adapt their business models and help them overcome these barriers. For example, a flexible return policy along with a consumer review message board could enhance trust and substitute the need to physically see the products by shopping in person. Perceived risk regarding the online payment security can be reduced by utilizing a certified and secure third-party payment processor, thus assuring the customer that no unauthorized person will have access to any personal data or card number. Lack of ICT skills is yet another barrier to e-commerce adoption in Romania that can be addressed by using human or artificial intelligence customer service that will guide the buyer through each step of the buying process.

Romanian e-commerce market grew constantly over the last years, with an average rate of around 30% per year, in the last 3 years (GPeC, 2020). Considering that the number of people expressing concerns about engaging in e-commerce activities has been on a steady downward trend, it is expected that the Romanian e-commerce market will continue to grow in the following years and adapt to the latest international trends and technologies.

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