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BUSINESS CHARACTERISTICS, TAX ADMINISTRATION AND TAX COMPLIANCE BY SMES IN NIGERIA

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Abstract: *This study evaluates the relative impacts of tax administration and business characteristics on the tax compliance behaviour of small scale businesses in Nigeria. The role of tax education as an effective tax administration strategy is also considered. Results show that tax education stimulates small businesses tax compliance behaviour, a result that is robust for both business taxes and personal taxes. It is also found that overall tax administration system in Nigeria does not have significant impact on tax compliance among small businesses in Nigeria due to inefficiencies and corruption in the system. Business ownership structure, registration status, and management qualification/experience are all found to promote tax compliance by small businesses in Nigeria.*

Keywords: Tax education, tax efficiency, Tax compliance, SMEs

JEL Classification: H21, H25, L53

1. Introduction

Mobilization of tax revenue has become a crucial economic and policy objective of government at all levels in Nigeria in recent years. In the same vein, the challenge of tax evasion and attendant revenue losses are real at both national and state levels. Evasion has been known to be strengthened by non-compliance to tax laws, ease of going underground by businesses and institutional or administrative weaknesses in the tax system. To weather these challenges, the public sector in Nigeria focused on indirect taxation as the main source of tax revenue. It has however been argued that the high dependence of the tax system on indirect taxes tends to weaken fiscal applications for an economy like Nigeria (Baunsgaard and Keen, 2005). Increasing direct tax revenue largely depends on government's ability and efficiency in tax collection. In doing this, governments can do little, especially in the short run, to change the structural basis of the tax revenue. It can however alter other factors that influence tax revenue, such as economic policies that affect businesses, strengthening institutions, and improving the quality of tax administration.

In the past two decades, business and personal taxation has received more attention in terms of tax obligations in Nigeria, especially at the state and local government levels. To meet such obligations, the small and medium scale enterprises (SMEs) have faced the biggest struggles in Nigeria (Atawodi & Ojeka, 2012). There is often a dilemma for the government between allowing small businesses to develop and the collection of taxes. The case for providing tax preferences to SMEs is often based on the role of SMEs in the economy, particularly in terms of their contribution to employment, job creation and innovation. The challenges that arise therefore include the issues of tax base definition and clarification in Nigeria, tax education, and the administration of tax structure in Nigeria. Apparently, the highlighted issues involve efficiency of tax administration as well adequate analysis of who the tax payers are. This is useful when the internal revenue board seek to

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mobilize taxpayers' awareness regarding tax matters as well targeting the highly informal groups of taxpayers that are in the SME sector in the country.

This study considers the relative importance of tax administration and SME business characteristics as driving factors of tax compliance in Nigeria. These are particular areas that have not received much research attention on the research on tax compliance in Nigeria. Specifically, it evaluates how tax compliance by small businesses in Nigeria is influenced by the business characteristics and the tax administration system in Nigeria. To meet these objectives, the study is divided into four sections including the introduction. The methodology employed in the study is presented in section three while the empirical analysis is performed in the fourth section. Concluding remarks are made in the final section.

2. Brief Literature Review

The factors that explain the desire of tax payers to comply with the provisions of the tax system have been considered extensively in literature, including psychological, legal, economic, and environmental. In a popular study on broad factors that explain tax compliance, Wentworth and Rickel (1985) argued that psychological factors are important in determining whether an individual evades a tax system or not. In particular, their study found that an "individual's feelings of equity and sense of norm commitment" actually has more impact on desire for tax compliance than the effects of sanctions and legal actions. Recent findings also appear to support this early study on compliance. Djawadi and Fahr (2013) employed controlled experimentation to investigate the impact of citizens' trust in authorities on tax compliance. They found that tax compliance is higher when trust is built between the taxpayers and authorities through transparency on public expenditures participation in expenditure processes. The power of tax authorities was shown to be of little effect as long as trust is in place. Thus, according to this line of research, tax compliance is essentially to be evaluated from the perspective of the tax-payers' disposition (Mettler, 2011; Lamberton, De Neve & Norton, 2014; Jimenez & Iyer, 2016). In this study, the payers' perspective is taken into cognizance, although we focus on the business characteristic which can form a strong position from which the payers' psychological disposition is measured.

Other studies have considered the role of tax institutions, administrative capacities, and environment on the platform of 'enforcement or services paradigm' of tax compliance determinants (Alm, Cherry, Jones & McKee, 2010). The argument is that when the authorities provide effective leadership in the tax system, the tax payers are obliged to comply with the rules. Alm et al. (2010) find that a tax system fraught with uncertainties results in less compliance in tax filing and the reporting, and that more information from the tax agency tends to improve tax return filing in the US. For Cameroon, Akinboade (2015) found that high registration costs and time-consuming processes corruption perception in the tax system, excessive compliance hurdles, unstable administrative policies, and lack of willingness of tax personnel to provide timely and adequate information tend to promote tax non-compliance in the country. In this study, tax administration system in Nigeria is considered as also exerting effects on tax compliance by SMEs. Thus, this study extends the literature by combining the roles of psychological and authority-based factors in explaining tax compliance in Nigeria. Few studies have embarked on such combination effects (e.g. Sapiei, Kasipillai & Eze, 2015, for Malaysia).

3. Research Methodology

The principal method common to this aspect of research is empirical method with application of the survey research design. This method entails the use of quantitative, statistical or regression techniques in evaluating the research issues or problems. The study is based on micro level data from the World Bank Enterprise Survey data collected in Nigeria between

April 2014 and February 2015. The Enterprise Surveys (ES) is a World Bank project that collects objective data based on firms' experiences and enterprises' perception of the environment in which they operate. The Enterprise Surveys collect information from a representative sample of the non-agricultural formal private economy. In addition to collecting information on the business environment the surveys collect information on the characteristics of the firms interviewed. Consequently, the data collected provides a description of the representative private firm in the country and also an estimate of how some of the attributes of the average firm are distributed across the population of firms. For Nigeria, this project was expanded with increased geographic coverage during fieldwork. It began as a 9-state exercise and 10 more states were added for a total of 19 states.

3.1 Model Specification

The modelling in this study is based on the objectives of the study. Apparently, modeling enterprise tax compliance outcome will have to take an experimental procedure which is the focus in this section. The Causal effect of tax administration and business characteristics on individual business tax compliance can be empirically investigated by observing an agent i 's compliance capacity y_i and tax education t_i . Following de Grip and Sauermann (2012), the observed outcome can thus be written as:

$$y_i = y_i(t_i) = t_i \cdot y_i(1) + (1-t_i) \cdot y_i(0) \quad (1)$$

where $y_i(1)$ and $y_i(0)$ denote compliance in the treated (with effective tax administration) and untreated states, respectively. The randomised assignment of agents to the treatment and control groups ensures the independence of treatment status and potential outcomes. The average treatment effect, τ (the effect of tax administration) can be estimated by performing a linear regression of individual i 's tax compliance y_i on a treatment dummy t_i which is defined as being one in the with perceived positive tax administration, and zero otherwise:

$$y_i = \alpha_i + \gamma_k + \tau d_{it} + \beta X_i + u_i \quad (2)$$

where α_i are individual fixed effects to account for individual heterogeneity remaining despite the experimental design. X_i are covariates that are assumed to be independent from the treatment status d_i , such as business environment, and u is an idiosyncratic error term.

Given the objectives of the study, the covariates X_i include tax administration (*tax_admin*) and business characteristics (*bus_character*) variables. Since there are possible multicollinearity effects between tax administration and business characteristics effects in a single equation, two equations are specified to identify the effects of tax education, tax administration, and other business characteristics on tax compliance by small businesses in Nigeria. The equations are:

$$\begin{aligned} y_i &= \alpha_i + \gamma_k + \tau d_{it} + \beta tax_admin_i + u_i \\ y_i &= \alpha_i + \gamma_k + \tau d_{it} + \beta bus_character_i + u_i \end{aligned} \quad (3)$$

Equation (3.3) represents the effects of tax education and tax administration on tax compliance, while equation (3.4) shows the effects of business characteristics on tax compliance.

3.2 Variables in the model

Tax compliance. This shows the level of compliance of businesses to their tax obligations. In this study, tax compliance is captured by two items in the ES questionnaire

- i. Have you ever paid less in business taxes than you should?
- ii. Have you ever paid less in personal taxes than you should?

Tax education. In the study, tax education is measured by the level of awareness of the businesses on their tax obligations. It is measured by the ES questionnaire items that show number of visits of tax official to educate businesses on tax administration and obligations.

Tax administration. This represents the efficiency of tax system. It determines the ease with which individual business pay their tax obligation. An inefficient tax administration will hinder tax compliance. For this variable, certain items in the ES questionnaire that measure time spent demand of gift by tax officials and obstacles of tax system are used.

Business characteristics. These are the salient factors in the business that could influence its tax obligations. These include ownership patterns, number of employees, registration of business, etc.

3.3 Method of Analysis

A major issue arises from the estimation of the models in this study. The data is heterogenous, especially along individual firm lines. Hence, the simple OLS estimate of the relationships will yield biased results. It should be noted that the determination of the variables above is based on qualitative data obtained from the survey questionnaire. Following OECD (1994) and Greene (2004), the Maximum Likelihood econometric form of the model is written as:

$$\begin{aligned} Pr[COMPL_j = 1|X_j] &= \frac{1}{1 + \exp(-\alpha_0 - \beta_0 X_j)} \\ Pr[COMPL_j = 0|X_j] &= 1 - Pr[COMPL_j = 1|X_j] \\ &= \frac{\exp(-\alpha_0 - \beta_0 X_j)}{1 + \exp(-\alpha_0 - \beta_0 X_j)} \end{aligned}$$

where the X_j 's are the explanatory variables and α_0 and β_0 are unknown parameters to be estimated. According to Greene (2003), the *Logit* regression model is a type of regression analysis used for predicting the outcome of a binary dependent variable (a variable which can take only two possible outcomes, e.g. "yes" vs. "no" or "success" vs. "failure") based on one or more predictor variables. Logistic regression attempts to model the probability of a "yes/success" outcome using a linear function of the predictors. Specifically, the log-odds of success (the logit of the probability) is fit to the predictors using linear regression. Logistic regression is one type of discrete choice model, which in general predict categorical dependent variables — either binary or multi-way.

4. Empirical Analysis

4.1 The Data

The responses for the overall study are summarized for the SMEs in Nigeria based on overall firm characteristics and performance. The summary of the data in terms of firm characteristics reported in Table 1 shows that the average age of the surveyed firms for Nigeria is 15.9. Most of the businesses in the survey are largely owned by domestic participation and very few of the firms (1.9 percent) are owned by governments. This indicates that government participation in owning and running small manufacturing firms is quite low in Nigeria. In the survey also, 76.7 percent of the firms surveyed in Nigeria are sole proprietorship businesses. This is also reflected in the 95.2 percent proportion of the surveyed firms being owned by the largest owner. This result shows that most of the firms are privately owned and operated in Nigeria.

Table 1: Summary Statistics of Firm Characteristics

Indicator	Percentage
Age of the establishment (years)	15.9
Proportion of private domestic ownership in a firm (%)	70.7
Proportion of private foreign ownership in a firm (%)	3.1
Proportion of government/state ownership in a firm (%)	1.9
Proportion of a firm held by the largest owner(s) (%)	95.2
Percent of firms with legal status of publicly listed company	3.3
Percent of firms with legal status of privately held Limited Liability Company	3.1
Percent of firms with legal status of Sole Proprietorship	76.7
Percent of firms with legal status of Partnership	8.6
Percent of firms with legal status of Limited Partnership	5.5

Source: World Bank Enterprise Survey, 2014

We also consider the indicators on the tax compliance and tax administration based on the responses from the ES survey questionnaire. In Table 2, the response outcomes for some administrative issues on the tax system, as it affects the small scale enterprises, is presented. In the result, the bribery index, which is the proportion of gifts or informal payments made to officials during public transactions was 26.0 percent in 2014. The number of visits with tax officials for a particular tax transaction is also shown to be 2.34 on average in 2014. A very low proportion of the businesses chose tax administration or tax rate as the biggest obstacle to their operations. This reveals that tax system is not the most debilitating factor against small business development in Nigeria. However, 14.1 percent of the businesses identified tax administration as a major constraint to their businesses. This shows that though tax administration has improved, the tax system is still a major factor inhibiting business. This also shows that the ease of paying tax in Nigeria by small businesses has not improved. In terms of tax officials attitude, the Table shows that 25.9 percent of the businesses are expected to give gifts to tax officials over the course of their interactions. Apparently, tax officials make things difficult for the businesses to pay tax by increasing the cost through corruption.

Table 2: Tax Administration and Compliance Outcomes

Indicator	2007	2014
Bribery index (% of gift or informal payment requests during public transactions)	30.1	26.0
Number of permanent full-time workers	16.2	15.8
Number of visits or required meetings with tax officials	3.0	2.3
Percent of firms choosing tax administration as their biggest obstacle	0.3	1.6
Percent of firms choosing tax rates as their biggest obstacle	2.2	5.9
Percent of firms expected to give gifts in meetings with tax officials	22.9	25.9
Percent of firms expected to give gifts to public officials "to get things done"	40.9	55.3
Percent of firms identifying tax administration as a major constraint	13.7	14.1
Percent of firms identifying tax rates as a major constraint	20.9	18.5
Years of the top manager's experience working in the firm's sector	10.0	12.5

Source: World Bank Enterprise Survey, 2014

To further report the responses of the survey, certain items from the questionnaire are highlighted with their responses from the businesses in the survey. In Table 3, the responses on tax compliance on business taxes are shown. The respondents responded to the question on whether they had paid less in business taxes than they should before. Only 17.6 percent of the respondents agreed to have done this before, while 78.3 percent indicated that they have not paid less than the expected business taxes before. This reveals rather high level of tax compliance by businesses.

Table 3: Have you ever paid less in business taxes than you should have in this business?

	Freq.	Percent	Cum.
Don't know (spontaneous)	25	0.94	0.94
Does not apply	84	3.16	4.10
Yes	467	17.57	21.67
No	2,082	78.33	100.00
Total	2,658	100.00	

Source: World Bank Enterprise Survey, 2014

The level of education of top management in a business can influence the level of tax performance. In Table 4, the educational qualifications of managers in the businesses are reported. The highest proportion of the managers have either completed the secondary school (28.7 percent) or graduated from the university (27.3 percent). Also, 13 percent of the managers have some university training, thus making the managers well educated to be able to handle tax activities in the businesses quite well.

Table 4: What is the highest level of education of the Top Manager?

	Freq.	Percent
Don't Know	82	3.09
No Education	46	1.73
Primary School	121	4.56
Started but did not complete secondary	91	3.43
Secondary School	760	28.66
Vocational Training	297	11.20
Some university training	351	13.24
Graduate degree (BA, BSc etc.)	724	27.30
Masters of Business Administration (MBA)	127	4.79
Other post graduate degree (Ph.D, Masters)	53	2.00
Total	2,652	100.00

Source: World Bank Enterprise Survey, 2014

3.2 Regression Analysis

In this section, the results of the cross-sectional data estimates of the models specified in the previous Chapter are reported and analysed. The focus of the analysis is actually on the goodness of fit statistics as well as the coefficients' results which will help provide the basis for the tests of hypotheses in the study.

3.2.1 Effects of Tax Education, Administration and business characteristics on Business Tax Compliance

In this section, the results for business tax compliance are analysed. In the result in Table 5, the business characteristics factors that explain tax compliance are shown. The goodness of fit outcome of the results are quite impressive, with the Wald Chi-Square test probability less than 0.01. From the result, all the coefficients (apart from number of employees) passed the significance test at the 1 percent level. The results from the individual coefficient test shows that all the variables actually have significant impacts on the dependent variable. Thus, the proportion of business owned by the top manager has a positive and significant impact on tax compliance. The higher the proportion of the business that is owned by the top manager, the higher the level of tax compliance by the businesses. Thus, small businesses run by owners tend to comply more with their tax obligations in Nigeria.

Table 5: Regression results for Business Characteristics and Business Tax Compliance

Variable	Coef.	z-value	Prob
Proportion of Ownership	0.005	8.30	0.000
Registered	0.366	12.75	0.000
Manager experience	0.008	4.44	0.000
Manager qualification	.089	11.56	0.000
Manager ownership	.149	7.84	0.000
No of employees	-0.002	-3.59	0.002
Number of obs		763	
F(6, 757)		1924.1	
Wald test Prob > χ^2		0.0	

Source: World Bank Enterprise Survey, 2014

Registration also appears to matter for business tax compliance by the SMEs. From the result, the coefficient is positive and shows that businesses that are registered before starting activities tend to be more tax compliant. Manager experience and qualification also have significant positive impacts on business tax compliance. From the results, the more the experience of top manager or the higher the educational qualification, the more compliant such businesses will be. Only the number of employees has a significant negative impact on business tax compliance. This implies that the more the employees a small business has, the less compliant it tends to be in terms of business taxes. Apparently, small businesses that have more employees tend to report less in terms of tax obligations.

Still on taxes paid on businesses, Table 6 shows the estimation results of the impact of tax education and administration on tax compliance. In terms of individual tax education and administration factors on tax compliance, the results show that only the coefficients of time spent with tax officials and inspection of businesses for tax education coefficients are significant at the 5 and 1 percent levels respectively. The coefficients of the other variables failed the significance test at the 5 percent level. Only that of gifts given to tax officials passed the test at the 10 percent level.

Table 6: Tax Education, Tax Administration and Tax Business Compliance

	Coef.	z-value	Prob.
Time-spent	0.0011	2.48	0.013
Education inspection	1.759	32.5	0.000
Inspection frequency	0.001	0.27	0.787
Inspection gift	-0.049	-1.90	0.057
Obstacle - tax rate	0.007	0.45	0.653
Obstacle - tax admin	-0.014	-0.88	0.381
Obstacle - quality of tax	-0.014	-1.21	0.226
Number of obs	1287		
F(7, 1280)	4464.3		
Wald test $Prob > \chi^2$	0.0		

Source: World Bank Enterprise Survey, 2014

The results reveal that the time spent with tax officials in sorting out tax issues tends to improve tax compliance. Since this time spent with officials entail tax education, it shows that the more time spent on tax education and clarifications, the more compliant businesses tend to be with their tax obligations. Moreover, inspection of businesses by tax officials also provide education to the small businesses. This also tends to improve tax compliance by the businesses. This shows that tax education is a strong factor in promoting tax compliance by small businesses in Nigeria. For the tax administration factors, the results show that only corruption in terms of gifts requested by tax officials has slight negative impacts on tax compliance in Nigeria. Thus, the more gifts the businesses have to give to officials, the less compliant they become in their tax obligations. The obstacles posed by tax administration and quality of tax system both have negative effects on tax compliance, but these effects are rather negligible since their coefficients fail the significance test at the 10 percent levels.

4.2.2 Effects of Tax Education, Administration and business characteristics on Personal Tax Compliance

The behaviour of personal tax compliance in the face of tax education and other factors was examined in this section. In Table 7, the impact of business characteristics on personal tax compliance is shown. Like the previous results, the model possesses impressive goodness when the Wald test is considered. In particular, the results show that the coefficients of all the variables, except number of employees are significant at the 1 percent level. That of number of employees fail the significance test even at the 10 percent level, revealing that number of employees does not affect personal tax compliance of business tax owners. For the significant coefficients, the results show that all the business characteristics factors positively affect tax compliance. Thus, the more proportion of the business that the manager controls, the earlier the registration of the business or the higher the manager qualification and experience, the higher will be the tax compliance at the individual level.

Table 7: Personal Tax Compliance Model - I

Variable	Coef.	z-value	Prob
Proportion of Ownership	0.0043	7.36	0.000
Registered	0.414	13.97	0.000
Manager experience	0.009	4.40	0.000
Manager qualification	0.0789	9.86	0.000
Manager ownership	0.154	7.77	0.000
No of employees	-0.001	-0.58	0.560
Number of obs		728	
F(6, 722)		1784.6	
Wald test Prob > χ^2		0.0000	

Source: World Bank Enterprise Survey, 2014

Finally, the impact of tax education and administration on personal tax compliance is shown in Table 8. In the result, the tax education and administration factors that explain tax compliance are shown. The coefficients of inspection and education as well as that of gifts given to tax officials are significant while the other coefficients fail the test. The coefficient of education during inspection has a significant positive impact on personal tax compliance while that of gifts requested by tax officials has significant negative impact on tax compliance. These results are similar to those of the business tax model.

Table 8: Personal Tax Compliance-tax education and administration effects

Variable	Coef.	z-ratio	p-value
<i>Time-spent</i>	0.001	1.69	0.090
<i>Inspection</i>	1.831	73.58	0.000
<i>Inspection frequency</i>	-0.004	-1.75	0.081
<i>Inspection gift</i>	-0.016	-2.90	0.004
<i>Obstacle tax rate</i>	-0.019	-1.23	0.217
<i>Obstacle tax admin</i>	-0.011	-0.62	0.536
<i>Obstacle quality of tax</i>	-0.003	-0.28	0.780
Number of obs		1485	
F(7,1478)		4237.57	
Wald test Prob > χ^2		0.0	

Source: World Bank Enterprise Survey, 2014

4.2.3 Robustness Checks: *Heteroskedasticity test*

Another robustness test conducted for the models is the test of heteroskedasticity given that data used are cross-sectional. Woodridge (2004) has noted that such investigation gives direction on the appropriate estimation technique to be used in emotion. Apparently, a highly heteroskedastic set of observations may lose efficiency properties when estimated with the ubiquitous OLS technique. It should be noted that the Breusch-Pagan-Godfrey tests are used for the analysis. Only the F-value for the test results for each of the models in the study is reported in Table 9. The F-statistics for all the results (apart from that of the pooled data and regulators) all have probability values less than 5 percent. This means that the null hypotheses of no heteroskedasticity for each of the models is accepted. The non-significance of the test statistics indicates the presence of homoscedasticity in data series for each of the models. This again, confirms the robustness of the estimates from the models.

Table 9: Test of Heteroskedasticity Results

Model	F-statistic	Prob.
Business characteristics (business tax)	1.583	0.18
Business characteristics (personal tax)	1.355	0.26
Tax education and admin (business tax)	0.662	0.65
Tax education and admin (personal tax)	1.062	0.39

Source: World Bank Enterprise Survey, 2014

5. Conclusion and Recommendations

In this study, the relative outcomes of tax administration and business characteristics as determining factors of the compliance behaviour of the tax payment by small scale businesses in Nigeria is examined. The general outcome of the study reveals that effective tax administration that involves tax education has far-reaching positive effects on tax compliance. In particular, the results show that tax education stimulates small businesses tax compliance behaviour. This positive effect is robust for both business taxes and personal taxes. Indeed, awareness creation on the knowledge of tax fillings, sanction and penalties as well as simplified tax system tends to improve compliance in Nigeria. Also, it has been shown that overall tax administration system in Nigeria does not have significant impact on tax compliance among small businesses in Nigeria. Though tax administration and efficiency have improved, such improvement has not reflected in tax compliance by these businesses in Nigeria. Moreover, business characteristics were shown to have strong positive effects on tax compliance in Nigeria. Ownership structure, registration status and start-off as well as management qualification and experience are all factors that tend to promote tax compliance by businesses in Nigeria.

Tax issues constitute strong consideration for businesses in Nigeria, especially in the era of increased drive for more revenue by government. There is often a dilemma for the government in terms of allowing small businesses to grow and develop and the collection of taxes. Based on the findings of this study, it is recommended that government should consider the characteristic of noncompliant taxpayers, and therefore review current tax policies to build good relationships with taxpayers in seeking to improve general tax compliance level and reduce the compliance burden, especially on small businesses. Moreover, reducing the compliance burden of small business taxpayers may necessitate reducing complexity of the different tax laws or introducing the types of simplification measures discussed above. It also relates to ensuring that more formal regulations, such as the procedures regarding filing, record keeping requirements, procedures for appeal or payment delays, are not unnecessarily complex. An effective tax system for small businesses is a system in which policy, legislation, compliance strategies and taxpayer services are carefully aligned. Such a system is the most likely to reduce compliance burdens for these businesses, promote their compliance and lower costs for the tax administration.

The empirical analysis in this study limited tax administration to issues of corruption perception and ease of making tax obligations by the businesses. It is however clear that broad administrative policies and tax legislation are essential components of the tax system. This study has not considered these aspects, and they form veritable backgrounds for future studies using macro datasets.

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HOW MULTINATIONAL CORPORATIONS USE LOBBYING AND ADVOCACY TO MITIGATE POLITICAL RISKS

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Abstract: *In their international activities multinational corporations (MNCs) face various risks. Political risk is one of them. Expropriations, transfer and convertibility restrictions, breach of contracts, acts of terrorism, domestic political violence or other adverse regulatory changes and/or negative government action represent forms of political risks. Incorporating political risk in their risk management strategies becomes a necessity for MNCs in their search for profits and new markets. This article presents how MNCs use lobbying and advocacy as means to engage with governments and politicians in the country of origin (home country), in the country where a MNC has operations (host country) or at international level (by creating ties with international organisations) in order to mitigate political risks. The case of Repsol and its investment in Argentina is used to demonstrate the application of such tools. The article presents two limitations that might determine the success or failure of MNCs' lobbying and advocacy activities: governments' unpredictable views towards MNCs and reputational risks. The article has also identified a main difficulty in identifying and examining MNCs way of using lobbying and advocacy to engage with government officials and politicians. This difficulty comes from the informal character of such contacts which makes lobbying and advocacy almost impossible to identify.*

Keywords: political risk, multinational corporations, lobbying, advocacy, risk management.

JEL classification: F01, F21, F23.

1. Introduction

The survey carried out by World Bank on 750 executives of multinational corporations (MNCs) investing in developing countries, and released on 25 October 2017 as part of the Global Investment Competitiveness Report 2017–2018, found that more than three-quarters of MNCs identified some type of political risk in their investment projects in developing countries. A quarter of investors that did experience disruptions cancelled or withdrew their investment (World Bank, 2017).

Molano (2008, p.18) defines political risk as “*the broad spectrum of actions in the political and social environment which can influence a transnational actor's property rights, income or market*”. Political risks can take the form of expropriation or nationalisation, transfer and convertibility restrictions, breach of contracts, acts of terrorism, domestic political violence (e.g. the hostile actions of national forces, revolutions, civil war, and insurrection) or other adverse regulatory changes and/or negative government action. Although political risks can appear both in developed and developing countries, they are more relevant to MNCs operating in developing countries (Bremmer and Keat, 2009; McKellar, 2010).

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Under pressure to gain profits and enter new markets, the number of cases where MNCs withdraw their investment should be limited. According to the report of the Multilateral Investment Guarantee Agency (MIGA) on world investments and political risk in 2013, 44% of MNCs were using engagement with the government in the host country to mitigate political risks when investing in developing countries (MIGA, 2014). In its 2011 and 2012 World Investments and Political Risk reports, MIGA finds that informal risk mitigation through engagement with key political figures remains the most effective approach used by foreign investors to mitigate expropriation (MIGA, 2011).

Given the nature of political risks, using government relations, lobbying and strategic relationships with politicians are a number of tools available to MNCs to minimise political risks. Cultivating ties with government officials and politicians can provide useful communication channels and insights into the governments' behaviour.

Researchers and practitioners use various terms to describe the tools that MNCs use to liaise with government officials and politicians. Corporate lobbying, advocacy, commercial or business diplomacy, political engagement are only a few terms used to describe governments and politicians intervention in favour of MNCs. How MNCs liaise with government officials and politicians is not formalised in a process and it takes place usually in an informal way which is not visible most of the time to an outsider. Irrespective of the conceptualisation of those terms, this article aims to present the final result of those interventions in favour of MNCs: how engagement with governments and politicians from the host country, home country and international organisations can mitigate political risks. When engaging with governments and politicians, MNCs can involve in lobbying and advocacy activities. Although the line between lobbying and advocacy is often blurred, there are at least two differences between the two activities. In their lobbying activities MNCs can use an intermediary who is representing the interests of the company (Keillor, Wilkinson and Owens, 2005), while direct contacts are used in advocacy. Lobbying is used to achieve short-term, single objectives (Keillor, Boller and Ferrell, 1997), while advocacy involves long-term activities directed at relational goals (Keillor, Pettijohn and Bashaw, 2000; Keillor and Hult, 2004).

MNCs engage in lobbying and advocacy either to maximise their profits (Chao, Kaempfer and Lowenberg, 2003) or to minimise any potential or announced adverse actions against their activities, like nationalisation threats (Keillor, Wilkinson and Owens, 2005).

This article presents how MNCs use lobbying and advocacy as means to engage with governments and politicians in order to mitigate political risks. It examines how MNCs use lobbying and advocacy in their home and host country, and also at international level. The article includes related examples and the case of Repsol and its investment in Argentina is the most relevant given that home, host and international lobbying and advocacy were used. The article will also highlight the limitations of using each of those tools.

2. Lobbying and advocacy in MNCs' home country

Tarzi (2010) argues that home governments may support MNCs for a number of reasons like maintaining access to cheap resources and improvement of their balance of payments. MNCs can also extend the economic and political influence of States (Tully, 2012) thus benefitting of a special treatment and support of the home country. Lobbying the home government becomes a good asset for a MNC (Hadjikhani, Lee and Ghauri, 2008).

The home country can influence the business environment faced by its firms abroad (Luo, 2004; Rizopoulos and Sergakis, 2010; Desbordes, 2010). Good relationships between the home and the host country can reduce the exposure of MNCs to political risks and offer them a competitive advantage over their international competitors (Desbordes, 2010).

At the beginning of 2012 when rumours of a possible intervention of the Argentinean government in Repsol's subsidiary in Argentina, YPF, started to escalate on the market,

Repsol started an intensive lobbying campaign in its own country, Spain. Spain's King Juan Carlos intervened at the end of February 2012 between Repsol and the Argentinean government. After King's Juan Carlos discussion with President Fernández and the visit of Spanish Minister for Industry, José Manuel Soria, in Buenos Aires, Argentina and Spain agreed to form a working group aimed at sorting out the "differences" over YPF. According to the press, the Spanish diplomacy highlighted the strategically important role of Repsol for Spain (Johnson and Webber, 2012).

On 20 March 2012, José Manuel Soria, declared that Spain will support the interests of Repsol in front of the Argentinean government (Algañaraz, 2012). On 12 April 2012, he threatened with consequences to any actions from Argentina regarding Repsol. Spain's government has warned that any "hostile gestures" against Spanish companies doing business abroad would be seen by Madrid as an act of aggression (Romero and Schmall, 2012).

Research also shows that MNCs risk appetite depends also on the support of the home country. This is more evident with Chinese MNCs. In their research into how Chinese firms decide on how to place international investments, Ramasamy, Yeung and Laforet (2012) find that State-controlled Chinese firms are attracted to countries with significant natural resources and risky political environments. The authors argue that this is because Chinese State-owned companies rely heavily on the relationship between the Chinese government and the host country as the basis for their investment decisions. The risk of nationalization and non-repayment of contracts may be reduced if the investment is based on the support of the government of the home country as well as on political affiliations and links between China and other governments in developing countries. This gives Chinese companies an advantage over Western companies that are less interested in entering high-risk markets. O'Neill (2014) arrives at the same conclusion when studying the behaviour of State-owned Chinese companies operating in Kazakhstan.

3. Lobbying and advocacy in MNCs' host country

Host countries usually consider MNCs to be beneficial for local economies. From the host government's perspective, corporate operational efficiency accelerates economic development by using national resources more productively than they would otherwise be used, (Tully, 2012). Additionally, it can aid the local economy; moreover, governments may lack the financial resources to invest in large and costly projects. From the corporations' position, positive relationships with the government can help alleviate negative actions.

Personal relationships with well-connected persons, especially government officials, can be a great asset for a company (Bremmer and Keat, 2009). In this case, the host government can turn from a source of political risk into a potential ally for MNCs, especially when the host country's political environment is characterized by a precarious legal system. Keillor, Wilkinson and Owens (2005) find that lobbying in the host country appears to be of great importance when companies face risks such as import restrictions, expropriation, threats to nationalization, pressures to transfer investment, and local requirements on property rights. Moreover, personal contacts with government officials may reduce the MNCs risks from domestic political instability, such as civil war and other violent forms of conflict. Governments typically have more means of collecting information (such as direct access to national classified information) and identifying potential civil conflicts, which MNCs can benefit from. As McKellar (2010) recognizes, information is one of the ways government contacts can help companies. The relationship with various political actors allows MNCs to understand the political environment and behaviour of government officials (Keillor, Boller and Ferrell, 1997; Léonard, 2004) and provide early warnings about policy or government shifts towards foreign investors (McKellar, 2010; Accenture, 2012). For instance, the American company Chevron started an intensive lobbying campaign in 2012 after the new

government introduced a moratorium on shale gas operations (EPG, 2017). Lack of attention or ignorance of political stakeholders like governments may lead to severe conflicts, and eventually to financial losses (Holtbrügge, Berg and Puck, 2007).

MNCs have to also consider the relationship between the local authorities on the one hand and the central government authorities, on the other hand. In their study on the pressure exerted by the Chinese government on multinational corporations operating in China, Osland and Björkman (1998) recommend MNCs to work closely with local and provincial authorities as well as with central government officials to identify and manage potential differences in political agendas at central and local levels. Especially in large countries, MNCs can be exposed to the political power of the local authorities they need to interact with, which do not necessarily reflect the views of the central government. This is usually the case for foreign investors operating in Russia. In case of conflict with the local authorities, MNCs can put forward their case to the central government which might be more open to the grievances of the MNCs than the local government.

Each MNC's choice of methods to engage with political leaders is specific and depends on the MNC's bargaining power in relation to the host government and the firm's comparison of expected gains between various approaches (Luo, 2004; Barron, 2011). Luo (2004) recommends that MNCs should revise their choice of methods when political conditions and situations change.

Repsol' political risk management strategy included lobbying and engagement with the Argentinean government as a tool to mitigate its political risks in Argentina. According to the press, Repsol YPF had contributed to the 2003 electoral campaigns of both Carlos Menem and Néstor Kirchner with amounts up to USD 1 million (Mercado, 2012). It is important to mention that donations to political parties are not illegal in Argentina. They are requested by the political parties and carried out through foundations. The Argentinean Planning Minister, Julio de Vido, worked closely with Repsol's management (Forero, 2012). Roberto Barrata, the government representative on the YPF's board declared on 2 November 2011 that the Argentinean government was in complete agreement with the activities of the company (Johnson, 2012). Antonio Brufau, Repsol's president, often met with Argentinean top officials in the economic and energy sector (Forero, 2012).

4. International lobbying and advocacy

To minimise the risk of expropriation, MNCs can involve influential international parties in their foreign investment activities, including other governments (Hain, 2011). For that reason, Repsol and Spain relied on the support of the European Commission (Moffett and Turner, 2012). It was not the first case when the European Commission was ready to intervene in a conflict involving one European MNC and a foreign government. In April 2006, the EU Commissioner for Trade gave his support to the Finnish company Botnia in the conflict with Uruguay and Argentina (Joutsenvirta and Vaara, 2009). More recent, the European Commission warned the US authorities on their intention to impose duties of 300% on Bombardier's C Series jets. Though not a European based MNC, the potential measure against the Canadian Bombardier triggered concerns in the UK as the MNC has a plant that is critical to the Northern Ireland's economy. The issue is very sensitive for the UK government which needs to cope with a fragile alliance with the Northern Irish DUP party (Brunsden and Beattie, 2017).

At the beginning of April 2012, Olivier Bailly, spokesman for the European Commission, stated that Argentina should respect the "international engagements on the treatment and the protection of international investments on its territory". Bailly added that Argentina and Spain must forge a solution over YPF that does not "damage the working environment and economic relations between the European Union and Argentina" (Warren, Calatrava and Steinhauser, 2012).

5. Limitations

Using the tools presented in this article as part of political risk management strategy does not necessarily ensure a MNC's success in mitigating political risks. Firstly, governments can easily take action against MNCs despite them having developed good relationships in the past, or MNCs being supported by their home country or other international organization. Secondly, lobbying and advocacy can come with reputational risks which can affect the activity of MNCs.

5.1. Governments' unpredictable views towards MNCs

Governments in developing countries would more easily withdraw their support for MNCs than governments in developed countries (Rottig, 2016). Especially in natural-resource-dependent economies, governments are less sensitive to the reputational costs stemming from the deterioration of investors' perception of their business environment (Jensen and Johnston, 2011) and therefore more prone to extreme actions like nationalisations. This was the case of Repsol. The company used all three tools presented in this article to mitigate its political risks in Argentina. However, this did not prevent the nationalization of Repsol's subsidiary in Argentina, YPF, on 16 April 2012.

In spite of the significant support, Spain and the European Commission or the previous good relationship built with the Argentinian officials were not able to stop the nationalisation (Johnson, 2012). On 25 May 2012, the EU's Trade Commissioner Karel De Gucht denounced the aggressive and nationalistic behaviour of Argentina in nationalising Repsol (Doncel, 2012). One drawback in Repsol's strategy was that it was not able to find support from the US which disapproved of the company's operations in Cuba (Oppenheimer, 2012; El País, 2012).

Looking retrospectively, the lobbying campaign seemed the most appropriate option in the circumstances. As the head of government (President, Prime Minister, etc.) is the most likely person to be actively involved with an expropriation (MIGA, 2011), high level lobbying is the most suitable tactic to manage this risk. Moreover, the Kirchners' administration was always very careful with their relationship with Spain, as they saw it as access to the European Union (Van der Kooy, 2012). Also for that reason, the decision to disregard the repetitive warnings of Spain and the European Commission came unexpectedly and against Argentina's own interests.

In this case, the good relations cultivated with the Argentinean government did nothing to help Repsol (Wagner, 2012). Until November 2011, Repsol seemed to have a very good relationship with the government officials. It cannot be claimed that Repsol was a company lacking experience or resources in dealing with governments in high risk countries like Argentina. Repsol's president, Antonio Brufau, negotiated with Castro brothers in Cuba and Hugo Chavez in Argentina (Forero, 2012). It is clear that the political environment for Repsol changed in November 2011 with the discovery of the Vaca Muerta shale gas field. However, it is difficult to detect if Repsol has adjusted its engagement with the country's politicians according to the new political conditions, as scholars and practitioners recommend. If it proceeded with such a change, it was not successful.

5.2. Reputational risks

If local or central governments and politicians are involved in corruption or in any other activities that contribute to the proliferation of war crimes, genocide and crimes against humanity, MNCs' reputation can be significantly damaged.

Lobbying and advocacy are perceived as closely linked to the risk of corruption, as shown by Transparency International in its 2012 report on Europe's corruption risks. Very few companies are willing to reveal their contributions to election campaigns or spending on lobbying activities. To address the corruption risk, Transparency International recommends that businesses: 1. stop the use of donations to political parties, candidates and elected

officials as a means to gain personal or policy favours or buy access to politicians or civil servants; 2. disclose all political contributions (both domestic and international); 3. disclose publicly and regularly lobbyists' clients, issue areas, targets, techniques and financial information; 4. ensure corporate reporting by companies includes lobbying efforts, political activities and spending; and lastly, disclose any forms of political engagement, such as funding or support for civil society organisations, scientific research or public relations activities (Transparency International, 2012, p.50).

Tully (2012) highlights that foreign firms should avoid complicity with local or central governments and politicians in providing products, services, financial aid or any other form of support when there is a danger that they will contribute to the proliferation of war crimes, genocide and crimes against humanity. In September 1997, residents of several Myanmar villages filed a complaint against the Oil Company of California, (Unocal) and the parent company, under the provisions of the Alien Tort Claims Act. Unocal was accused of complicity in killing, torturing, using forced labour and destroying property by the military regime in Myanmar while securing the Yadana pipeline in which Unocal was a participant. Many other MNCs found themselves in similar situations.

6. Conclusions

Large budgets and reputations give MNCs multiple advantages in international business. Using access to governments and politicians in the home or host country or in international organisations, MNCs can use lobbying and advocacy to mitigate their political risks. Both home and host country have their own interests to support the activity of MNCs at a certain point in time, while international organisations have the power to incorporate individual disputes in a wider context. Our research shows that MNCs will use a combination of those tools and would escalate their efforts when risks increase, starting with the host country and continuing with the home country and international organisations (like it happened in the case of Repsol). Romanian officials have also been the target of MNCs' lobbying and advocacy (the case of Chevron). For European companies, it seems that the institutions of the European Union are the ones which are targeted, and amongst them, the European Commission.

The article also presents two limitations that might determine the success or failure of MNCs' lobbying and advocacy activities. The reaction of governments is sometimes unpredictable and can easily turn against MNCs. Repsol relied heavily on the support of Spain and the European Commission to put pressure on Argentina. Unexpectedly, the Argentinian government proved immune to such warnings, as many other governments in resource rich countries. Reputational risks that come with government officials and politicians' involvement in corruption or any other activities that contributes to the proliferation of war crimes genocide and crimes against humanity can also affect MNCs' international activity, as in the case of Unocal.

The article has identified a main difficulty in identifying and examining MNCs way of using lobby and advocacy to engage with government officials and politicians. This difficulty comes from the informal character of those contacts which makes them almost impossible to identify. Public statements and media can only hint at potential contacts between MNCs and government officials and politicians. Because of the lack of observable data, qualitative research is better used to demonstrate how MNCs use lobby and advocacy to mitigate their political risks, like in the case of Repsol. There is only a limited amount of research available that puts forward quantitative analysis on the effectiveness of lobbying and advocacy in international business. For instance Gertz (2017) uses temporary vacancies in the position of U.S. ambassador in American embassies abroad as a novel indicator to measure access to commercial diplomacy. The conclusions of this article highlight that future directions of research should work on identifying new indicators to commensurate the MNCs

effectiveness of using lobby and advocacy as a way to engage with government officials and politicians to mitigate their political risks.

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FESTIVALS AS CULTURAL ACTIVITIES – COMBINATIONS OF ECONOMIC AND SOCIAL BENEFITS

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Abstract: *In the latest years, academics have talked more and more about the creative economy, as a cause of a different classification and division of the economic activities, including in its area all those activities which are based on the human resource, its talent and intellectual capital. The creativity seems to be a too special feature, having its own ways to flourish and to be exploited, so it has to be treated separately from the sectors of manufacture, industry or services. The Romanian culture is transmitted and exploited in various ways, starting with the commercialisation of handicrafts and ending with the organisation of events with artistic or symbolic expression. We will focus on the performing arts, organized as events for different communities. These events appear as leisure activities and have an important social feature because they have the attribute to develop the sense of identity, belonging to the group and social cohesion. These aspects are crucial for the development of a creative habitat or cultural center. The festivals attract people for different reasons; some of them are looking for an environment where to socialise, others come being interested exactly in enjoying the event or the specific goods and services which are offered there. Another type of the festival consumers is represented by the ones who only look for something new to experiment, exploring the unknown, this segment not representing loyal customers, but whatever the reason are, each participant comes for the emotional stimulation offered by the enjoyment of the festival.*

Keywords: creative economy, cultural economy, cultural activities, festivals.

JEL classification: D12; H42; J24.

1. Cultural economy

The concept of creative economy can be understood by approaching its cultural and creative sectors; the literature defines these sectors as "all sectors whose activities are based on cultural values and / or artistic expressions and other creative expressions, regardless of the type of structure carrying them out and the way the structure is financed. These activities include the development, creation, production, dissemination and preservation of goods and services representing cultural, artistic or other creative expressions (...). The cultural and creative sectors include architecture, archives, libraries and museums, artistic crafts, audio-visual (including cinema, television, video and multimedia games), material and immaterial cultural heritage, design, festivals, music, editing, radio and visual arts" (Croitoru, et al., 2016b).

Culture can be considered the long rider for development because it appears as the "recognition of diversity, the respect for otherness and the values of others are essential

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coordinates of the culture and they can beneficially propagate to other domains" (Croitoru, et al., 2016a). Through culture, the values of the commercialised goods and services are given by tradition, symbolism and artistic expression. Such markets are represented by the Christmas fairs, fairs of other celebrations, events or occasions, as specific festivals or local events.

Aiming to be more accurate about culture, we must mention that it comprises all "practices, goods and ideas that are classified under the generic term of arts (including literature, music, architecture and design, etc., as well as all products of all printed and electronic media), whether used for higher, educational, aesthetic or spiritual purposes, whether used for entertainment purposes. The culture also includes other symbolic products used mainly for leisure and for consumption which are not essential to subsistence (...) but the forms, styles, materials from which they are made, and all other characteristics are also a matter of culture" (Gans in Radu & Preoteasa, 2012).

Culture is part of the creative economy, and economy is in culture, culture being the drive of the ancient and the new, all in one, for development. Clyde Kluckhohn sees the culture as "a nation's complete way of life; the social inheritance that the individual acquires from his group; a way of thinking, feeling and believing; an abstraction of the behaviour; a shared learning deposit; a set of standardized guidelines towards some recurring problems; educated behaviour; a regulatory normative mechanism of behaviour; a set of adaptation techniques both, to the outside environment, and to other people, as well" (Croitoru, et al., 2016a).

Culture dictates numerous social practices and traditions of a group and it „represents the values of individuals, their own aesthetic and philosophical representations and, at a more collective level, all the way of understanding a people's identity" (ESSnet Report, 2012).

Also culture is considered both cause and effect of the economic development; as a cause of the economic development, the culture creates new jobs and generates incomes. On the other hand, as an effect, culture enhances people's expenditure on culture when the revenues are higher. Moreover, cultural activities are part of the essence of tourist destinations, as local cultural and heritage resources are made available for public through entrepreneurial actions, including cultural entrepreneurs (Badulescu and Badulescu, 2012; Badulescu et al, 2014). There is also a lifestyle entrepreneurial behaviours in the case of cultural entrepreneurs (Badulescu and Badulescu, 2014).

On the other hand, not everyone is so fascinated or optimistic about the creative and cultural economy, the more conservatives seeing the creative economy as transforming culture „into an overwhelmingly economic subject" (Schlesinger, 2016).

2. Cultural activities: the festivals

The economic activities included in the cultural economy are various, such as activities specific to the libraries and archives, cultural heritage, audiovisual, visual arts, performing arts and others more. In this paper, some of the performing arts represent our main interest, more exactly those cultural events organized in the form of festivals, events that are becoming more and more important, with particular impacts on marketing and cultural management at the local levels where these events are taking place. Festivals are regarded as events of "public celebration, their theme being attached to a certain symbolism providing emotional stimulation to the participants"(Croitoru, et al. 2016a).

The festivals represent cultural events concentrated in a period of time that "have their primary focus on the development, presentation and/or participation in the arts; have a programme conceived, produced, curated, marketed and presented as an integrated package; and which occur within a defined area/region and within a defined period of time" (Hunyadi et al., 2006).

Through these events, communities and human behaviors can be known by promoting social inclusion. Festivals are cultural celebration events that differ according to their purpose, consumers, number of participants, duration and place, but all meet the following criteria (Croitoru, et al. 2016a) in order to be called festivals:

- Their main objective is the development, exposition and participation of artistic content activities;
- Being conducted according to a well-defined and promoted schedule;
- Taking place in a well-defined and delimited location and time.

Due to their important role and increasing popularity, the number of entertainment institutions (theatres, philharmonics and symphonic orchestras etc.) has increased in the latest years, also in Romania. Indeed, while during 1990-2012 their number remained almost constant, with very short variations (from 144 in 1990 to 168 in 2012), in 2013 their number soared to 236, and their maintaining to 227 in 2016. In the same period, the number of shows and concerts has reported a constant trend, up to a total number of shows od 22,356 in 2016.

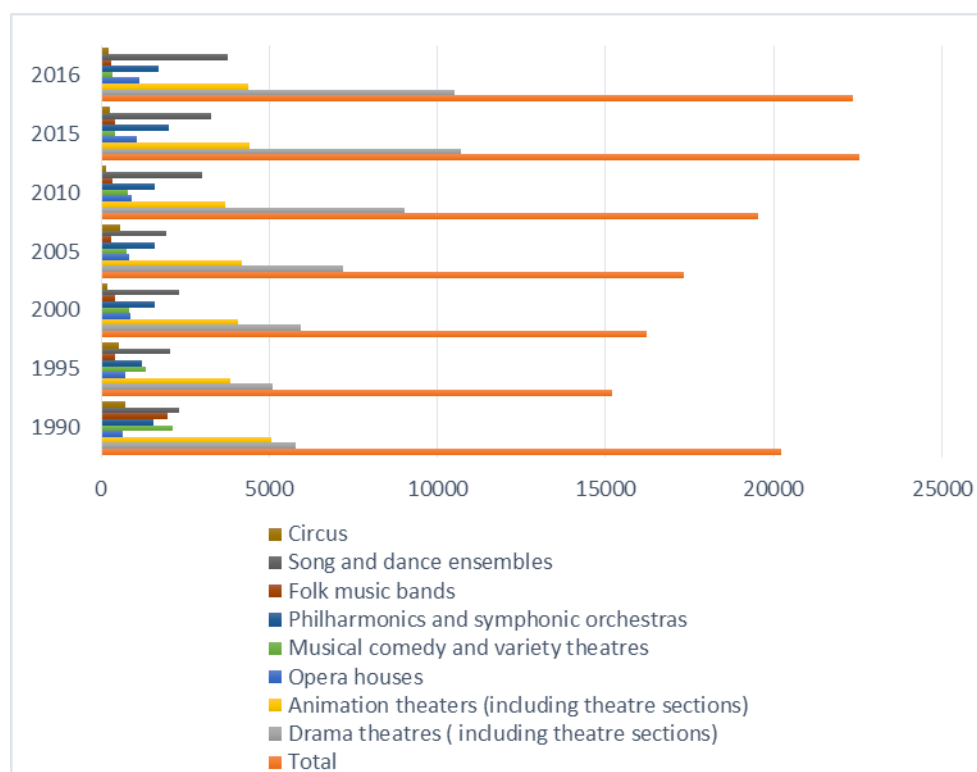


Figure 1: Number of entertainment institutions, by type, selected years

Source: own computations based on INSSE data, TEMPO_ART111B

The total audience in Romanian entertainment institutions (theatres, philharmonics and symphonic orchestras etc.) was in 2016 of 5,749,193 persons watching and listening a theatre play or concert (estimated based on tickets sold). From these, only 18 counties and of course Bucharest had an audience of more than 100,000, with Bucharest being from far the best rated. The list of the best performers regarding audience is presented below:

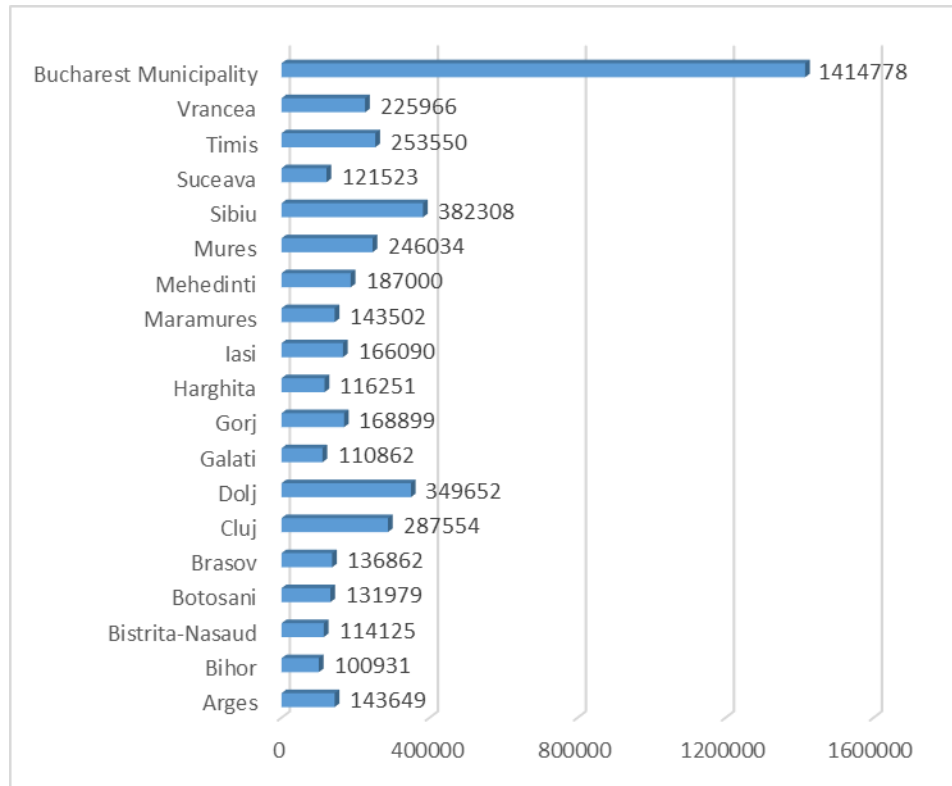


Figure 2: Audience in the entertainment institutions, by counties, 2016:
Source: own computations based on INSSE data, TEMPO_ART112A

As an economic manifestation, the festivals present interest due to the consumption they stimulate, this consumption taking over the sphere of cultural products and services. Of course, the festivals primary aim is to stimulate the cultural consumption; going to various music festivals leads to the purchase of musical products of the performing artists, all sorts of promotional items, for example T-shirts with the favourite artists, but also it leads to future participations at the same festival or similar others.

If we talk about folk music festivals or other certain theme, however, the range of products and services available enlarges from musical products to clothing, handicraft, food and drink, specific to the area and much more. Let's not forget the well-known international examples, such as Rio Carnival, Venice Carnival, Oktoberfest or St. Patrick's Day, festivals that have so far expanded their marketplace that their specific products are also sold outside the space and the specific period of the event.

3. Roles of the festivals

Thus, we can see three roles (Croitoru, et al. 2016a) played by festivals, namely cultural, economic, and last but not least, the social role.

The cultural roles comes in the form of "art celebrations and meeting places for the cultural and social elite" (Hunyadi et al., 2006 cited in Croitoru, et al., 2016a:252), but with a growing attraction for the masses, festivals representing places of collective experiences.

Also, festivals are favourable for artistic manifestations for which there is no infrastructure or the demand is generally too low. The festivals bring various opportunities for artists and their creations, managing to promote themselves, but also to get in touch with colleagues from

other countries or related fields, and to collaborate.

The economic role regards the consumption stimulated by the event; although most festivals require external financing, the revenues from selling tickets fail to cover the costs of organizing them, festivals are an economic success, as they make possible the sale of cultural goods and services in the first place, but also the sale of other types of goods and services demanded by the crowd of consumers attracted by the event.

Social role is highlighted by the effects of organizing such an event on the local people, effects such as local pride and attachment to the community (Hunyadi et al. in Croitoru, et al., 2016a). Moreover, from a social point of view, festivals offer opportunities for development by volunteering in organizing these events and chances for local and amateur artists to promote and make themselves noticed.

4. Festivals in Romania

The Romanian culture is transmitted and exploited in various forms, starting with the commercialization of crafts to the organization of concerts, performances and other events on the territory of other countries. The culture of Romania is vast and strongly rooted in some areas of the country, which implies the respect for a multitude of traditions that also have an economic approach. A good example is the organization of weddings, private events that hire artists to conduct various services - interpretation, dance, etc. - thus creating another market, in addition to that of public performances and events, representing additional sources of income for those artists. Aside from festivals, as a place to promote artists, as a market for various cultural goods and services and beyond, festivals are nevertheless created to bring benefits to the society, being a leisure activity.

Strictly from the point of view of the economic benefits of organizing a festival, besides the direct offer at a festival, we must take into account that the magnitude of the event can attract consumers from different areas to increase the consumption of services, such as accommodation and public alimentation in the area where the cultural event takes place. A representative example for Romania is the electronic music festival Untold held in 2015, 2016 and 2017 in Cluj-Napoca. We could say that the debut of Untold Festival is also evident in the figures of turnover presented in the following table, during the years 2010-2014 the turnover in this sector had a constant positive evolution, but from 2015 there was a high increase, as it can be seen.

Table 1: Turnover of the performing arts (million RON)

	2010	2011	2012	2013	2014	2015	2016
Performing arts	448 176 739	561 152 457	655 361 877	694 539 610	761 653 041	1 028 738 680	1 384 728 825

Source: designed by the authors using information from Borg Design

Beyond the general economic and social benefits of a festival, Untold assumed its social role through a method of promotion, namely through a blood donation campaign, offering free tickets for blood donors from Cluj-Napoca and Bucharest.

But Cluj-Napoca is also recognized due to another international festival, the Electric Castle Festival. Its first edition was held in 2013 and since then every year it was organized somewhere between June and July. This is also an electronic music festival, but a smaller one than Untold. Although the two festivals seem to be in competition, the two are two separate events and they work together to attract participants during the summer months, taking place with a sufficient pause between them in order to attract both participants.

Another important festival in Romania takes place, for example, in Timisoara, the PLAI

Festival, an event that proclaims to celebrate diversity and multiculturalism, being organized since 2006. PLAI is a music festival that also attracts singers from all corners of the world and various creative activities take place under the auspices of several non-profit organizations. This festival also has a quite important social dimension.

We can also remember Iasi as there are many fashion events, the Art East Festival of Iasi and the International Fashion Festival Kasta Morrely Fashion Week, just some festivals that outline Iasi as a fashion pole in Romania, but there are also festivals on other themes (music, film, culinary, literature, etc.).

There is even a festival of creative industries taking place in Bucharest; the Creative East festival aims to sustain creativity, create links between the creative class members, bringing together speakers, economic operators and sponsors in order to explore „how design, fashion, art and technology can shape our cities and boost the quality of our urban life. Keen on helping creative people reach their goals, Creative Est will be the ultimate destination for networking and inspiration, hosting workshops, interactive talks and showcases" (Creative Est, 2017).

Festivals are held all around the country, but the most favorable areas remain the large, developed cities with high potential in tourism and culture, such as Bucharest, Timisoara, Cluj-Napoca, Iasi, etc.

Figure 3 confirms the importance of these cities for organizing festivals; the capital is the main scene for these activities, but we notice that Timisoara is following Bucharest, then Cluj-Napoca, Brasov, Pitesti, Sibiu and Constanta. There are other areas of interest, but there is also an interesting area linking the capital with Braşov, Ploieşti and Prahova Valley.

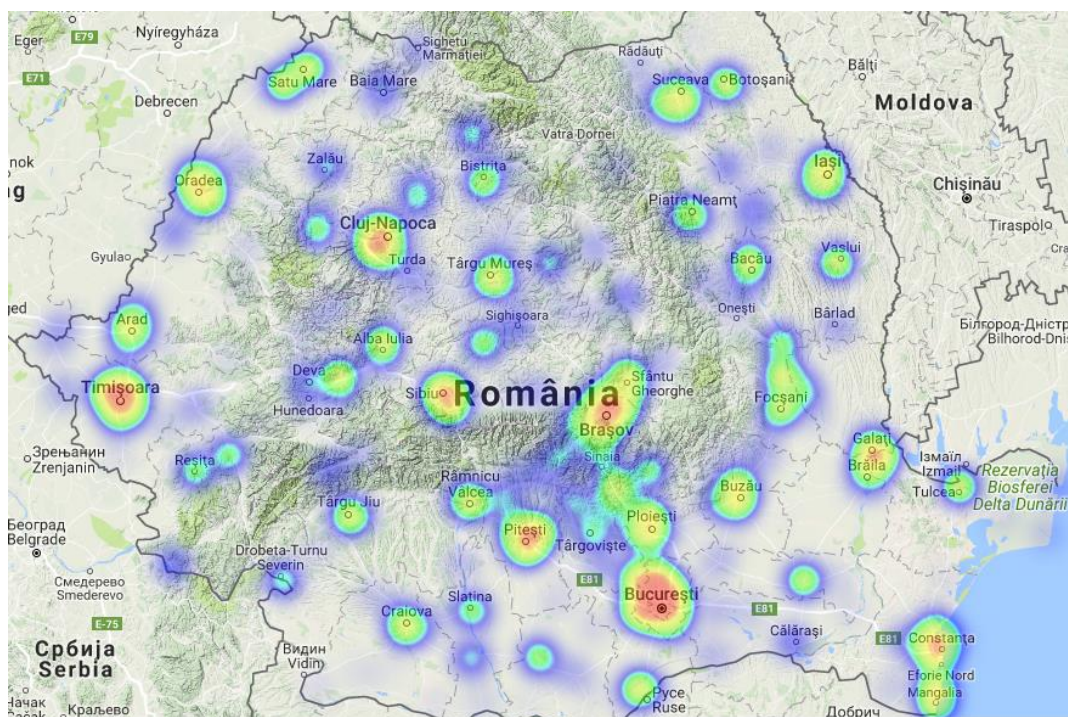


Figure 3. Turnover of the performing Arts (2016)

Source:

Borg

Design

from

<https://www.listafirme.ro/heatmap.asp?tip=cifra&contrast=50#heatmapArea>

A study conducted in Romania by the National Institute for Cultural Research and Formation (Croitoru et al., 2016), regarding the cultural consumption of the population in 2015, highlighted some preferences in the matter of festivals. The conclusion was that the most attractive festivals were those with free access, organised as local celebrations. The results of the study are presented in Figure 4.

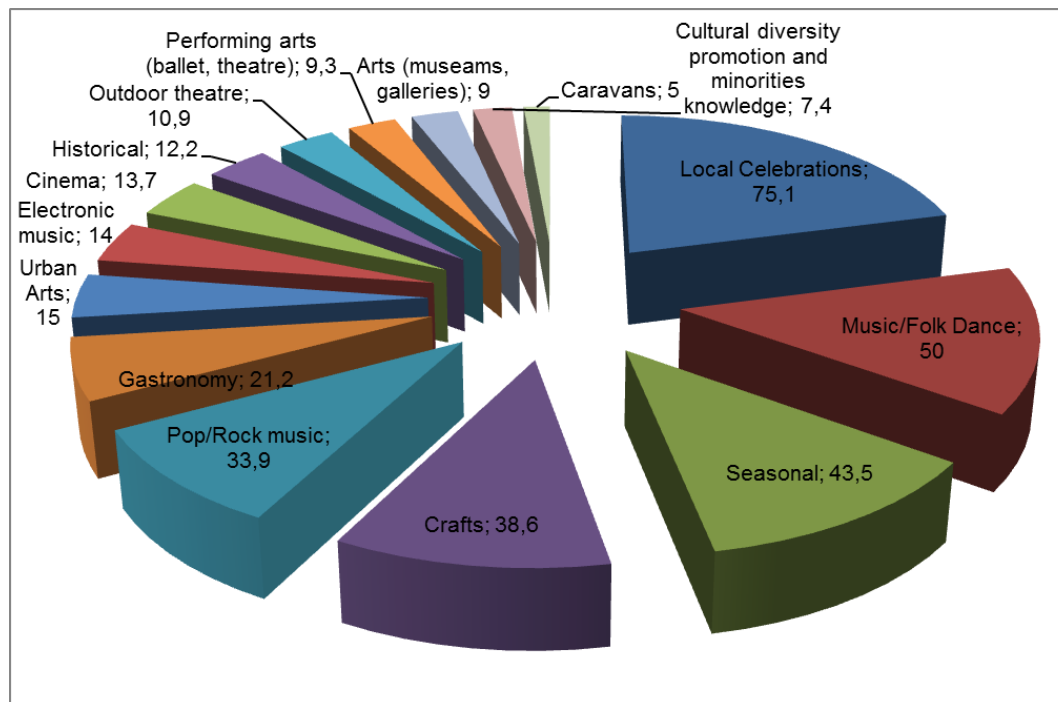


Figure 4: Festival attendance of the population of Romania in 2015

Source: realised by the author based on information from Croitoru, et al., 2016. Barometrul de consum cultural 2015. Preferințe, practici și tendințe.

Analysing the values, we can notice that the local celebrations, such as beer's festival or wine's festival, are the most attractive, being followed by music and folk dance festival, and also the seasonal festival present a lot of interest for the public. Generally, the local celebrations, folk dance and seasonal festival are free access, being funded by the local authorities and several sponsors, so we can think that the free access increased the attractiveness of these events. After the price level to access these activities, there comes the idea of regularity of the event and the people's habits. These are pretty general festivals even if there is a particular theme, and that's another reason of their attractiveness.

Festivals attract people for different reasons; some are looking for an environment in which to socialize, usually with people who are close to them, others are looking exactly for the specifics of the organized event, while another type of spectators are the ones who just experience, explore the unknown, this segment not representing a faithful clientele.

Regarding strictly the economic benefits of organizing a festival, besides the specific goods and services offered directly to the participants, we must take into account that the magnitude of the event can attract persons from different areas and so, to increase the consumption of accommodation and restaurant services in the area where they come to attend to the cultural event.

5. In conclusion

Many times when the concept of the creative economy is discussed, there comes to light also the concept of cultural economy. The area of the cultural economy is smaller because it is part of the creative economy and what exactly we can say about it, according to Allen Scott, is that the “cultural economy comprises all those sectors in modern capitalism that cater to consumer demands for amusement, ornamentation, self-affirmation, social display and so on” (UNESCO, 2013).

Long time ago, the culture framed the high society, and nowadays, the social and economic developed countries. Apart of all these social aspects of the culture, culture through its specific activities, carrying artistic and symbolic expressiveness, produces some important economic effects, such as creating new jobs and generating incomes.

Considering the festivals, as opportunities to promote artists, also as a market for various cultural goods and services, and not only cultural, festivals are nevertheless created to bring a benefit to society, being a leisure activity. On the other hand, festivals offer rare, perhaps even unique experiences, and also they make accessible different goods and services that would not normally be available at prices that are too high, this being possible because of the joint efforts of various public and private entities.

Analysing the Romanian festival attendance, it seems that celebrations and local events attract the most participants, primarily due to their free access and also due to their regularity and the habit of the participants. Following these types of events, folk music and seasonal festivals such as the beer festival, wine, etc. are following in the populations' preferences.

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RESTRUCTURING OF LOANS – NECESSITY AND EFFECTS IN ROMANIAN BANKING ACTIVITY

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Abstract

Banks will use specific tools to develop and compare alternative scenarios to determine what the opportunities to restructure a loan are, and to identify the most appropriate bargaining levers. Restructuring activity involves early identification of the problem and empowering teams consisting of bank specialists to solve the magnitude of the existing intervention. After analysing the unfavourable situation of the customer they perform the necessary steps to implement and monitor the restructuring solution. Also, banks are following and evaluating the risks associated with the restructuring of loans to cover up or avoid the occurrence of effects that will degrade the good functioning of things. Customers should be informed about the restructuring process to see what kind of measures can be taken to improve their financial situation. They can solve their financial difficulties by changing the monthly payments and their business activities. The issues that affect the customers are the increased payment amounts and the time when those payments have to be made. In case of insolvency, the banks resort to the judicial reorganization of the clients' activity, in order to avoid enforcement or bankruptcy of the company, which will create negative repercussions on the functioning of the bank's financial system but also on the image created by this. This paper aims to analyse the implications of the restructuring of loans for banks and customers. The analysis has been conducted by using an econometric study based on annual data of banks active in Romania.

Keywords: restructuring procedure, judicial reorganization, performance, insolvency

JEL Classification: D81, E43, G21

1. Introduction

Restructuring is an ample process being carried out by a bank if a private or public company is faced with cash flow problems, a process that involves debt renegotiation in order to restore liquidity.

When we talk about associated costs of restructuring a credit, we are taking into consideration the time and effort needed to negotiate with creditors (banks), suppliers and tax authorities. Also, restructuring involves either lowering overdue rates and extending payment periods, or reducing credit-related costs.

Currently, under the influence of the economic situation in Romania, banks evaluate the behaviour and activity of the customers regarding the restructuring (the economic and financial situation is analysed and also, the level of arrears accumulated by them). The Bank also evaluates and analyses the customers' ability to pay, taking into account their ongoing contracts and the cash flow level, and reports on market developments and business areas in which customers operate.

In the case of restructuring, borrowers are required to prove the fortuitous revenue reduction from the initial moment when the credit was contracted and to present to the bank the

causes that led to the emergence of those difficulties that prevent them from repaying the loan.

Restructuring can also be applied to non-performing loans, which are recovered by starting existing court procedures. This can have an impediment on the value of the collateral. This type of loan can be solved by implementing the restructuring process, in which case the borrower must fulfil the conditions imposed by the bank's lending policy or by restructuring the credit under the control of the bailiff or the bank executor.

Restructuring is an essential step in using relaxation reimbursement schemes, a relationship that involves transparency and honesty between the two parties in a credit agreement.

2. Primary Considerations of Restructuring

The restructuring is based on a number of considerations, including: evaluating the financial behaviour of the client and his collaboration with the bank, the client's compliance with the term of the ongoing credit agreements, analysing the client's annual financial statements, adjusting the cash flow by correlating with market evolutions and trends followed by the company's field of activity, framing with the eligibility criteria imposed by the bank, the customer's ability to respect the repayment schedule and identifying its ability to recover payments recorded over a period of time. Furthermore, banks are focused on the most profitable activities, avoiding high-risk lending conditions. (Busuioc Witowski, 2012)

In order to implement the loan restructuring, the bank has the obligation to identify those customers who face difficulties in the business, establish the adequate solutions for the restructuring, analyse the financial situation of the client and finally approve the restructuring.

2.1. Restructuring – Alternative or Necessity for Bank Customers

Restructuring in essence is a multitude of operations designed to support customers in overcoming certain financial difficulties that they encounter during the course of the credit agreements related to the activity. In order to better understand this process, it is being analysed the problem in the first stage, which is why restructuring is being used (Bank for International Settlements, 1999), and we are talking about: a decrease in the borrower's income and his or her family, the occurrence of medical, partial or total disability issues of the borrower leading to a discontinuation of the previously performing business, change of company management and other issues affecting the regular repayment of the loan (exchange rate, high indebtedness etc.). In this context, the restructuring may provide for changes in the maturity date, interest rate or any contractual clauses contained in the contracts concluded by the banks with the clients. (Godîncă-Herlea, 2013)

The analysis performed by the bank is summed up on the revenue level at the time the loans are granted, their evolution during crediting, the current level of revenues and the changes in the real estate market for the buildings with which the contracted loan was guaranteed.

The second step in this process is the renegotiation of contracts. In this case, we talk about two possibilities: the customers' anticipation of an event that will affect the revenue generated by the activity or the detection of the already existing problem. Therefore, the client will contact the bank by arranging a meeting with one of the financial consultants, and then the financial problems of the company are reported. In the end the customer will complete the related documentation. Implementation of the restructuring decision is done by signing an Additional Act to the credit contract and in some cases to the mortgage contract. Also, the customer will make a restructuring request, which he addresses to the bank having as references: the factors that led to the problem, its evolution and the plans for future income. In addition to the restructuring request, the client will provide the bank with these documents: the decision to cessation the employment contract, the decision to decrease

income, medical documents, identity documents, consultation agreements in the databases and evaluation reports for all real estate properties under the loan guarantee.

In this case, the bank seeks reimbursement solutions that benefit the client, solutions that relate to maintaining an acceptable level of outstanding balance, as well as credit risks and default risks. Regardless of what restructuring method (Celano, 2009) is chosen, the bank doesn't consider the eligibility conditions from the time when the loan was granted. This is why it is important to search the best solution to help the customer overcome those unfavorable situations that stop him in his pay rates in a useful time. For these reasons, the bank provides information to the client about the risks of increasing the credit balance by capitalizing outstanding amounts and unpaid interest.

In conclusion, the bank has a fundamental role of supporting the customer in the unfavorable situations, but also advising him on how to repay the loans, which is why it identifies the optimal solutions for maintaining contractual relationships, avoiding the accelerated recovery credit through judicial measures.

2.2. The Effects on the Credit Restructuring Process

Restructuring operations refer to a series of solutions (Chorafas, 2006), including partial or total gratification for one or more components of the loan - a period that varies between 6-12 months as the case may be, the partial or total capitalization of debts recorded on a the loan maturity extension to decrease the volume of monthly client instalments, the modification of a revolving credit facility into a monthly credit facility, the refinancing of the remaining loan to be repaid, changing the currency of the loan, the reduction of the loan interest and other discounts. Also, the number of restructuring operations differs from case to case and these are analysed individually.

In essence, restructuring implies a quick implementation flow, improves the financial situation of the companies concerned, eliminates the cost of overdue payments and avoids enforcement and insolvency. In this case, debt restructuring and loan negotiation done by the bank is based on a previous analysis and projected cash flows of the company. (Popescu, 2009)

Being a way to overcome the borrower's financial difficulties, restructuring generates a number of positive benefits, being different from case-to-case, therefore: identifying new outlets, producing cost-sales efficiency, diversifying and intensifying those activities existing inside of the company that earns high profits, obliges associates or shareholders to act in order to increase profits and achieve a high performance management. (ABC Training Consulting S.R.L., 2009)

The first criterion which a customer needs to consider for applying to credit restructuring refers to *the age of the credit*, which changes the credit conditions as a whole radically after restructuring due to the costs incurred, the bureaucracy, the amounts accessed and the approval time. The second aspect considers *the structure of loans* (Golin, 2013), which leads to accumulation of credits and facilities assigned to them under one loan at a below the average of the interest of the separate loans. Finally, credit costs are constantly changing due to market fluctuations occurred. (KIWI Finance SRL, 2015)

A special effect of the restructuring is represented by the conversion of debt into equity, an effect that avoids the repo. Conversion is a method commonly used by banks, because it can benefit the debtor in terms of indebtedness, the financial performance class, the possibility of contracting new loans and relieving the repayment of loans. In Romanian law (***)Law 85/2014 & Law 31/1990, 2017), this operation will increase the interest in debt conversion for companies and banks, being used for all existing business fields.

Regarding the benefits of this type of process, they relate to reducing or eliminating interest payments and increasing the financial performance of the debtor, as well as obtaining a shareholding by the lender at a lower price than the price when the company was profitable,

and the opportunity to participate in company management and change of business strategy.

This procedure also presents a number of disadvantages for both sides of a credit agreement. A first aspect is where the lender has no experience or knows only a little bit about the borrower's business, which will lead to poor business performance. And about the creditor (Myers, 2002), he can be held liable if he proves that he is responsible for bringing the company into insolvency or even bankruptcy and that he will not receive his annual dividend due to the unfavourable performance recorded by the debtor.

2.3. Extrajudicial restructuring of mortgage-backed loans

The restructuring operation is a less costly alternative, being done with the aim of avoiding enforcement or bankruptcy.

Debt mediation was born after the international economic crisis in 2008 and is designed to help small enterprises and private persons by ending or avoiding litigation who lead to enforcement and bankruptcy. (Altman, 2010)

Among the regularly used methods of restructuring, there are also some conventional methods, including: cession of receivables, subrogation and novation. Using the **cession of receivables** (***)Law 287/2009, 2017) requires the transfer of the receivables right by onerous title (including guarantees) from the assignor (the bank) to the assignee (private and legal person). Also, the **subrogation** (***)Law 287/2009, 2017) involves the transfer of obligations recorded into a legal report, the transfer consisting in the replacement of the creditor (bank) by a third party paying the debtor's debt, which assigns to the third party all the rights of the creditor (including guarantees). About **novation** (***)Law 287/2009, 2017), this is a convention whereby the parties to a legal report extinguish an existence obligation by generating a new one by changing the object of the contract or by replacing the debtor or the creditor.

Changing contractual terms of a loan granted initially by a client may be denied by the bank if there is no legal basis (Simon, 2000) and the borrower doesn't prove the unfavourable status or insolvency they are in, which would prejudice the interests of one part or even both parts. Between the bank and the client must be an equality report that suggests the fulfilment of minimum requirements by both the bank and the client, requirements which must be observed under the legislation existing in Romania at present.

Extrajudicial procedure for restructuring of loans (Ministry of Public Finance, 2010) (Garrido, 2012) is based on a series of principles that apply only to borrowers with financial difficulties likely to affect or lead to the impossibility of enforcing the obligations under the mortgage credit agreement. A first principle is that the debtor contacts the creditor as soon as possible to engage in a discussion about the financial issues that block payment instalments but also to find a series of solutions that benefit the common interest of the parties. As part of the second principle, the creditor must clearly and concisely present to the debtor the full status of the obligations under the credit agreement and the debtor must provide the bank with all necessary information to show the source of the issues, including supporting documents about income and financial assets. Also, the restructuring of mortgage-backed loans is a concession and not a right, because of the willingness of both parties. Therefore, the negotiations between the creditor and the debtor must be in good faith, based on a clear and transparent communication regarding all the relevant aspects of the contract. Both parties are considering the best solutions for restructuring of loans, before applying any measures of enforcement of the mortgage or other guarantees and make all procedures to implement them.

3. Implications of Loan Restructuring in Romania during the Post-Crisis Economic Recovery

In Romania, credit restructuring has been rising in recent years due to the high non-performing loans recorded by banks' customers, due to the poor performance recorded by the clients in their business. Thus, given the intensification of the struggle for a higher market share, the risk of financing several non-viable projects has increased, due to the relaxation of credit conditions. (Minescu, 2013) Risks related to credit restructuring are based on a series of trigger factors, which require banks to pay attention to ongoing loans and borrowing behaviour.

To highlight the impact of loan restructuring in Romania, I realized an econometric study based on 15 banks, analysing a period of economic recovery (2010-2016). The data contained in this sample has been extracted from the annual financial reports of the top banks according to the turnover present in Romania, their choice and the determination of the large number of variables was determined by the fact that the level of debts can be influenced by a multitude of factors, and a minimal number of them would not have a significant relevance in the study. A short description of the variables used in the regression can be found in table 1.

We want to test the following null hypothesis:

H_0 : Variables related to banking activity have no statistically significant impact on the level of indebtedness

If the null hypothesis is rejected, this means that certain variables related to banking activity have an impact on the level of indebtedness, a variable stating the amount of non-performing loans. This can both be positive and negative, respectively increasing or decreasing the level of indebtedness of banks.

Table 1: Description of the variables

Variable	Definition
Level of Indebtedness	This indicator shows how much is due the bank in relation with regards to the sum of shareholder equity and borrowed capital.
GDP	Reflects the sum of the market value of all end-use services produced in all branches of the economy in one year of Romania.
Development	Set of quantitative, structural and qualitative transformations in the economy, scientific research etc.
Herfindahl-Hirschman Index	This index measures the degree of concentration of the market. The market share of each bank competing in a market is squared, and then the resulting figures are summed up.
Inflation	Reflects the general rise in prices and the simultaneous decrease in the purchasing power of the national currency RON.
Net Income	Net income after taxation calculated in RON.
Total Capital	The bank's capital consists of own resources and resources borrowed from the economy (borrowed from individuals, legal persons, etc.).
Total Assets	Reflects all the financial resources held by a bank.
Unemployment Rate	The total number of people who remain without a country-related job as a percentage.
ROE	Represent the amount of a bank's net income as a percentage over shareholders equity.
ROA	This indicator shows how profitable a bank is relative to its total assets.

The identification of the linear regression model was achieved by checking the normality and non-correlation conditions at the level of the banks in Romania, a process considered useful in the context of the negative effects caused by the global financial crisis.

Appendix A highlights the main statistical indicators of the variables considered as a development of the values from the table with the estimation equation; basically, these indicators are calculated for each variable, with more details being noticed which are significant or not from a statistical perspective.

The required results were obtained by applying the Panel Least Squares method with 105 observations that had as source the database discussed above and are presented in table 2, which can be found below:

Table 2: Level of indebtedness

<i>Variable</i>	<i>Coefficient</i>	<i>t-Statistic</i>	<i>Prob.</i>
GDP	9.61E-14 (4.81E-13)	0.199823	0.8421
Development	1.903 (1.918)	0.992224	0.3236
Herfindahl-Hirschman Index	-0.000106 (0.000401)	-0.264151	0.7922
Inflation	-0.152 (1.393)	-0.109198	0.9133
Net Income	-1.67E-12 (2.72E-11)	-0.061634	0.9510
Total Capital	1.88E-11 (3.03E-11)	0.620633	0.5363
Total Assets	-1.98E-12 (3.17E-12)	-0.624409	0.5339
Unemployment Rate	1.432 (4.911)	0.291551	0.7713
ROE	1.346 (0.599)	2.248180	0.0269
ROA	-11.006 (5.520)	-1.993880	0.0491
C	0.503 (0.726)	0.693424	0.4898
R-Squared	0.176		

This table shows the results of the ordinary least squares panel regression with the level of indebtedness as the dependent variable. Standard errors are reported in parentheses.

*** Statistical significance at a 0.01 level

** Statistical significance at a 0.05 level

* Statistical significance at a 0.10 level

Source: Author's calculations based on data extracted from annual bank reports

The dependent variable is the degree of indebtedness, and as independent variables we have chosen the degree of development, Herfindhal Hirschman Index (HHI), inflation rate, bank net income, total bank capital, total assets, unemployment rate, the average ROE and the average ROA. Based on the value obtained in the determination ratio, R Squared, it results that only 17.63% of the dependent variable is explained or determined by the variation of the independent variables.

Both the return on equity and the return on assets have a statistically significant impact on the level of indebtedness, both at the 0.05 level. This means we reject the null hypothesis, and we can conclude that these two specific variables, in fact, have an impact on the level of

indebtedness. The ROE has a positive coefficient of 1.346, while the ROA has a negative impact with a value of -11.006.

If we refer to the mathematical formula of this regression model, it takes the form of:

$$\text{LEVEL_OF_INDEBTEDNESS} = C(1)*\text{GDP} + C(2)*\text{DEVELOPMENT} + C(3)*\text{HERFINDAHL_HIRSCHMAN_INDEX} + C(4)*\text{INFLATION} + C(5)*\text{NET_INCOME} + C(6)*\text{TOTAL_CAPITAL} + C(7)*\text{TOTAL_ASSETS} + C(8)*\text{UNEMPLOYMENT_RATE} + C(9)*_ROE + C(10)*_ROA + C(11)$$

Substituted Coefficients:

$$\text{LEVEL_OF_INDEBTEDNESS} = 9.61454100608e-14*\text{GDP} + 1.90324398958*\text{DEVELOPMENT} + 0.000105845758677*\text{HERFINDAHL_HIRSCHMAN_INDEX} - 0.152086167378*\text{INFLATION} - 1.67455575792e-12*\text{NET_INCOME} + 1.88167486122e-11*\text{TOTAL_CAPITAL} - 1.97764668227e-12*\text{TOTAL_ASSETS} + 1.43175459078*\text{UNEMPLOYMENT_RATE} + 1.34557966612*_ROE - 11.006393591*_ROA + 0.503222110435,$$

where the terms C (1) – C (11) are the coefficients of the regression equation, along with the random variable.

The confidence intervals for the coefficients, analyzed in appendix B, are summarized in the following figure:

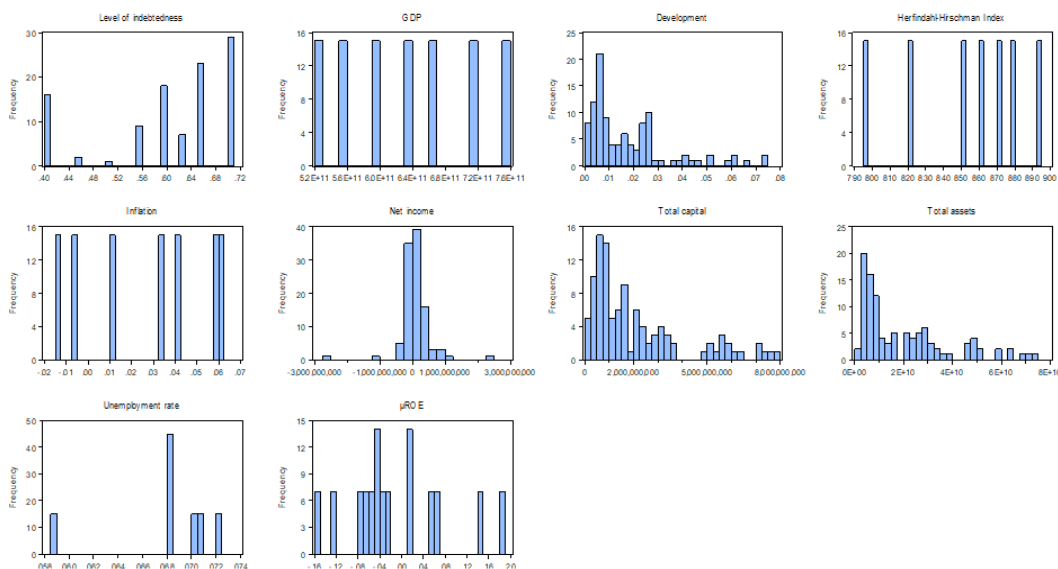


Figure 1: Distribution of dependent and independent variables
 Source: Author's calculations based on data extracted from annual bank reports

The graphs show that most of the variables have a normal distribution.

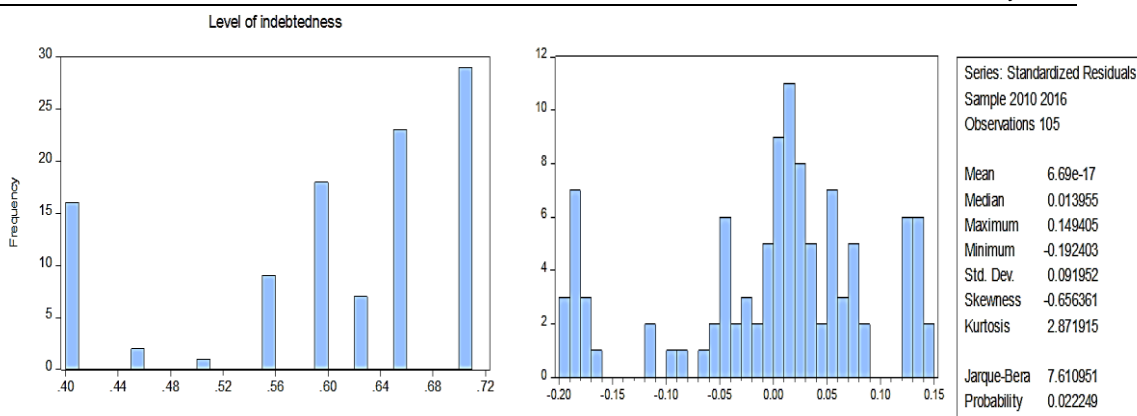


Figure 2: The Histogram results

Source: Author's calculations based on data extracted from annual bank reports

According to the statistical results, the histogram attributed to the group of variables analyzed from the visual point of view reveals an abnormal distribution. This distribution can be explained by the skewness value of -0.656361 that is different from 0, which suggests distribution abnormality. Also, the Kurtosis value of 2.871915 does not exceed the threshold of 3, resulting in this case a platykurtic distribution. The standard deviation recorded at 0.091952 shows a distribution not too far from normality. Following the White and Breusch-Pagan-Godfrey tests to correct heteroskedasticity, the results are synthesized in table 3, which can be found below:

Table 3: White Test for heteroskedasticity correction

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	9.61E-14	1.05E-13	0.912493	0.3638
Development	1.903244	1.112652	1.710547	0.0905
Herfindahl-Hirschman Index	-0.000106	6.12E-05	-1.730555	0.0868
Inflation	-0.152086	0.143780	-1.057771	0.2929
Net Income	-1.67E-12	1.01E-11	-0.165107	0.8692
Total Capital	1.88E-11	2.07E-11	0.910963	0.3646
Total Assets	-1.98E-12	1.43E-12	-1.379701	0.1710
Unemployment Rate	1.431755	0.785497	1.822737	0.0715
ROE	1.345580	0.338468	3.975500	0.0001
ROA	-11.00639	2.933081	-3.752503	0.0003
C	0.503222	0.152104	3.308406	0.0013
R-squared	0.176347			

Source: Author's calculations based on data extracted from annual bank reports

After the White test, almost all the coefficients are statistically significant because the probability is below 0.2%, the Durbin Watson value is 0.21, which means that the equation is positively correlated, the value of R2 is 0.17, suggesting that the independent variables explain 17% of the variance in the dependent variable.

According to the generated results, net income and inflation have a major impact on the degree of indebtedness, which is also normal given that they are important components in the application of loan restructuring as the last saving solution, and external factors are also included in the calculation. The average ROE and average ROA of each bank has a small impact.

This equation has been selected because the Akaike and Schwarz criteria have the lowest value in the plurality of chosen equations.

Following the Granger Causality test, for which the results can be found in Appendix E, we can observe that any pair of variables taken into account is not affected by this test.

Therefore, the equation is correct and the null hypothesis is valid.

The residual values are illustrated below:

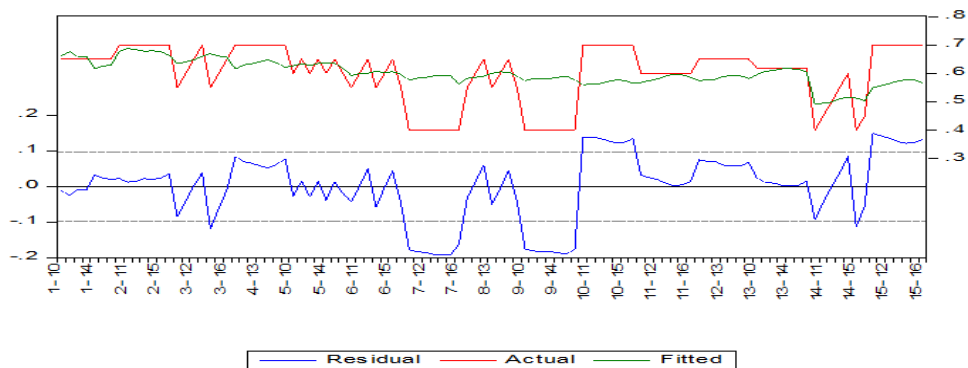


Figure 3: The residual values

Source: Author's calculations based on data extracted from annual bank reports

The interpretation of the estimated coefficients indicates that: (1) the number of customer debts may increase if inflation is high but at the same time the economic situation affects the client's financial situation; (2) the number of debts may decrease if the financial situation of the clients improve, which is influenced by the sustainability of economy at the micro-and macroeconomic level.

The covariance analysis of the variables involved in the analysis is shown in Appendix C, and we can observe the degree of covariance of the variables, which is positive. The probability is below 1 in most cases, the t-statistically and the correlation between them that is strongly positive. Also, in Appendix D, it can be noticed that the degree of correlation of the variables is strongly positive, the correlation between the same variable is 1.

3. Conclusions

In these times, influenced by internal and external factors of the banking system and the economy, restructuring of loans appears as a saving solution for those who have difficulties in their repayment.

From previous studies on the example of the Romanian banking system, if more taxpayers would appeal to one of the measures or programs offered by the banks in the system, which can be understood by those who want to appeal to a loan restructuring, the NPL rate would not be so high in some banks. The urge to take these measures in case of a financial impasse is increasing, which is a satisfactory thing.

Each credit institutions presents a personalized restructuring program for legal entities that are unable to repay the credit, so the business that they have won't suffer. The same example applies to individuals so that they are not repossessed. Perhaps in some cases they have no other resources, and for this reason the banks must be tolerant and provide assistance if needed.

During the economic recovery in Romania, there was a difficult moment for some customers who applied to restructuring in ignorance of the cause, which caused them to experience high costs due to refusals given by banks.

Credit restructuring is a solution from the bank in order not to completely compromise a client's financial situation. For this reason, clients of banks ask for the best solutions that could benefit them in regards to their outstanding loan. The increase in non-performing loans is due to inefficiencies in the economic situation of a borrower, but also due to the fact that banks have low-level credit conditions.

Appendices are available at <http://ojbe.steconomiceuoradea.ro/> volume 3, special issue.

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Bio-note

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TAXATION OF EMPLOYEES IN ROMANIA IN 2018. CHANGES AND ITS RESULTS ON THE COUNTRY'S ECONOMY

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Abstract: *The politico-economic context has a significant influence on the development of a country and the visions of the decision-makers together with the economic policies implemented are key elements in a country's economic welfare. A decisive aspect of the economic policy is the fiscal framework, and when it is not at least stable, the entire economy suffers. In the recent period, in Romania, there have been various tax changes. The present paper analyses perhaps the most controversial tax change, namely, the shifting of social security contributions from the employer's burden to the employee, along with the reduction of their rate and the reduction of the income tax rate. Implementation of such measures should be examined in terms of economic impact. One can notice that these changes have impact on three stakeholder categories: employees, employers and the state budget. Moreover, these changes must be correlated with other measures that are not directly related to the fiscal framework. At the same time, seeing an overview, one can analyze whether these changes could actually represent a starting point for moving from proportional taxation to progressive taxation. Through several impact assessments, this paper aims to analyze both from a micro and macroeconomic perspectives this tax changes and to offer a clear overview of the economic issues arisen. Such analyses will demonstrate the economic instability created through these measures.*

Keywords: taxation, employees, employers, income tax, social contributions, tax burden

JEL classification: H30, H20, K34

1. Introduction

Since the 1990s, Romania has undergone various “experiments” in fiscal terms (and not only). Being a post-communist era, the country needed time to adapt to the conditions and the implications of a market (capitalist) economy, and furthermore, it needed time to adapt to democracy.

Further, after joining the European Union (“EU”) in 2007, another series of changes took place in Romania due to the need to adapt to EU legislation. Inevitably, the changes also focused on the fiscal field, local tax legislation aligning with the EU requirements, both in terms of direct and indirect taxation.

After this wave of changes, it seemed that Romania's fiscal policy had reached a certain point of stability. Nevertheless, lately, with many changes in the state governance, there have been a series of major tax changes due to different views and concepts of decision-makers as regards the fiscal policy.

Given the multitude of changes, the economic environment in Romania faces these times a critical level of uncertainty. Lack of coherence and non-compliance with fiscal principles inevitably lead to flawed governance. All the legislative changes must be followed by robust economic impact analyses.

The most important change implemented is the shifting of social security contributions from the employer's burden to the employee, a measure that has not been followed by an impact assessment. Such analyses should focus on the impact on employees, employers, but also

on public finances. At the same time, these measures can also have an effect on tax avoidance, or even worse, on tax evasion.

Prior to the actual analyses of these measures, we should look at some aspects of public finance and fiscal policy.

2. Considerations on budgetary and fiscal policies. Literature review

Being a concept composed of a plurality of factors, public finances are understood and defined in various ways.

Văcărel (2007) provides a classic definition of public finances. As such, he ascertains that public finances represent a tool allowing the control of public financial resources and, at the same time, public finances reflect the objectives of the state's financial policy.

Since the public finances are controlled through budgetary and fiscal policies, it is understandable that the tax system (managed by fiscal policy) is a defining element in the economic evolution of a country.

As regards the tax systems, it can also be perceived in many ways. A reliable definition is offered by Cioponea (2007) which defines the tax system as:

“the expression of the political will of an organized human community, established in a determined territory and having sufficient autonomy to be able, through the organs it represents, to acquire a whole series of legal and, in particular, tax rules”.
(Cioponea, 2007)

The importance of budgetary and fiscal policies in defining the economy evolution is a subject of interest for many authors. Some of them are Dronca and Arjocu, who, besides the importance, demonstrate the role of these two policies in ensuring a level of development for citizens (Dronca and Arjocu, 2015).

Despite the fact that Romania is an EU Member State, this does not require the implementation of a default system of taxation; in fact, each Member State have the freedom to build its own tax system, but taking into account EU tax regulations, regulations that are seen more like guidelines and do not require the implementation of a specific tax system. In order to support these facts, we can bring Šimović's arguments, who noticed that the fiscal system in the EU reflects the level of separation between economic integration reinforced by the existence of the single market and the creation of a stronger political union (Šimović, 2007).

Taxation of individuals and its effects on the economic environment, the efficiency of tax systems in terms of tax equity and the tax burden represent important topics for many researchers.

Thus, by analysing the distribution of fiscal effort in the case of Portuguese individuals and aiming at demonstrating that the distribution of tax burden is not fair and does not correspond to the declared income level, Catarino and Soares (2017) obtained results that show the lack of harmony between the theoretical idea of established justice and the tax effort of various income groups analysed.

By developing a model of personal income tax (“PIT”), Vlachy (2008) analyses the fiscal changes in the Czech Republic (in the sense of lowering the tax on individuals) coming into effect from 2008, as the entire Czech tax system went through major restructuring. Therefore, the author shows that in the previous tax system, starting from low income, the marginal tax rate was zero, followed by a sharp increase and then by a gradual rise to the thresholds of high income. And, as a result of the reform, the situation is significantly changed, in the sense that the growth is much more gradual, reaching its maximum at the level of the medium income and decreasing towards the high income.

Through their research, Nwanyanwu and Ofiafoh (2016) demonstrated that the Nigerian PIT

is not productive due to the lack of equity. Analysing the fiscal policy in the Albanian economy during the transition period (after 1990), Nurja (2016) found that PIT underwent many changes almost at every 2.8 years and that there is a strong link between PIT and GDP dynamics. At the same time, the author notes that the frequent change of the PIT rate is not advisable, since such frequent changes have a negative impact on the revenue collection performance.

In his research on social security contributions (“SSC”) systems, Fehr (2016) found that a progressive structure having at least some flat benefit might be optimal for providing intergenerational risk sharing. Furthermore, the research on SSC in the case of Germany conducted by Nuemann (2017) found that the SSC burden is equally shared between employees and employers in Germany and that the employment response to SSC capping is negligible.

Following the awareness of the importance of healthy fiscal and budgetary policies, below are presented the measures subject to this paper.

3. Measures implemented

In the second half of 2017 there were countless discussions in the media regarding the changes in terms of taxation of employees. The decision-makers performed these changes in a fast-forward manner. Firstly, the discussions were materialized in a draft normative act, and then, in November, it was published in the Official Gazette the Government Emergency Ordinance no. 79/2017 for amending and completing the Law no. 227 on Fiscal Code (the “Ordinance”).

This Ordinance provides a lot of legislative amendments, but the most important and those related to this paper provide:

- the shifting of the pension contributions and health fund contribution in full to employees* (the “transfer”) – It remained on the employer’s burden the pension contribution at a rate of 4%/8% for uncommon/special work conditions;
- the reduction of their rate from approx. 39.25% to 35%;
- the reduction of the income tax rate from 16% to 10%;
- the introduction of the insurance contribution for work at a rate of 2.25% under the employer’s burden;
- the increase of the amount of personal deductions and the threshold applicable (we will refer to all as “the changes”).

These measures are applicable starting with 1st of January 2018.

Besides the above changes, the following amendments should be mentioned:

- the increase of the minimum gross salary from 1,450 RON to 1,900 RON as of 1st of January 2018 (established by the Government Decision no. 846/2017 for establishment of the minimum gross national salary guaranteed in payment);
- establishing the gross average salary used to substantiate the social security budget for 2018 at 4,162 RON (through Law no. 3/2018 on the social security budget for 2018);
- fiscal loosening measures for freelancers and broadening the types of activities for micro-enterprises (through the Ordinance);
- designing the state budget for 2018 on the basis of an economic growth of 5.5% and a budget deficit of 2.97% of GDP (through the Law no. 2/2018 on the state budget for 2018).

For a more efficient and reliable results, these changes need to be analysed together.

4. Effects on the economic environment

This chapter presents the implications of the changes on the Romanian economy, with preponderance over the employees, employers and the state budget/public finances.

All the computations performed in this chapter are based on the assumption that the employees have no dependents and without taking into account any meal tickets receivable by the employees.

4.1. General impact on employees and employers

The following analyses offer an overview of the implications of the changes in terms of implications at both employees and employers level, by comparing the old system of taxation with the new one entered into force starting 1st of January 2018.

In performing the analyses, we have taken into account the new minimum gross salary of 1,900 RON, the average gross salary registered in November 2017 of 3,430 RON (last one available) according to the Ministry of Labour and National Institute of Statistics and the average gross salary established by the social security contribution legislation for 2018 of 4,162 RON.

Table 1: Salary taxation in 2017

Item		Rate	Amount (RON)		
Gross salary			1,900	3,430	4,162
Income tax		16%	218	458	556
Employee's contributions	Pension contribution	10.50%	200	360	437
	Health insurance fund	5.50%	105	189	229
	Unemployment insurance fund	0.50%	10	17	21
Personal deduction			220	0	0
Net salary			1,367	2,406	2,919
Effective tax rate (%)			28.05	29.85	29.87
Employer's contributions	Pension contribution	15.80%	300	542	658
	Health insurance fund	5.20%	99	178	216
	Unemployment insurance fund	0.50%	10	17	21
	Medical leave fund	0.85%	16	29	35
	Guarantee Fund	0.25%	5	9	10
	Work accidents, risk insurance and occupational disease fund	0.18%	3	6	7
Total employer's cost			2,333	4,211	5,109

Source: own calculations and data processing based on Romanian legislation

In order to be able to carry out a comparative analysis, table 1 presents the situation of the taxation methodology applied in 2017 based on the three salary levels mentioned above.

At a first glance, one can notice the difference in the effective tax rate of 1.80 percentage points ("pp."), respectively 1.82 pp. between the minimum salary and the two average salaries. The difference is caused by the personal deduction applied for the minimum salary. Regarding this personal deduction, we will notice in the following chapters that it has a rather significant impact on the taxation of salaries.

The methodology used in 2017 implied a so-called solidarity from the employer, in the sense that both, the employee and the employer, were contributors to the social security budget.

Table 2: Salary taxation in 2018 (keeping the same net amount)

Item		Rate	Amount (RON)		
Gross salary			2,250	4,112	4,990
Income tax		10%	95	267	324
Employee's contributions	Pension contribution	25%	563	1,028	1,248
	Health insurance fund	10%	225	411	499
Personal allowance			510	0	0
Net salary			1,367	2,406	2,919
Effective tax rate (%)			39.24	41.49	41.50
Employer's contributions	Work insurance contribution	2.25%	51	93	112
Total employer's cost			2,301	4,205	5,102

Source: own calculations and data processing based on Romanian legislation

Table 2 presents the most probable situation in the economic reality, starting from the hypothesis that an honest employer keeps the same net salary for its employees.

This case, where the net salary is constant, represents a slight advantage for employer, as its total costs slowly decrease.

However, at the employer's level there is an impact of raising the minimum gross salary to 1,900 RON on the disability fund contribution paid by the employer.

The disability fund is a contribution per company calculated to the minimum gross salary multiplied by the number of jobs that the company did not employ persons with disabilities (it is not calculated individually and it is not part of the contributions mentioned in the Fiscal Code). Each company having at least 50 employees and that does not hire at least 4% of the total number of employees persons with disabilities, is obligated to pay this contribution that is used by the state to protect this social category.

If by September 2017, this contribution was calculated at 50% of the minimum gross salary, and companies also had the option of purchasing products or services made through their own activities of persons with disabilities employed within the authorized protected units, in the amount equivalent to the amount due to the state budget, after this month the contribution is calculated at 100% of the minimum gross salary and the option mentioned is no longer available.

It can be noticed that in the cases of companies that cannot employ persons with disabilities due to the specific of their activities, the possible savings from the transfer of contributions to employees will be offset by the additional amount to be paid to the disability fund. In some cases, savings will not cover this amount.

Thus, even if at first sight the employer benefits from an advantage in the presented scenario, its financial situation may be affected also indirectly by the increase of the minimum gross salary.

Table 3: Salary taxation in 2018 (keeping the same gross salary/employer's costs)

Item		Rate	Scenario 1*			Scenario 2**		
			Amount (RON)			Amount (RON)		
Gross salary			1,900	3,430	4,162	2,282	4,118	4,997
Income tax		10%	73	217	271	97	268	325
Employee's contributions	Pension contribution	25%	475	858	1041	571	1030	1249
	Health insurance fund	10%	190	343	416	228	412	500
Personal allowance			510	60	0	510	0	0
Net salary			1,162	2,012	2,434	1,386	2,408	2,923
Effective tax rate (%)			38.84	41.34	41.52	39.26	41.53	41.50
Employer's contributions	Work insurance contribution	2.25%	43	77	94	51	93	112
Total employer's cost			1,943	3,507	4,256	2,333	4,211	5,109

*Scenario 1: keeping the same gross salary amount

**Scenario 2: keeping the same total employer's costs

Source: own calculations and data processing based on Romanian legislation

In table 3 are presented the "extreme" scenarios, namely keeping the same gross salary amount for the employee and keeping the same total costs for the employers.

Given the constant migration of employees and the growing need for companies to have a stable workforce, the situation where the employer keeps the same gross salary for the employee is less probable in a competitive labor market, and we do not anticipate many such cases. Even though, this scenario should not be overlooked, since it leaves room for abuses by certain employers.

A win-win situation is observed in scenario 2, where the employer keeps the costs with its employee at the level of 2017, and the latter records a slight increase in net salary.

As can be seen from table 2, the main effects of the changes are the increase in the employee's fiscal pressure of over 10 pp., as well as a major fiscal loosening at the level of the employer. However, at the one hand, as mentioned above, some employers may still be affected by the increase of the contribution to disability fund and, on the other hand, some employers may be affected by the increase of the threshold for framing as micro-enterprise. Thus, the changes can not translate as a fiscal loosening for all companies.

As a side note, according to an analysis of Ziarul Financiar, only approx. 30% of the employees in Romania recorded in 2016 a salary above the average (Ziarul Financiar, 2016). Given the economic growth registered in 2017 the proportion has definitely changed, in the sense that the salaries increased (no updated data has been found) – the average gross salary also increased during this period.

Nevertheless, judging in general terms, we can anticipate that more than 30% of the Romanian employees will register a fiscal pressure of over 40%. The fact that the other percent of employees will register a lower fiscal pressure is due to the personal deduction. In this respect, we have performed other analysis in the following chapter.

4.2. Effective tax rates. Premises for eventual progressive taxation

In figure 1 below, we compared the trend of effective tax rates registered for 2017 with that of 2018. In highlighting these situations, we have started from the new salary intervals for which employees benefit from a personal deduction, and for the comparative analysis we have adapted them to the legislation applicable in 2017. The purpose of this analysis is to observe the difference in taxation of employees created by the introduction of those measures.

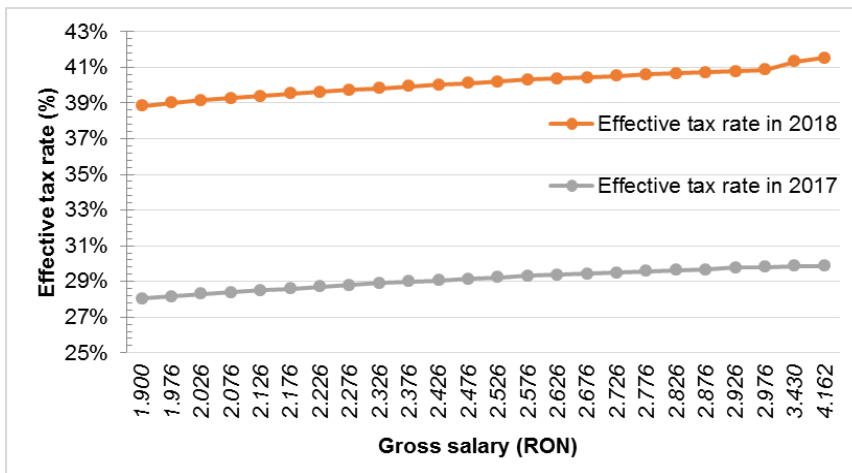


Figure 1: Trend of effective tax rates in 2018 vs. 2017

Source: own calculations and data processing based on Romanian legislation

As can be seen from the figure above, in 2018 the trend of increasing the effective tax rate based on the established salary thresholds is more pronounced compared to 2017. If in 2017 the average rate of increase of the fiscal pressure was 1.81%, in 2018 the average rate rises to 2.68%. At the same time, there is a more pronounced difference in 2018 compared to 2017 from the salary threshold of 2,976 RON to 4,162 RON in terms of fiscal pressure.

The analysis stops at the salary threshold of 4,162 RON, since above this threshold the effective tax rate remains constant, due to the fact that there is no personal deduction applicable. Corroborating this with the measure from the beginning of 2017 that eliminated the capping of the two contributions (pension and health fund contributions) to the maximum of 5 average gross salaries, one can see the more intense impact on the middle-class, which will bear a very high pressure.

Taking into account the increase of the income ceiling of the persons who can fit into the category of dependents, as well as the effective income of the deductions, combined with a high fiscal pressure of the middle class, we can highlight the socialist character of the economy policy implemented.

Furthermore, seeing this more pronounced approach of taxing the income on a threshold basis, one can argue that all these measures might create the environment for the transition to a progressive taxation. As a consequence, a progressive taxation may create some budgetary instability, especially given that Romania's economy is emerging. At the same time, an advantage of this taxation may be the creation of some social equity.

4.3. Considerations regarding the tax avoidance/tax evasion

The Fundamental Notice of the Ordinance shows that the introduction of the measures subject to this paper is also due to the need of increasing the level of social contributions collection by the state and to empower employers to pay in due time the mandatory social contributions.

But, since the social contributions are still withheld and paid by the employers on behalf of employees (as well as up to this change, but in other proportions), these amendments do not solve this problem, as they do not bring any change in the actual payment of contributions. Such problems could be mitigated by increasing the capacity of the tax authorities to collect and to perform effective controls on bad debtors.

Moreover, due to other amendments, the fiscal pressure at a freelancer's level is lower than in the case of the employee. Consequently, some of the employees will be tempted to

choose to carry out their activities as freelancers/self-employed persons. Thus, in most cases, even if “on paper” the freelancer fulfils the conditions of independence mentioned by the tax legislation, in fact he behaves identically with an employee.

Besides those mentioned, given that framing as micro-enterprise is no longer conditioned by the specific of the activity (with an emphasis to financial and consultancy activities), employees will also be tempted to carry out their activities as micro-enterprise due to more favourable fiscal conditions, and in reality to behave as an employee.

These facts lead to an increase of the tax avoidance/tax evasion since there are such “alternatives”.

4.4. Impact on public finances/state budget

In general terms, one can predict the fact that the changes can bring a minus of revenues to the state budget of 6 pp. in terms of income tax and 2 pp. in terms of social contributions. But, in reality, it is expected that the new rates to be applicable to a higher taxable base.

In analysing the impact of these measures on public finances, it is necessary to mention the Significant Deviation Procedure (“SDP”) established by the European Commission (the “Commission”) on Romania at the beginning of 2017 as a result of the increase of the structural deficit of Romania in 2016 compared to 2015 by about 40% reaching 2.5% of GDP in 2016. This increase is based on the reduction of VAT rate and salaries growth in the public sector.

Following the mission in September 2017, in the related Report, the Commission estimated that the deficit would continue to increase if there are no policy changes in the sense of consolidation measures and stated:

“It was understood that the Romanian authorities do not intend to act upon the SDP recommendation” (European Commission, 2017)

The execution of the state budget for 2017 shows that the state managed to collect the revenues from salary and income tax at the level proposed at the beginning of 2017, and in terms of social security contributions the level was even above the proposed one with approx. 2 billion RON. Thus, we can argue that these two sources were stable and even increased compared to 2016. However, following the recent measures, this stability is no longer necessarily valid.

Regarding a possible decrease of revenues from salary and income tax, we could anticipate that this could be offset by a possible increase in terms of revenues from micro-enterprise tax, since the framing threshold was increased.

Furthermore, despite the fact that the state budget for 2018 was built based on the basis of a relatively high economic growth of 5.5%, the perception in the economic environment is different, many economists being reluctant to this increase. For example, in the report issued by UniCredit economists in January 2018, it is stipulated:

“Economic growth is expected to slow to 4.6% this year and 3.5% in 2019 from 6.6% in 2017. This could be the direct result of growth relying heavily on consumption and inventories, while investment is crowded out by populist measures or affected by fiscal uncertainty. Growth may slow even more if stealth fiscal tightening is used to keep the budget deficit below 3% of GDP” (UniCredit Bank, 2018).

Considering the fiscal instability and consumption-based economic growth, it is anticipated that the appetite for consumption will decrease as the population will be reluctant in this respect, the psychological impact of the fiscal changes being significant.

Consequently, the difficulty in stabilizing the state budget will be increasingly higher and compensatory measures such as cutting the budget expenditures or imposing additional taxes are expected.

5. Conclusion

All these fiscal measures have to be viewed as a whole and must be correlated with other measures that do not necessarily concern the fiscal field.

As the main effects, we were able to identify a higher fiscal pressure for employees and the social character of the changes, but also a fiscal loosening at the employers' level, even if in most of the cases such loosening is oppressed by other measures. Moreover, these changes can create the premises for the implementation of a progressive taxation.

As regards the budgetary impact, the measures may lead to instability in terms of budget revenues. Furthermore, budgetary/fiscal uncertainties may lead to a risk for Romania to enter into a conflict with the European Commission.

Overall, we have noticed that the introduction of fiscal/economic measures in a fast-forward manner and without a reliable strategy creates strong instability on the economy.

It is clear that the efficiency of a tax system is represented by the ability of the governors to obtain maximum tax revenues without a high tax pressure on taxpayers. Considering that Romania is an EU member state, we have to look at the EU fiscal environment. In this context, the EU Member States have different visions on designing the PIT systems. However, as per our research, there is no other EU country that currently applies a tax system where the SSC are exclusively on the employees' burden. Furthermore, for example, according to PwC (2017), in terms of SSC, the fiscal system in Estonia provides that the employee contributes only with 1.6%, while employees contribute with 33.8%.

From a bureaucratic point of view, we can notice that the measures subject to this paper bring some simplification in taxation process by reducing the number of SSC.

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Bio-note

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RISK PROSPECTS AND CHALLENGES IN THE ROMANIAN ECONOMY

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Abstract: *Tackling challenges in order to promote competitiveness in various economic sectors requires understanding and approaching the risk assessment as an essential factor that can anytime determine the availability of the mechanisms and resources needed for a sustainable future. Although a certain amount of risk has to be assumed, losses caused by specific events appear to be broader than gains. In order to ensure economic growth, it is challenging for governments to try to manage the exposure to losses, this being the reason why they play a key role in fundamental prediction and in finding the most suitable evaluation tools. Despite the struggle against global strains and political risks, uncertainty not only persists in association with the external environment, but it reached extremely exalted levels compared to recent history. The instability of the global environment is leading to a lot of economic decisions being put on pause. Uncertainty's effects about a nation's economic policies can often spread beyond the country's borders, this being the reason why a possible deterioration of the macroeconomic equilibrium is expected to have a significant impact on the risk perception, with direct consequences upon the Romanian economy. The aim of this article is to outline not only the existing economic framework in Romania, but also its future development in a macroeconomic context driven by uncertainty.*

Keywords: country risk assessment; macroeconomic confidence index; Romania's economic perspectives

JEL classification: E66

1. Introduction

This paper aims to outline an image of how Romania's economy will look like in the next decade, in a global macroeconomic climate challenged with a certain degree of risk. Through this paper, we will be able also to see what 2018 is supposed to bring us and if the perspectives are going to be satisfying. The hypothesis on which the present article is built lays in the fact that although Romania is perceived as having a reasonable financial and business outlook, it can exhibit shortcomings anytime, in which the political context can release deep pressure. Also, in order to achieve the paper's objectives, an enlarged significance has been placed on appraisal by which countries can be sorted when approaching the risk perspective, assessment made by reliable sources like World Economic Forum (WEF), European Systemic Risk Board (ESRB), Compagnie Française d'Assurance pour le Commerce Extérieur (COFACE), or Chartered Financial Analysts (CFA).

This article is structured in 7 sections, as follows: part two reveals some risks prospects and challenges in order to promote competitiveness in various economic sectors, while in the third section, the macroeconomic global context is being presented, where uncertainty persists. Summarizing the next chapter, I have chosen the Global Economic Policy Uncertainty Index to emphasise the fact that the entire world is facing record levels of uncertainty, all because the regions of the global economy are interdependent. Through section number 5 some risk forecasts for the European Union are being detailed. The sixth part not only investigates, in an empirical manner, how financial analysts foresee the

Romanian economic context, but also analysis the local entities that have the power to influence the economy in the future. Chapter seven briefs the main ideas of the paper and suggests some suitable future ways of action.

Before continuing with the second chapter, it's important to mention that segments of the present paper have been already discussed during the Doctoral Symposium in Economic Sciences: *'Romania and the challenges of economic development. The response of young researchers'*, which took place in Oradea, Romania (23rd November 2017). The conference was followed by publications in the *Proceedings of the 8th Conference of Doctoral Students in Economic Sciences*.

2. Perspectives on risk

Tackling challenges in order to promote competitiveness in various economic sectors requires understanding and approaching the risk assessment as an essential factor that can anytime determine the availability of the mechanisms and resources needed for a sustainable future.

Although a certain amount of risk has to be assumed, losses caused by specific events appear to be broader than gains. This is mainly because some human beings are more risk averse and may prefer to have a cautionary action towards them, or as Tversky and Kahneman used to say: *„People's willingness to bet on an uncertain event depends not only on the degree of uncertainty but also on its source”* (Tversky, Kahneman, 1992).

A certain fact is that people vary in terms of approaching the decision-making process, perceiving the certainty equivalents to the same risk distinctively. This is why it is vital to understand this heterogeneous frame, which makes it disputable if a homogeneous assessment of risk can be attained. In order to understand the complexity of risk, it is useful to mention that some of the first insurance companies were structured in such a way so the vulnerability to shocks to be diminished. It was 1666 when the great Fire of London destroyed properties worth £10 million, a figure estimated to be around one-quarter of the total gross domestic product of England at the time (Besanko et al., 2010). So, after this unexpected tragedy, the Londoners examined the possible ways of action in order to secure their wealth and to share the outcomes of other unforeseen uncertainties. This is why, in 1696, a group of 100 people set up a mutual insurance company, based on their wealth, forming a budget in case of other unwanted events.

The most important aspect and part of the risk management is that it has to be distributed over time, its effects being extended more broadly over the long term, with benefits often less visible, whereas the efforts tend to be observable immediately. Any deprivation of indicators for risk that are committed to some long-term objectives leads to a barrier when trying to monitor decision-makers accuracy and performance. Defining an acceptable level of risk is difficult because of the complexity of the process for determining its distribution and because of the wide differences in preferences, values and beliefs (World Development Report, 2017). In order to ensure economic growth, it is challenging for governments to try to manage the exposure to losses, this being the reason why they play a key role in fundamental prediction and in finding the most suitable evaluation tools.

3. Macroeconomic Global Context

Globally, inequality between countries has been decreasing with an accelerating rhythm over the past 30 years (World Economic Forum, 2017), but despite the struggle against global strains and political risks, uncertainty persists in association with the external environment. This refers especially to Brexit negotiations, US economic policies, the conduct of monetary policies led by FED (Federal Reserve System) and ECB (European Central Bank) and their consequences on the entire macroeconomic global framework.

Also, of relevance is the future development of the Chinese economic activity and from other emerging economies, through the impact they have on economic growth. But, as socio-economic effects are “increasingly determined globally” (World Economic Forum, 2017), the anger resides in the incapability of national policies to assure stability.

The world we live in turns to be more and more complex, but also interconnected, making possible breakdowns dramatic, but in the same time realistic. A landscape that is always shifting and evolving is proving us that when it comes to composite systems, the risks follow the same path, because of the various intersections between the financial systems, societies together with their economies and ecosystems.

Recent advances in sciences and the new technologies available boosted our confidence and expertise in identifying trends, evaluating risk and initiating cautions. Despite this, in order to manage risk effectively, it is important to understand the fact that the behavioural part is essential. It’s been proved that when it comes to larger risks, our decisions are less competent, to both identifying them, but also to materializing the knowledge into fruitful results.

For the ongoing year, *The Global Risk Report* synthetizes in the most comprehensible way the idea that the accelerated environment, together with the interconnectedness that exists in every domain should have the role of mitigating the damages caused by all complex movements. In order to rely on proofs and examples, we should take a closer look on how the short-term future will be, with the environmental issues in foreground, not only in terms of likelihood, but also of impact.

Tabel 1: Global Risks in 2018

LIKELIHOOD	IMPACT
1. Extreme weather events	1. Weapons of mass destruction
2. Natural disasters	2. Extreme weather events
3. Cyberattacks	3. Natural disasters
4. Data fraud or theft	4. Failure of climate-change mitigation and adaptation
5. Failure of climate-change mitigation and adaptation	5. Water crises
6. Large-scale involuntary migration	6. Cyberattacks
7. Man-made environmental disasters	7. Food crises
8. Terrorist attacks	8. Biodiversity loss and ecosystem collapse
9. Illicit trade	9. Large-scale involuntary migration
10. Asset bubbles in a major economy	10. Spread of infectious diseases

Source: World Economic Forum (The Global Risks Report 2018 – 13th Edition)

A possible deterioration of the macroeconomic equilibrium is expected to have a significant impact on foreign investors’ risk perception, with direct consequences on the stable cash flows that are directed towards Romanian economy. This is why is so crucial to maintain a balanced mixture of policies that can assure an endurance in facing potential turbulences.

4. Uncertainty Index

According to European Systemic Risk Board (2016), “economic policy uncertainty in the EU was at all-time high”, reaching the peak (309.88) in December 2016, while in 2008, during the global financial crisis the economic policy uncertainty index registered a value of only 200.94. It was the first time ever when the value of the index surpassed the frontier of 300, meaning three times the average number over the past 20 years (as far back as the index goes), as stated in Washington Post.

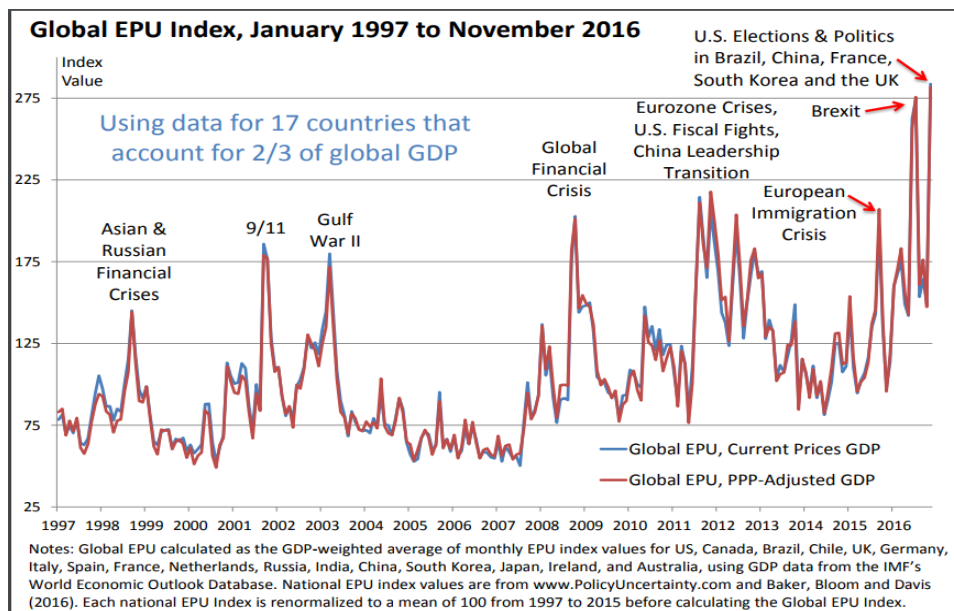


Figure 1: Trends in the Uncertainty Index

Source: Economic Policy Uncertainty (www.policyuncertainty.com/)

Scott Baker (Northwestern University), along with Nicholas Bloom (Stanford University) and Steven Davis (University of Chicago) developed an index in 1997 in order to globally measure the degree of uncertainty, combining data from 18 different countries. These countries represent more than two thirds of the global economy.

The index built is mainly based on text research from news articles (The Washington Post, The New York Times, Wall Street Journal and so on) and aims to capture information about who will take some important steps, when and what economic policy decisions will be undertaken and the economic consequences of all these actions (Baker, Bloom, Davis, 2016).

The finance experts and economists who are looking for interdependencies between different regions of the global economy and political economic uncertainty are suggesting that the entire world is facing record levels of uncertainty and political chaos, which can lead to a diminish in economic growth and to unemployment.

Being a member of the European Union is considered to be an economic welfare, especially if the countries are perceived as having an appealing quality of life and a geopolitical positioning within the continent. Last year, EU's economic retrieval has continued, almost all the countries reaching on average a quicker growth than the values registered over the last 3 years.

Using primarily macroeconomic figures, European Systemic Risk Board has drawn the conclusion that although unemployment in the Union continues its descending evolution, this global issue still remains notable in some countries. As an outcome of this problem, it has to be taken into consideration the fact that not only the profitability, but also the solvency of the financial institutions are being affected. However, in all EU countries the current unemployment rate is lower than the three-year average (European Systemic Risk Board, 2017).

Another economic vulnerability regarding uncertain situations across the European Union is represented by the level of indebtedness that some countries and sectors have, making them unstable and unsustainable financially. As for the entire Union's government debt, the extent is surpassing the barrier of 60% of the total GDP, which is the reference degree

accepted and acknowledged through the Maastricht Treaty. Although over the last years the indebtedness level has been diminished, the rhythm was less intense than the growth in debts registered in the forthcoming period of the global crisis.

5. The price of uncertainty in Europe

A country's personal risk can be seen as a mixture of economic, geo-political, institutional or social factors or, in other words, a *country-specific complex reality* (Iloie, 2015). On a global scale, 2017 was a gainful year, with just 12 countries in recession, which represents half of the number registered in 2016 and the lowest volume since 2007. Despite this, the geopolitical tensions and uncertainties that exist in the policy domain are leading to a necessity of tools that can help governments identify, acknowledge, determine and monitor the risks. This is why institutions like Coface, a French credit insurer, try to proactively deliver detailed risk forecasts not only for themselves, but also for their customers, easing the decision-making process and preventing the appearance of credit risks. Their analysis include a closer and more detailed look into 160 countries, together with their business climate and risk assessment for more than 10 sectors worldwide.

Ranging from A (which describes a tolerable business climate or a low probability to be exposed to risks) to E (meaning significantly noncompliant economic climate or a high likelihood of certain unwanted events to happen), these indexes are designed to help anyone in making the right choice in the perfect moment.

Table 2: Country Risk Assessment within Europe

EUROPE					
COUNTRY	RISK	BUSINESS CLIMATE	COUNTRY	RISK	BUSINESS CLIMATE
Austria	A1	A1	Italy	A3	A2
Belgium	A2	A1	Latvia	A3	A2
Bulgaria	A4	A3	Lithuania	A3	A2
Croatia	B	A3	Luxemburg	A1	A1
Cyprus	A4	A3	Malta	A2	A2
Czech Republic	A2	A2	Netherlands	A1	A1
Denmark	A2	A1	Poland	A3	A2
Estonia	A2	A1	Portugal	A3	A2
Finland	A2	A1	Rumania	A4	A3
France	A2	A1	Slovakia	A3	A2
Germany	A1	A1	Slovenia	A3	A2
Greece	B	A4	Spain	A2	A1
Hungary	A3	A3	Sweden	A1	A1
Ireland	A3	A1	United Kingdom	A3	A1

Source: COFACE (Compagnie Française d'Assurance pour le Commerce Extérieur, Country & Sector Risks 2018)

When it comes to Europe, and Romania implicitly, the first notable fact is that our country is perceived to be as „risky” and „favourable” as Bulgaria and Cyprus. Moreover, since 2011 until last year, Romania was given the B score, following the same path together with Greece (B/A4) and Croatia (B/A3). Moving to the leading less insecure countries from the EU, we can observe that Austria, Luxembourg, Netherlands and Sweden represent the peak, being awarded with A1 not only for their reliable domestic market, but also for their qualitative outlook in terms of macro environment and finance. As for the extremely uncertain business climate risks, we can confidently say that in the entire Union the

presence of some substantial deficiencies has been reduced, together with efforts that are concentrated towards instability and underperformance.

In search of a connection between the members of the European Union, I compared the scores given for the ongoing year, and this is how I came to the conclusion that an A3 risk level within the European economies is the predominant one (10 out of 28 countries), while for the discernible pattern in terms of business climate, the maximum level has been reached by 13 countries, diffusing faith and positivism.

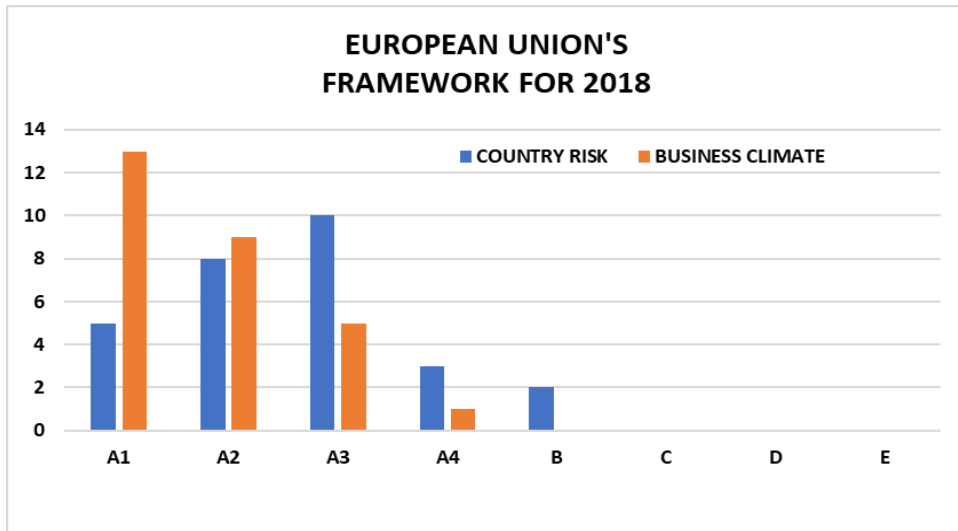


Figure 2: European Union's framework in 2018

Source: Data from COFACE (Compagnie Française d'Assurance pour le Commerce Extérieur, Country & Sector Risks 2018), own computation.

Quarterly, Coface reviews the assessments of 13 sectors throughout 24 countries in 6 major regions in the world, which represent approximately 75% of global GDP. The assessment scales on four levels: low, medium, high or very high, in order of increasing risk (COFACE, 2018). Making mention of Central Europe, on one hand, it is expected an increase in risk associated with construction and transport sectors, while, on the other hand, thw Western Europe will face uncertainties in regard to energy, metals, paper and textile-clothing industries.

Romania is perceived as a safe economic climate, but which can exhibit shortcomings anytime. Our financial and business outlook is a reasonable one, in which the political context can release deep pressure. One of the strengths we have is that we possess a remarkable agricultural potential, limited energy dependence (due to coal, oil, gas), diversified and competitive industry thanks to cheap labour (COFACE, 2018). In terms of deficiencies, one of the biggest threats that we have to face is the demographic decline, together with the bureaucracy and the informal economy (approximated at 28%). 2018 is supposed to bring us low uncertainties in the automotive and pharmaceuticals sectors, while other industries, for example construction and metals will be challenged with a certain degree of risks.

6. Financial Analysts' Perspectives on Romania

In a global macroeconomic context driven by uncertainty, it is compulsory to outline an image of how Romania's economy will look like in the next decade. Are the perspectives going to be satisfying? Will the existing companies manage to overlook the multitude of

challenges or can the state-owned enterprises sustain the economy? In order to answer to these questions is important to identify those firms that are expected to continue being part of the Romanian economy in the next years.

The Romanian economy is constituted to a large extend of mature firms and the future is probably going to follow the same characteristics. The National Bank (Neagu, Dragu, Costeiu, 2017) has identified about 133.000 companies (22% of the total number of active companies in December 2015) that can be considered the veterans of the Romanian economy, being present in the economy for at least 15 years (double the average lifetime of a firm which operates on the Romanian market). But the problem with these companies resides in the fact that their direct regional presence is a limited one. For instance, according to BNR (National Bank of Romania), between 2005-2015 only 134 Romanian entities penetrated the external markets through foreign investments.

When it comes to the most efficient existing companies in the national economy, the same authors (Neagu, Dragu, Costeiu, 2017) determined 13.100 of such firms (2,1% from a total of about 608.000 active companies in 2015), their importance in the economy rising continuously. The methodology for determining the elites of the national economy takes into account the net profit and the production factors that are used (capital and labour). Analyzing the dimension of these firms, it can be observed that the highest percentage is held by the small enterprises (62%) and having the branch of the activity as a criteria, it can be noticed that 30% represents only the manufacturing industry.

The importance in the Romanian economy of state-owned enterprises has been considerably diminished in the last decades, reaching values imminent to the European average. The number of companies with a majority public capital surpassed 1.000 in 2015, this value being six time less than the maximum level that was attained in 1995. Necessary to mention is the fact that the Romanian state-owned enterprises have a majority contribution in the research and development sector, spending 66% from the total amount of expenses.

When it comes to Romania's economic perspectives, the Chartered Financial Analyst (CFA) Macroeconomic Confidence Index aims to quantify the anticipations of some financial analysts, having a one-year time horizon. This indicator was firstly released in May 2011 by CFA Society Romania and is calculated based on a set of questions. It can take values between 0, which shows no confidence and 100, highlighting a complete trust in the Romanian economy. Important to mention is the fact that the participants are active members of the CFA Society Romania or candidates for the second or third level of the CFA exams.

In December 2017, the Macroeconomic Confidence Index registered again a decrease, reaching a value of 41.0 points, the lowest result since June 2013. Compared to previous month, the index recorded a decline with 3.1 points, while in January the nominal value was 54.9, with 34% higher than this outcome.

Analysing the two elements that compound the index, we can observe that the current conditions component (of business and labour market) exceeded the neutral level with 9 points and managed to attain the nominal value of 59.0, dropping with almost 1 point, when comparing the result with November's figures. At the same time, the expectations constituent (about business, evolution of personal income, labour market, personal wealth) acquired the most inferior position since October 2012, namely 32.0 (CFA, 2017).

But the real and deep problem for the Romanian economy is the fact that also the future looks uncertain and the business conditions seem to be unable to recover, leading to a continuous reduction in the perceived confidence. For instance, when asking which are their expectations regarding the economic environment in Romania for the next 12 months, 74.4% of the financial analysts answered that the business conditions will worsen, while other 23.1% believe that the situation will remain the same. Unfortunately, respondents' judgement remains the same also when we bring the employment situation into question,

more than half expecting things to get worse. The annual inflation rate in the next 12 months is presumed to increase (97.4% of the respondents) and RON compared with EUR is estimated to depreciate (92.3%), no one being able to imagine a positive scenario in regards with these two issues.

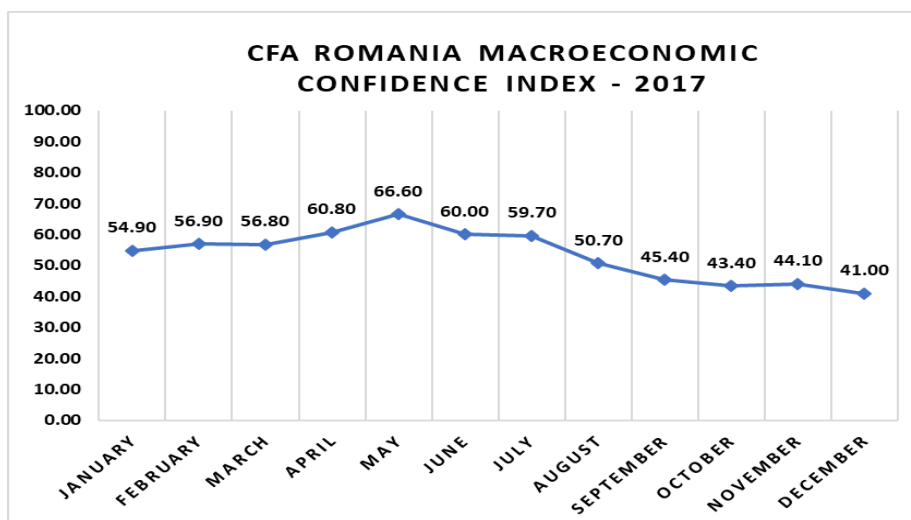


Figure 3: Evolution of the CFA Romania Macroeconomic Confidence Index in 2017
Source: Data from CFA Society Romania (<https://www.cfasociety.org/romania/>), own computation.

7. Conclusions

The presence to a large extend of mature firms in the Romanian economy will accentuate the degree of aging, which can affect the economy's capacity to widely aim towards sectors of the future and readapt the mentality for next decade's requirements.

Although the most efficient companies use capital and human resources more effective than the rest of the economy, I believe that the disparity in relation to the average of the developed countries is still maintained. The productivity is placed above the one registered in other countries from the region, but the values are significantly inferior compared to the developed countries.

The power equilibrium in the Romanian economy is expected to continue unbalancing in favour of the companies that possess a majority foreign capital, making mandatory the implementation of a national policy which will assure an adequate competitive context and an equitable treatment.

As for the working hypothesis, the present article confirms the idea that the real and deep problem for the Romanian economy is the fact that also the future looks uncertain and the business conditions seem to be unable to recover, leading to a continuous reduction in the perceived confidence.

To conclude with, uncertainty's effects about a nation's economic policies can often spread beyond the country's borders. This is why it takes awareness to understand that *a stable macroeconomy reduces uncertainty and enables economic agents to focus on productive decisions rather than on trying to mitigate high risks* (World Bank, 2014). Indisputable, these are critical ingredients not only for the longevity receipt, but as well for performance.

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Bio-note

Drăghici Dalis Maria is a PhD student at “Lucian Blaga” University of Sibiu from Romania – Faculty of Economic Sciences. As a first-year member of the Management department, Dalis has chosen to conduct a research analysis on risk and uncertainty, by correlating their financial and economic effects with the investment processes.

MEDICAL SERVICES - ECONOMIC IMPLICATIONS OF SURGICAL WOUND INFECTIONS. A COMPARATIVE STUDY

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Abstract: *Infections associated with the medical and the surgical acts are an important public health problem and quality of medical services, with certain economic implications. Losses from the health state budget are explained by prolonging hospitalization, staff costs, costs of antibiotics, medical tests, and investigations. The present study aims to highlight the importance of avoidable medical costs by reviewing comparative financial data from the national and international literature. The article presents the cost of surgical wound infections comparatively with specific financial data for states such as USA, Germany, UK, Austria, France, Australia and India. In Romania there is an incidence of hospital acquired infections between 1% -3% of cases solved. In the European Union, under the influence of legal provisions, the incidence of these infections is between 5% and 15%. Romania, as a Member State of the European Union, will have to comply with reporting requirements for this type of infection (according to the Decision 2119 /98/ EC) and will have to make legislative proposals for economic analyses on medical services and their quality. The case study represents an economic approach of a case of surgical wound infection in a public hospital in Sibiu County (Romania). In Romania there are no financial data available in this field, aspect which will give originality of this paper.*

Key words: medical services, surgical wound infection, costs

JEL classification: I18

1. Generally Introduction

I chose this theme of great importance for the national health status for the originality and multidisciplinary of the topic, under the pressure of mass media that brings to the fore the major deficiencies in the health care system, resulting in the inefficient management of the public funds allocated by the Health Insurance House; especially because of the large sums involved, the health sector accounting for a large part of the budget. Unfortunately its spending has economic implications, as well as social, cultural, etc. effects. Romania, as a member state of the European Union, has to comply with the requirements stipulated in the EC Directives, and the nosocomial infections (HAI) constitutes one of the priorities of the Decision no. 2119/98 / EC (in the EU member states, the incidence of these infections is between 5% and 15%, in Romania there is an incidence between 1-3%).

In Romania, hospitals are underfunded, pathology is getting worse, and the healthcare system is in a perpetual reform process, often unsuccessful; for this reason I am trying to bring a contribution by analysing in detail some types of expenditures in the hospital environment, which could be improved. The present study aims to highlight the importance of the medical costs by reviewing comparative financial data from the national and international literature.

2. Quantifying financial losses resulting from medical care associated infections worldwide

Worldwide public health systems financing is done by quality indicators that we can also meet in the health system in Romania, but the difference lies in the critical evaluation of unwanted system losses (Dilara, 2005; Graves, 2004; Hassan, 2010; Yalcin et al., 2002). Studies of immense financial losses in the hospital system through infections have occurred nationwide in the United States of America, the UK, Australia, Taiwan, Turkey, Sweden (Stone, 2005). The main loss of funding is the cost of treating and re-bringing patients with hospital infections (prolonging hospital stay, increasing antibiotic and other medication costs, surgical interventions, disinfectant costs) (Hassan, 2010). The authors of the specialty articles demonstrate that simple observance of infection prevention programs leads to significant savings. A study from Turkey (Dilara, 2005) shows that the average price of a single antibiotic per day, for a single infection, reaches \$ 94.31. Taking into account the possibility of prolonging hospitalization, other infections with additional daily costs may also occur (\$ 99 for pneumonia, \$ 52.37 for urinary tract infections and \$ 162.35 for other cumulative infections) (Smith, 2003). In the United States (Stone, 2009), total annual hospital-related infections amounted for \$ 6.7 billion in 2010, and in the UK about \$ 1.6 billion. In all studies, at least 1 of 10 hospitalised patients contacted at least one infection (Crotty, 2003); (Heymann, 2014). All of the above studies were reported to national research centers to signal that the initial budget of hospitals did not provide for these losses. In the Northern European countries it is proposed to exclusively fund the hospitalization of the patient without complications, and the additional costs of the infections to be borne by the hospital, the attending physician and even the patient (Neergaard, 2007). There are legislative controversies about who is supporting the avoidable costs.

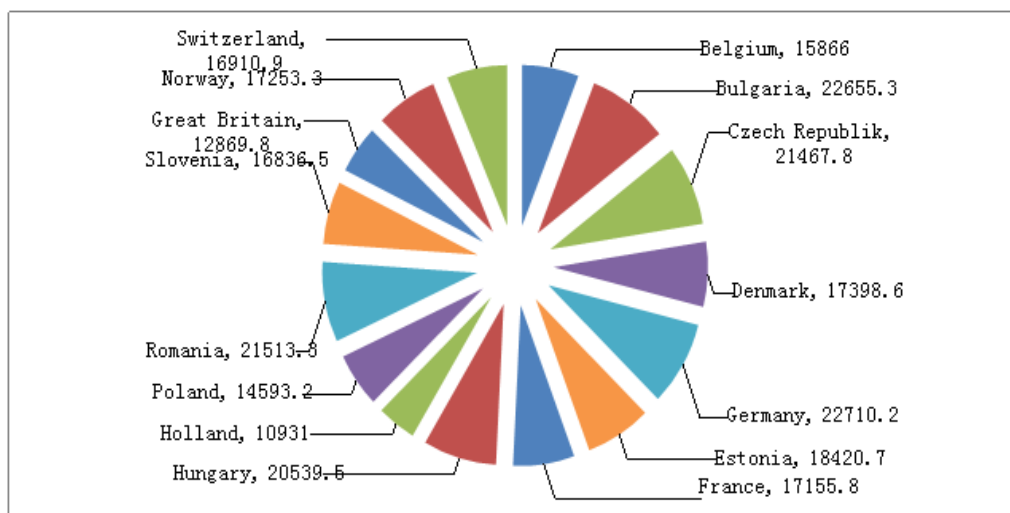


Figure 1: Number of total hospital medical services/100.000 inhabitants
Source: Eurostat

The centralizing figure represents all hospital (medical and surgical) medical services provided in different countries. This highlights the importance of the phenomenon studied.

2.1. Case study - United States of America

Malone et al. (2002) in a US study from 1986-1996 showed that the disease-associated infection (plague infection) totaled 15,523 cases of infections, out of a total of 593,344 surgeries (with an incidence of 2.6%), accounting for 38% of the total number of inpatient

infections reported in the United States during that period. The main risk factors in this study were represented by comorbidities (diabetes, obesity, malnutrition, transfusions).

In a private hospital in Pittsburgh McCaughey (2006) describes a case study of a patient with stomach surgery that should have implied a profit for the private hospital of \$ 5,900 if the patient had not been infected. Unfortunately, infectious complications (including blood infection) have occurred, resulting in a hospital loss of \$ 16,000 after 47 days of additional hospitalization.

McCaughey (2006) shows that in America, every year, 2 million patients contact different forms of hospital infections that compete with the costs of cases of AIDS, cancer, or car accidents. Additional costs in the USA for medical-related infections are of \$ 30.5 billion each year, amounts that are unevenly covered by insurance companies and that absorb some of the costs that reduce hospital funding. All of these complications caused 10,800 avoidable deaths (especially for people who were not medical insured). McCaughey is a lawyer specialized in malpractice in the United States of America and was the president of the Committee for the Reduction of Deaths Caused by Medical-Surgical Infections. She has initiated a lot of legislative acts in this respect. Achievements made by Mrs. McCaughey are remarkable for advances in public health in the USA. This initiative must be an example for future European laws for preventing hospital acquired infections.

2.2. Case study - Germany

In Germany, Gastmeier (2008) says that, at national level, between 400,000 and 600,000 patients experienced at least one nosocomial infection, of which approximately 10,000 patients died. The second study of the same research (Gastmeier, 2008) was conducted on eight hospitals, from which data were collected from 12,791 patients.

Of a total of 225,000 surgical wound infections, only 160,000 cases were reported at the upper authorities. Studies have found that surgical wound infection is the most common and most serious complication, including avoidable deaths.

2.3. Case study - Austria

Author Ojan (2006) from Austria, in collaboration with German authors, studied in 2006 the impact of caring for patients with chronic wounds in the hospital environment. The economic conclusions of the study are as follows: for 4,188 patients, 1,729 days of medical care were recorded, with an extra average daily care cost of 48 Euros, 458 Euros for sanitary facilities, 198 Euros for surgical surgeries and for methods of additional diagnosis of 114 Euro, and staff costs totalled 309 Euros.

2.4. Case study - Great Britain

In the extensive and valuable study conducted by Graves and Weinhold (2002), risk factors for contacting an in-hospital infection were calculated based on length of hospitalization, age, sex, type of medical service provided. The results showed that prolonging the duration of hospitalization causes the highest risk of infection (for 10% -40% of patients). All data were calculated on a fictitious patient, because there were no starting data available- they have not been reported quantitatively. It is shown that in England the financial losses from in-hospital infections amounted to £ 1 billion in 1999 and the number of deaths to 5,000 (Graves and Weinhold, 2002).

2.5. Case study - India

Pramil (2013) conducted a study in a private hospital in Punjab and analysed the costs of several clinical forms of infections associated with medical-surgical act and concluded that about half of the additional costs of these infections are represented by the antibiotics used for treating multiple resistant bacteria from the hospital environment (124,408 \$ for 108

infected patients). The most common bacterial aetiologies were *Acinetobacter Baumannii*, *E. Coli* and *Klebsiella Pneumoniae*.

Binila (2017) reported that 15.2% of patients in an intensive care unit of a university hospital in India contacted at least one in-hospital infection, which led to an increase in the average hospitalization duration of 7 to 10 days at intensive care and a doubling of the costs necessary for treatment, which financially concerned that department. Interestingly, the respective cases of infection did not have a significant impact on mortality in this section.

2.6. Case study - Australia

Graves et al (2017) draw attention on the most important element of the cost of medical-surgical infections, prolonging the length of hospitalization due to these complications. The author claims that the total number of days lost on the entire hospital unit should be reconsidered economically as days of effective treatment for another patient without complications who could benefit from medical services. The major difficulties in the global cost estimate come from the peculiarities of the cases actually treated, through comorbidities. The central element of the cost calculation is the case-study patient.

The findings of the study refer to the development of prophylaxis protocols for these infections, including the standardization of antibiotic treatments.

2.7. Case study - France

Lamarsalle (2013) conducted a retrospective study of the cost of surgical wound infections since 2009 and concluded that 3% of all surgical procedures in France presented infectious complications that led to total costs of 57,892,715 Euros, with tripling duration of hospitalization standards and increasing the risk of death by about four times. To reduce these costs surgical sutures with *triclosan* (antibacterial substance) were performed. The method could lead to a reduction in the number of surgical wound infections - by 20-30%, with possible savings of 11.548.057 Euros.

3. Health-associated infections in Romania- situation analysis

Infections associated with the medical and the surgical act are poorly reported in Romania, compared to other EU countries and the USA. Thus, by 2015, the Ministry of Health records a total of 57,088 cases of such infections in Romania. According to the National Center for Statistics of Public Health in Romania, the average annual number of cases is 8,891, with a minimum in 2010 (8,105 cases) and a maximum reported in 2008 of 9,677 cases, without analysing the economic implications.

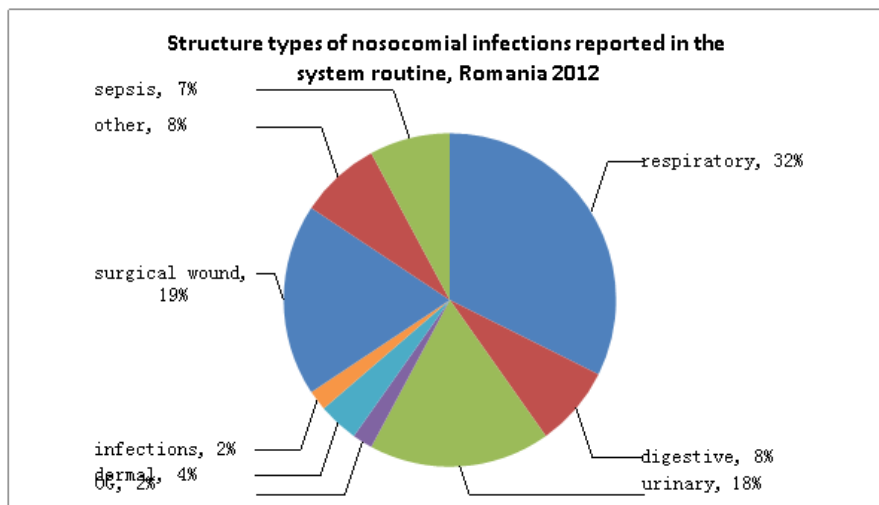


Figure 2: In-hospital infections reported in Romania
Source: Centrul Național de Statistică și Informatică în Sănătate Publică (CNSISP)

A possible sub-declaration of cases in Romania could be explained by the large number of unjustified admissions for pathologies that could be solved at the level of family doctors, but also by the prejudices of doctors who do not want to compromise the reputation of the department or hospital. Hospital acquired infections hidden cost issues have been taken over by the media that signals these dangers regarding the safety and quality of the medical act. This fact has spurred the appearance of the legislative document MS (Ministry of Health) no. 1101 of 2016, which regulates the declaration, investigation, prevention and control of in-hospital infections.

One step ahead in the hospital acquired infections control was represented by MS Order no. 916 of 2006, which proposes the establishment of a special prevention service for medical-related infections, as a separate department in each hospital, a service that has the obligation to trace, investigate and report the cases of infection. National data shows that one third of these infections can be countered by prophylactic hygiene measures and hospital disinfection measures, but unfortunately a third of the reported cases can not be avoided by any method, probably due to underfunding of medical services (Mihalache, 2013).

These centralized data at national level have again highlighted the importance of the quality of medical and medical services, the respective infections being a risk factor for the patient and for the economic aspect of financing the medical system.

3.1. An example of avoidable costs of a surgical wound infection from a public hospital in Romania (in 2017)

We have analysed a case of surgical wound infection - the department of general surgery from a public hospital (ward with an average cost of day hospitalization 331.96 RON), based on data from the station and the hospital information system. Every case is being registered in an informatics data basis of the hospital, with all the information about the pathology and the costs.

Each hospital has a computer system that manages primary data on hospitalized patients in the form of continuous hospitalization (with hospitalization over 12 hours) and patients undergoing day hospitalization (investigated for up to 12 hours of the hospitalization).

In developed countries it tends to day-care medical services to avoid the infectious costs of the medical-surgical act. It also reduces the cost of effective hospitalization, staff costs, medical supplies, and medication.

The administration of the system later allows for synthesis on the duration of hospitalization, the cost of materials and drugs used, the medical services provided and the calculation of the costs of hospitalization, which will be the basis of the state budget financing for the following year, based on DRG (Diagnosis Related Groups, www.drg.ro). It is possible to calculate the costs per patient, per section, in calendar years, by making a parallel between the medical services and the financial support from the state budget.

Type of clinical department.....
Name of the patient.....
Gender.....
Date of birth.....
Age.....
Home.....
Date of admission.....
Date of discharge.....
Diagnosis at admission.....
Diagnosis of infection associated with medical act.....
Date of surgery.....
Type of intervention.....
Antibiotic treatment periods for each chemotherapy administration... Isolated (Yes/No).....
Patient status at discharge.....
Death (Yes/No).....
Associated risk factors.....
Laboratory data / isolated germs and microbial resistance.....
Signature of the doctor.....
Completion date.....

Figure 3: Data type of reporting cases

Data type of reporting cases of infections associated with medical and surgical act - HAI is imposed by the Minister of Health no. 1101 of 2016, a document obliging healthcare professionals to declare and investigate those cases that compromise the safety and quality of medical care and generate unjustified costs. In the hospital's computer system, there is a HAI folder that centralizes the nosocomial infections of each department.

According to the aforementioned Order, a unique register of all cases of infections related to the medical act of the respective hospital, declared (denied or confirmed) is made. Cases and suspected infections are reported monthly and numerically to the Public Health Directorate, probably to create a future national database, taking into account pressures from European legislation.

On the website of each hospital in Romania (another aspect of the system that makes public the decisional transparency) the average duration of hospitalization, per department, for the current year, is stated, within the limits of 3-6 9 days, depending on the pathology of the department.

Table 1: Example from a surgical department; hidden costs of a surgical wound infection in a public hospital (initial research-example- patient S.I., 62 years old, male

Cost surgical patient without wound complications	Cost of patient S.I. with surgical wound infection
Standard hospitalization = 6.9 days	Infection surgical wound= 51 days of hospitalization (Excess = 44.1 days)
DRG cost of hospitalization= 331.96 RON	Real cost / day of hospitalization for infectious complication = 764 RON(real cost / day 2.3 times higher than DRG)
Total hospitalization cost (DRG) = 2290.524 RON	Total expenses for infection complications =35.994.11RON (avoidable expenses 33.703.86 RON)

Source: own research

In conclusion, the day of hospitalization with the infectious complication of the surgical act actually costs 2.3 times more than the amount settled by CNAS (331.96 RON / day). Extending the length of hospitalization for a patient with infectious complications blocks the provision of medical services to a patient who could have been hospitalized on the same hospital bed and was unable to receive the necessary care. This represents a second financial loss through the unusual use of the hospital bed, with the alteration of the DRG performance indicators, resulting in a sub-financing of the department and the hospital. The simple presentation of this case study is an alarm signal about avoidable expenditures in the health care system.

4. Conclusion

These centralized data at national level have again highlighted the importance of the quality of medical services and of the medical act, the respective infections being a risk factor for the patient and for the economic aspect of financing the medical system. The future research directions of the thesis will focus on the financing of public hospitals and the economic impact of non-quality risk factors (hospital acquired infections). Research limitations include lack of financial data of these complications, which are not included in the revenue and expenditure of the health unit. Future research may show the importance of quantifying unwanted expenses.

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THE IMPACT OF STRUCTURAL AND COHESION FUNDS ON THE ECONOMY OF BIHOR COUNTY DURING 2007-2013 PROGRAMMING PERIOD

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Abstract: *The author uses TIATool model simulations, in order to reveal the potential impact generated by the Romanian Operational Programs 2007-2013 funded projects in Bihor county, on a set of 34 socio-economic indicators, for which individual intensities and weights were estimated by the author, based on the actual numbers of projects, their scope and the amounts of money absorbed by project beneficiaries. The readers should not expect a high impact of Structural and Cohesion funds on the economy of Bihor county, on short term, because these funds, like the rest of community funds, have a very pronounced redistributive role, which means that the dimension of the necessary expenditures for the implementation of projects counterbalances its revenues dimension, the amortization of such investments being made on long term. The novelty of such research is the fact that the Community authorities (in this case the European Commission) investigate the impact of Community funds only at policy level (cohesion, regional development and employment, territorial cooperation) and only in a comparative spectrum between national and regional figures, and the Romanian authorities (the Ministry of European Funds, the Operational Programs Managing Authorities) carry out impact assessments only at national and regional level.*

Keywords: Structural, Cohesion, funds, impact, Bihor, economy.

JEL classification: O11, O41.

1. Introduction

Although the author did not identify local impact assessments during the 2000-2006 programming period, it can be said that for Bihor County, the starting economic base represented the period 1994-1999, the level of the county GDP per capita as compared to the other counties of Romania, being placed in an ascending slope, starting with 2000 (the beginning of the period for the pre-accession funds), 2005 (during the implementation of the pre-accession funds), respectively 2010 (at 4 years after the pre-accession period, and during the implementation of the Structural and Cohesion Funds). Between these years, the internal divergence at county level deepened in Romania, but there was also an external convergence towards the European Union (Ionescu-Heroiu et al., 2013: 32).

It is worth mentioning that Bihor County also evolved, especially in the period 2005-2010, with a GDP / capita significantly better than in 2000. Certainly, the economic base of Bihor County in 1995 provided a continuity of development. However, the lower contribution of European funds in the period 2008-2010 determined Bihor County to qualify only for the medium developed counties ranking in 2011, according to the Index of Local Human Development (IDUL) (Ionescu-Heroiu et al., 2013: 254). In fact, in relation to the realities of the years 2015-2016, the author considers that Bihor County has made the transition to the category of developed counties.

Besides, in 2009, the year when the absorption of Structural and Cohesion funds in Bihor county, as in most of the counties in Romania, showed a late debut that was caused by

difficult administrative procedures, it is noticed that Bihor county managed to maintain itself between the first 10 counties as a share of the county GDP in the national GDP (in relation to the economic evolution from 1995 to 2009). At the level of 2010, the effects of the pre-accession funds absorbed in the Bihor county were felt in the degree of urbanization. However, there were barriers encountered at county level in the absorption of Structural and Cohesion funds, mentioned by Berinde et al (2012: 14), in this case: "the lack of training programs, politicizing the way of selecting beneficiaries, low transparency of the establishment criteria of beneficiaries, excessive bureaucracy in the elaboration and approval of projects, difficulties of co-financing on the part of the beneficiary [...]", which at the level of 2010, could have led towards a distancing between urbanization and development. The problem of the economic connections of Bihor County with the other counties in the North-West development region seems to be an atypical situation, as Cluj-Napoca, the growth pole of the region benefits from more favourable connections with development poles in the Centre region (Alba-Iulia, Târgu-Mureş, Sibiu) (Ionescu-Heroiu et al., 2013: 151), generating a distance from the neighbouring development poles: Oradea, Satu Mare, Zalău (Cristea et al., 2017: 63).

Despite these issues, it is noticed that the economic and social status of Bihor county has improved over the years: the Gross Domestic Product per capita in Bihor county since its accession to the European Union has increased from 6000 Euro in 2007 to 7950 Euro in 2015, that is from 23% of the European average in 2007 to 28% in 2015 (INSSE, 2016).

Could this be an indirect effect of the Structural and Cohesion funds attracted in Bihor county during the 2007-2013 programming period? The state of knowledge is narrowing when the effects of the implementation of projects financed from community sources at regional, county and urban / rural level are discussed. As previous papers of the author presented the literature review and theoretical aspects of impact evaluation methodology at a wider level (Popescu et al., 2016a; Popescu et al., 2017a), this article focuses on smaller issues at Bihor county level, through a research of the author regarding the possibilities to assess the impact of the European funded projects in the local economy.

Regarding the available assessment methods at local level, Popa et al. (2013), Panagiotis (2014) and Dabrowski (2015) show that in most cases, there are potential positive effects of Structural and Cohesion funds. It can be added that these effects are compromised by the low capacity of European funds management at both public institutions or private organizations in villages, towns and municipalities, or their often use for non-performing investments (Iorga et al., 2011). It is also notable the observation of Lincaru et al. (2015), that in most situations, the expenditures resulted from European funded projects at local level are addressed independently of other public policies and sometimes even apart from the local development strategies (Popescu, 2016c). However, Moldovan et al. (2016) identified potential effects of European funds in rural areas of North-West region.

2. Methodology

For the impact evaluation methods for Structural and Cohesion Funds, the author has identified the TIATool instrument, which has a high degree of territorial disaggregation. The model has an online platform, namely TIATool (ESPON, 2017), which requires a username and a password. Figure 1 presents the intensities of the impact vectors which the author had to estimate in the input phase.

In the input section, in order to determine if the public policy had stronger or weaker effects on the territory, respectively if these effects are advantageous or disadvantageous, the author is required to indicate intensity values for each indicator, ranging from Strong Disadvantage (Symbol "--"), Weak Disadvantage (Symbol "-"), Weak Advantage (Symbol "+"), Strong Advantage (Symbol "++"), to Unknown Effect (Symbol "?") or No effect (Symbol "0").

“0”); after this phase, the author had to estimate the weight of the impact for each indicator, ranging from minor, moderate to high or very high impact.

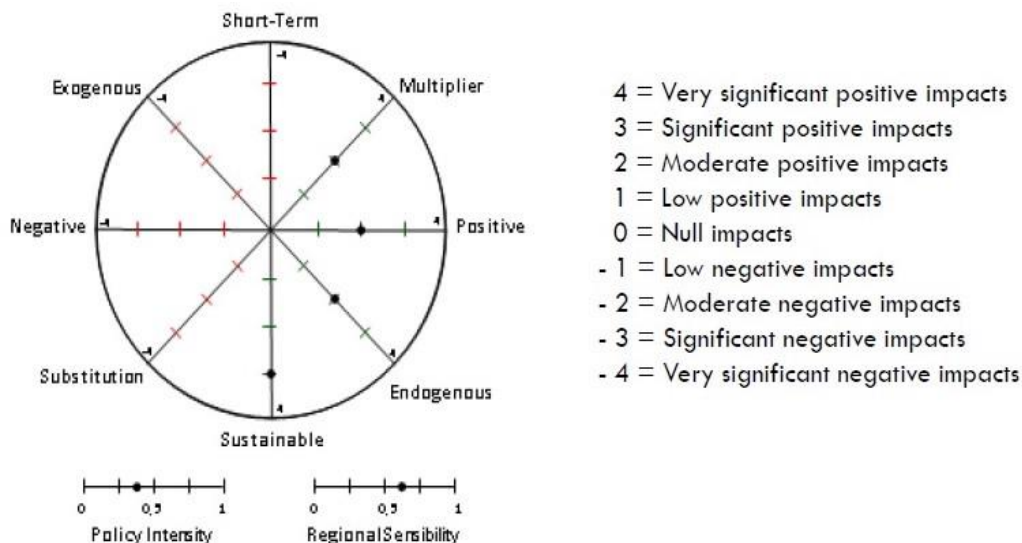


Figure 1: Estimated impact vectors in TIATool

Source: Medeiros (2014: 29-30)

Based on the results of projects implementation on the Romanian Operational Programs, the author estimated the 34 indicators of the model, which must be viewed as deviations (in percentage and intensity, from the zero European funding scenario to the actual 2007-2013 European funding scenario in Bihor county (ex-post impact evaluation 2013-2023):

- a. Innovation category, with the indicators:
 - Employment in technology sectors: Weak advantage +, Moderate impact 57.84%
 - R&D Expenditure: Weak Advantage +, Moderate impact 2.27%
- b. Economic development category, with the indicators:
 - Entrepreneurship: Strong advantage ++, Very high impact 88.35%
 - Economic growth (GDP/capita): Strong Advantage ++; Very high impact 96.89%
 - Tourist intensity: Weak advantage +, Moderate impact 12.55%
- c. Employment category, with the indicators:
 - Employment in tertiary sector: Weak advantage +, Moderate impact 75.99%
 - Employment in secondary sector: Weak advantage +, Moderate impact 39.58%
 - Employment in primary sector: Weak advantage +, Moderate impact 16.85%
- d. Accessibility category, with the indicators:
 - Potential accessibility by rail: Weak advantage +, Minor impact 37.75%
 - Potential accessibility by road: Weak advantage +, Moderate impact 34.26%
 - Access to high-level passenger transport: No effect 0, No exposure 100%
 - Potential accessibility by air: Strong advantage ++, Very high impact 0.69%
- e. Health category, with the indicators:
 - Health life expectancy at birth: Unknown effect?, No exposure 100%
 - Number of people exposed to noise: Unknown effect?, No exposure 100%
- f. Governance category, with the indicators:
 - Interregional cooperation: Weak advantage +, Moderate impact 6.61%
 - Government effectiveness: Weak disadvantage -, Minor impact 72.65%

- g. Social disparities category, with the indicators:
 - Early leavers from education and training: Weak advantage + Moderate impact 37.27%
 - Out migration / brain drain: Weak disadvantage -, Minor impact 28.47%
 - Unemployment rate: Strong advantage ++, High impact 84.76%
 - Disposable income: Unknown effect?, No exposure 100%
 - Female employment: Weak advantage +, Moderate impact 3.13%
 - People at risk of poverty, social exclusion: Weak advantage +Moderate impact 42.91%
- h. Natural hazards category, with the indicators:
 - Exposure to landslides: Unknown effect?, No exposure 100%
 - Exposure to winter avalanches: Unknown effec ?, No exposure 100%
 - Exposure to floods: Strong advantage +, High impact 74.88%
- i. Environment category, with the indicators:
 - Pollutants in soil and ground/surface waters: Unknown effect ?, No exposure 100%
 - Pollutants in air (PM10): Unknown effect?, No exposure 100%
 - Emissions of CO2: Weak advantage +, Moderate impact 0.40%
 - Water resources: Weak advantage +, Minor impact 0.15%
- j. Protection and conservation of land category, with the indicators:
 - Conservation of forests and semi natural areas: Weak advantage + Minor impact 4.58%
 - Conservation of cultural heritage: Strong advantage ++, High impact 55.64%
 - Protected areas (Natura 2000): Weak advantage +, Minor impact 0.29%
 - Share of agricultural areas: Strong advantage ++, High impact 28.14%
 - Share of artificial areas / soil sealing: Unknown effect?, No exposure 100%

3. Results and discussions

After running the simulations, the TIATool model generated a long-term impact (2013-2023) map for each indicator according to the intensity and weight estimated by the author.

According to the simulations, the Bihor county economy has, in the long run, a high impact on the employment rate in the technology and research sectors. The economic reality of the county confirms these estimates, as the investments from Structural and Cohesion funds in the Eurobusiness I, II and III industrial platforms in Oradea, as well as in the industrial platform in Borş commune have led to the establishment of local employers in the technological sector; in fact, these sectors are turning to emerging economies such as Romania, Bulgaria, Hungary, Poland, Lithuania, Estonia, Latvia, these countries being most prone to specific investments. However, the opening of the Bihor county economy to these sectors is still somewhat fragile, but the author estimates that in the long run, this simulated impact will also generate side effects, such as increased demand for technical schooling and related training.

However, there is a long-term stagnation in R&D expenditure both in Bihor County and in almost all Member States. The cause can be motivated by the fact that investments from European funds can indeed create technology clusters or focus on creating business incubators in areas with development potential, but continuity in ensuring research and development budgets must be provided either from the public budget, either from private funding, a problem that will present enough shortcomings in the European Union. In fact, the share of high added value services is insignificant in Bihor County, and the contribution to national turnover in R&D activities is equally insignificant, fact from which it can be deduced that the simulated impact presents plausible prospects, in the long term.

Investments from European funds will have an impact on the share of private enterprises in the long run. If the projects implemented in the Operational Programs in Bihor County are analysed more closely, it will be noticed that almost a third of them represent investments in the private sector, which can lead only to the opinion that a multiplier effect of the money

infusions in the private capital generate sustainable growth in this sector. In fact, this trend is generalized in all Member States, which can strengthen the author's idea that Bihor County will succeed in continuing economic development and counterbalance growth in services with the emergence of new industrial branches.

In the author's opinion, economic growth, expressed in GDP per capita, does not necessarily have to be interpreted as a direct effect of Community funding; great attention must be paid to the demographic masses of Bihor county, as there have been massive emigrations to other countries over the last 5 years, which inevitably generated a higher GDP / inhabitant; indirectly, the projects implemented during the 2007-2013 programming period have produced a visible financial effect at the level of all Member States, the figures being confirmed by the fact that Romania holds the first position in economic growth at the level of 2017, which offers added credibility to support the estimates below.

It is noticeable that the intensity of the tourists will not be significantly influenced by the projects funded by Structural and Cohesion funds, although the author believes that there are numerous tourist attractions in Bihor county renovated and returned to the tourist circuit by projects designed to increase the number of tourists; as demonstrated in a previous article by the author (Popescu et al., 2016), it is more difficult to assess the impact of tourism-related projects, especially by counterfactual methods. It is noticed that there is a general trend across all EU Member States, so it can be said that there are weak direct effects between a touristic project rehabilitated by European funds and the intensity of the tourists; however, they can prevail over indirect effects.

According to the simulations, the employment rate in the tertiary sector (the services) will have a minor impact from the European funded projects in Bihor county, which can be explained by the fact that the projects were generally focused on the procurement of equipment or materials and less on jobs creation. Another explanation may be the fact that there is an increased labour migration tendency from countries such as Romania, Bulgaria, Hungary, the Czech Republic, Slovakia, Poland to other EU Member States where the tertiary sector manages to integrate a large part of the immigrants and where the share of economic activities in gross value added is directed to the tertiary sector. The secondary sector (the industry) places Bihor County on a moderate growth trend over the period 2013-2023, which is an obvious effect of the investments from European funds due to the development projects of the industrial parks. However, it is noticed that emerging economies, such as Romania, Hungary, Poland, Portugal, the Czech Republic, Slovakia, Estonia, are delineated to areas with a long history of industrialization, such as Germany, Northern and Central Italy, Eastern Spain and Southern Sweden. Indeed, in the long run, a concentration of industry in Central and Southeast Europe is emerging, which may be associated with a positive effect of the Cohesion policy. However, it will be interesting to analyse, at the end of the 2014-2020 period, how each county will succeed in capitalizing the growth potential in the secondary sector, and Bihor County will certainly be favoured by the border settlement.

There should also not be neglected the agriculture of Bihor county, because the investments from European funds have generated a high production potential during the period 2007-2013, continued by the same trend in 2014-2020; there is a noticeable impact of a slight increase in the employment rate in this sector at Bihor county level, because Romanian agriculture is currently in a transition period in terms of its ability to have high added value products. This results in a certain funding gap for both organic farmers and livestock farmers, translated into a cost saving with staff and implicitly through an increasing rate of automation of specific technological processes. It should be noted, however, that this situation is generalizing at EU level.

The author appreciates that investments in railway infrastructure in Bihor county are reduced, but, in the long run, investments from Community funding for this objective will generate a moderate impact. Moreover, the most urgent need in this area is the

electrification of the railway link between Oradea and Cluj-Napoca, an objective which, although not within the powers of the local administration, could have received greater support from the central administration if it had been included in the county and regional development strategies 2007-2013. This can also be motivated by the fact that the importance of both freight and passenger rail transport has lost ground, the first segment being detrimental to car transporters, and the second segment to the detriment of air carriers. Street infrastructure in Bihor County is expected to have a moderate impact from European funds investment, which is obvious when studying the projects implemented during the 2007-2013 period. In this respect, the highest impact will continue to prevail in countries that have had a consolidated street infrastructure long before Community funds, such as counties from Germany, Great Britain, Belgium, the Netherlands, Luxembourg, Denmark, and northern Italy or counties dispersed from Spain (Popescu et al., 2015). In fact, the development strategy of Bihor County 2007-2013 has not produced sustainable objectives to cover a consistent degree of street infrastructure with community investment, with much of the work being settled from national funds.

The author chose not to estimate an effect for Bihor County regarding the high-quality passenger transport infrastructure, which would translate into motorways, as such investments did not occur at county level and will not occur even during the period programming period 2014-2020. In addition, inter-nodal transport, the link to the trans-European Transport Network, as well as the modernization of the public transport networks (tram, bus, subway), were not funded by European funds at Bihor County level and were not included in the Development Strategies 2007-2013, 2014-2020.

The project of airport infrastructure rehabilitation in Bihor County (Oradea International Airport) has already produced positive effects in the period 2016-2017, but in the long run it will also depend on the efficiency of the air routes, which is why the expected growth impact until 2023 is a minor one. This is also due to the fact that Oradea International Airport is at an early stage of development and the investment made by European funds cannot, on its own, increase the number of passengers, the number of flights, etc. This depends very much also on the strategies of the neighbouring airports and the capacity of Bihor County to attract a wide spectrum of opportunities for the development of the air routes, because the county has lost ground to the competitors due to the non-production of investments at the right time in the pre-accession period 2000-2006.

Life expectancy at birth is a very rare indicator in county or regional development strategies, and for Bihor County, this indicator is being estimated somewhere around the age of 72 (INSSE, 2017). The author chose to have an unknown effect on this indicator, as there are very few investments from European funds that have a concrete effect on this indicator; most probably reported at the level of Bihor County, some projects for the modernization of hospital ambulatories, could somewhat justify a minor effect of improving the longevity of life. It is, however, obvious that in counties and generally in countries where health services are of high quality, there is a positive differentiation of life expectancy at birth.

The same explanation is also given by the author for the number of people exposed to noise, as the effects of European fund investments on this issue are unknown. In fact, in Bihor County and probably across the country, there are no measurement methods to ensure the accuracy of the results. The theme of noise pollution in Bihor county could be debated on the relationship between certain industrial activities and the neighbourhood of residential areas, namely the noise produced by the railway and the street infrastructure in relation to the residential areas, and recommendations on this issue can be included in the urban development plans in the territorial administrative units of the county.

For the interregional cooperation indicator, the impact of community funding in Bihor County will be moderate in the long run, as numerous projects have been implemented through the Hungary - Romania Cross Border Cooperation Program 2007-2013 (Popescu, 2017b). It is noticed that the North-West region is the only one in the country that is delineated by the rest

of the regions, and the Romanian counties together with the Hungarian counties participating in the cooperation program have succeeded in implementing projects which, by 2023, will ensure positive effects from interregional cooperation. This situation reinforces the author's statement that the dualism of funding sources of Bihor County (cross-border cooperation program and operational programs) provides a competitive development advantage.

The efficiency of governance is negatively affected by investments from European funds, because on one hand, the projects implemented during the period 2007-2013 have generated a long line of deviations from Community rules, corruption cases, suspension of payments, cases of fraud, and so on. As the author recalled, there are countries such as Bulgaria, Romania, the Czech Republic, Slovakia, Hungary, Poland, Lithuania, Latvia, and Italy, who have encountered many problems in the efficient management of European funds. On the other hand, the effectiveness of governance in relation to community funding is also determined by a series of barriers to beneficiaries' access to project implementation.

Concerning the early education dropout rate (18-24 years old group who did not graduate the upper secondary level), Bihor county and North West region target is to reduce this rate to less than 11% (INSSE, 2017:7). Corrected with the simulated impact, the author feels that the expectations are realistic, and the simulations of the model have very high effects. In relation to the European fund investments in Bihor County, this objective can best be found in the rehabilitation of some schools, projects best suited to the European Agricultural Fund for Rural Development and Hungary - Romania Cross-border Cooperation Program 2007-2013.

Regarding the migration of intellectuals and highly qualified workforce, the author estimated a negative value and the model simulated a moderately negative impact on Bihor County and generally on most of the NUTS3 regions in the EU, as Community funding cannot stop such a phenomenon; however, the least affected regions are the polarized areas around the capitals. At present, Bihor County faces a lack of qualified workforce in technical fields; therefore, the establishment of vocational schools by industrial employers can put an end to the problem of labour replacement.

Certainly, in the long run, European funds will positively influence the unemployment rate in most NUTS3 regions. For this assertion, the scenario without European funds at the county level should be imagined, given that the predominant branch of industry in Bihor County focuses around shoe production (Popescu, 2016b) and the development strategies of municipalities, towns and communes, making abstraction of Community funding, do not contain realistic objectives of economic development and, implicitly, of employment (Popescu, 2016c). Moreover, criticized at national level, the tendency of the population and of the authorities to wait and hope for private investors, especially at the level of the municipalities and towns other than the county residence, respectively at the level of the communes, is perpetuated: unfortunately, there are fewer jobs generated by business with Romanian capital. The author did not reflect on the households' disposable income, as European funded projects are cost-generating and, until revenue is generated, depreciation occurs. In the long term, this explanation gets more plausible as the effects of private investment (upgrades, purchases of materials and services) do not generate immediate profit because the beneficiary either has to repay a bank loan or has appealed to own sources of co-financing, which in both cases means an impact on the capital in question. The consequences of this situation will inevitably be found in wage costs, purchases, and any other needs in the long run. On the other hand, investments in infrastructure, education, health and so on, can generate a cost reduction per citizen.

In the case of reducing the number of people at risk of poverty and social exclusion, the impact of projects is estimated at a moderate level, as there were measures financed at Community level in Bihor County to protect these categories of people (in addition to state aids). However, the county faces another type of social exclusion: the wages are too low to

support the subsistence level, cumulated with the discrepancy between the minimum wage in the economy and the real salary, so well-trained professions or crafts are paid at a marginal level. From this perspective, poverty in Bihor County should not be understood only unilaterally, on the financial side, but also in terms of deficits in employment, education, health, living conditions and social segregation.

4. In conclusion

Regarding the results of TIATool simulation, the author appreciates that the Bihor county economy will, in the long run, return to the magnitude of the goals assumed by the development strategies and will succeed in breaking down the image of a county with a concentration of the footwear industry. Moreover, due to the economic decline and the non-production of private investments by the year 2000, due to slow and sometimes inconsistent efforts to engage projects with local impact in the pre-accession period 2000-2006, the Bihor county economy encountered a delay in development.

For the post-accession period 2007-2013, the author considers that there have not been implemented projects with economic viability meant to bring a strong development until 2023, besides the rehabilitation of Oradea International Airport and the creation of Eurobusiness I, II and III Industrial Parks, respectively Borş Industrial Park. From this perspective, it will be noticed that much of the 34 estimated indicators do not have a growth base: preservation of cultural heritage, forest patrimony, Natura 2000 regions, avalanches and landslides prevention, life expectancy at birth, noise exposure, railway infrastructure, street and public transport - are indicators that have benefited at a marginal level from the implementation of the projects implemented at county level.

It is noted, however, that significant effects will be found in the indicators that are always used with a positive update rate: the increase of the GDP / capita may be justified by the increase of the monetary transactions at the county level, but can be counterbalanced by the massive emigration of highly skilled labour force. Similarly, an insignificant increase in R&D spending will result in staff cuts in the public sector, and a drop of production capacity in the private sector. At the same time, GDP growth per capita may be positively influenced by the increase in entrepreneurship, but it can also be negatively influenced by the inefficiency of governance and irrelevant interregional cooperation, especially if it is revealed the situation of projects implemented in other cities and communes than Oradea. Another correlation should be made between school drop-out rate, which gives positive long-term signals, with increasing employment rates in the primary, secondary and tertiary sectors, as the author believes that it is necessary to invest in industry, services or agriculture, but it also requires competent people. Finally, tourism can be an alternative to the development of the county, even if the author has found an insignificant impact of long-term community funding. Last but not least, agriculture will be an extremely favourable development niche for Bihor County.

It is very difficult, in fact, to assess the economic impact of Cohesion policy, firstly because the data obtained cannot provide clear information on the net effects, at most they can illustrate the outcome (output) of the financed interventions and, secondly, analytical tools (macroeconomic models, counterfactual assessments, econometric methods) are required which use very technical language and are not accessible to the general public. A common mistake is that impact assessments mainly address GDP as the main variable, its growth effects being seen as a response to removing regional disparities; there are also variables that always give positive results to financial intervention, such as employment and social inequalities (European Commission, 2016). The indicators used in the author's estimates are not so common and presented at county statistics, so, as the effect of the separation of Structural and Cohesion funds flows cannot be highlighted in the main indicators at county level, the author states that the simulation of this model offers a potential and realistic analysis on the effects of the community projects and of their multipliers.

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Bio-note

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