

THE LINK BETWEEN TAXATION INDICATORS AT E.U. LEVEL AND ECONOMIC DEVELOPMENT

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This paper aims at providing a regional approach regarding VAT rate at E.U. level and its links with the level of economic development, using data from Eurostat for the 2004-2013 period. World-wide taxation levels reflect, in a certain measure, the economic state of a particular country. If the tax level within a country is higher, the living standards are also higher, whereas a low taxation level that incites economic growth, will eventually rise. The main indicators considered in the analysis presented in this paper, as most relevant to the subject at hand, are: taxes on income in conjunction with the level of the GDP, business demography, employee compensation, poverty thresholds, income distribution, employment rate and the number of newly founded enterprises.

Keywords: taxation, indicators, VAT, fiscal pressure, E.U., economic development;

JEL Classifications: E62, E63

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Introduction

The underlying link between the economic development of a country and its taxation system can be most aptly described by a contextual analysis of a series of relevant indicators. Thus, from the variety of indicators made available by Eurostat, this analysis shall cover the following elements: current taxes on income, GDP – gross domestic product, business demography, employee compensations, at risk of poverty thresholds, inequality of income distribution, employment rate between 20-64 years and total government revenue and expenditure.

The analysis is predicated on the assumption that the main scope of any government with regard to the economy of its country is to have low taxes at national level, which implies that the lower the taxes are, the better the living conditions in that particular country (i.e. the leverage between the employment rate, the fair distribution of income, the poverty threshold etc.).

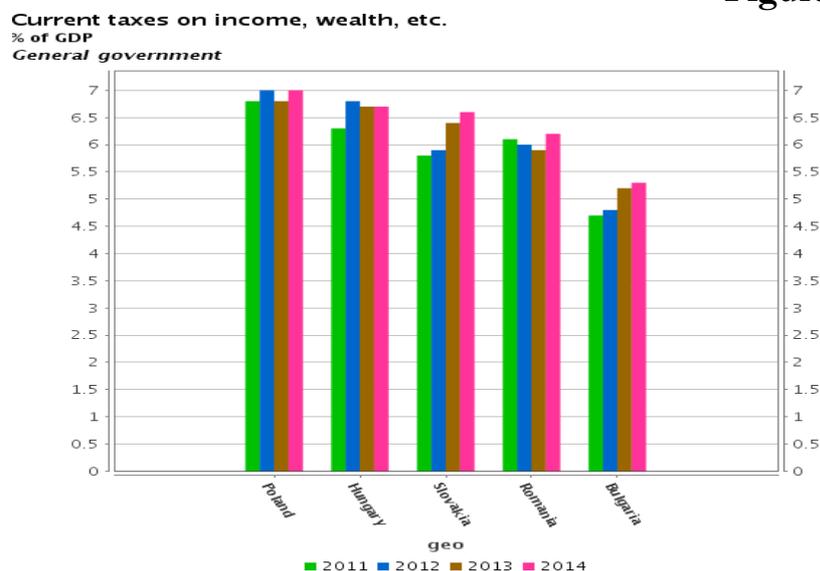
According to the data researched on Eurostat, the focus of the analysis will be mainly on the time period between 2009/2010 to 2014. The research is constructed around the relevant data available for five core economies, namely those of Romania, Hungary, Bulgaria, Slovakia and Poland, considered to be relevant in terms of relatively similar living conditions, varying degrees of economic development (with Poland currently leading the trend) and a similar timeframe for transitional evolution, from centralist state managed to market economies. Also, in order to attain a wider understanding of the fiscal phenomenon, the research also considers the Baltic States (Estonia, Latvia and Lithuania) in some instances, and also Germany and Austria. The analysis is based on the taxpayer's perspective.

Methodology

The data used in this paper is exclusively from the European Commission site: Eurostat, which is a free provider of a high quality statistic database. (as it describes itself: "Eurostat is the statistical

office of the European Union. Its task is to provide the European Union with statistics at European level that enable comparisons between countries and regions.”). Taking into consideration the type of data that is being used, the analysis provides a quantitative research, with special regard towards budget.

Figure 1



Taxes on income and GDP level

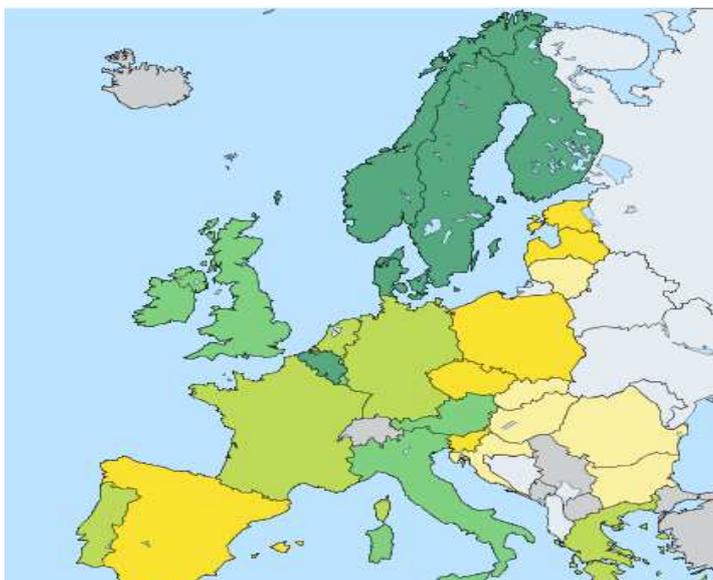
One of the most relevant taxes for the purposes of this analysis are certainly those perceived on income. Figure 2 provides an overview of the total current taxes on income as % of the country's total GDP.

Figure 2

Current taxes on income, wealth, etc.

% of GDP - 2013

General government



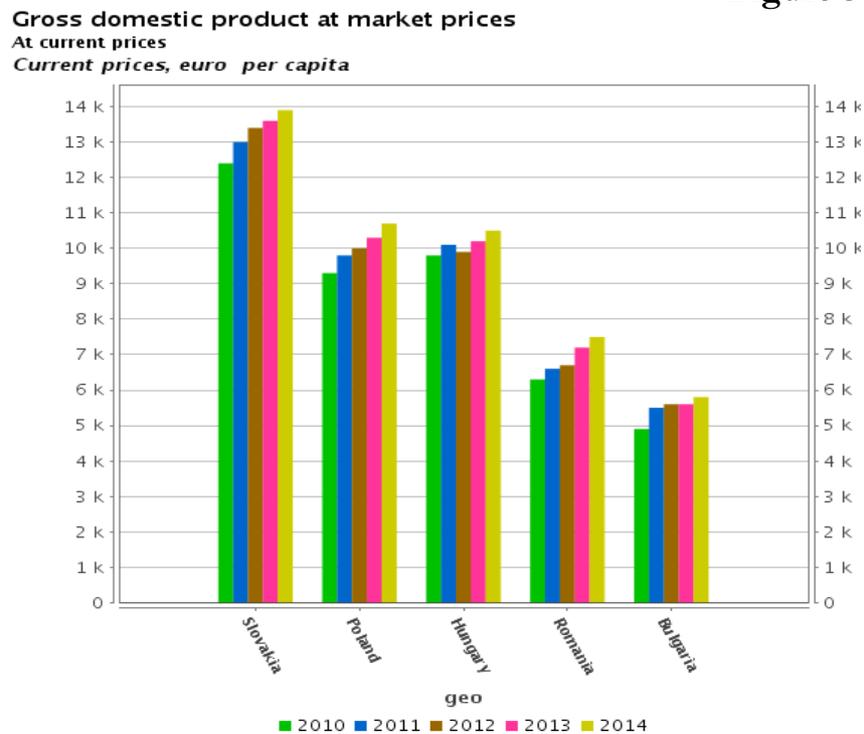
Source: Eurostat

Current taxes on income, wealth, etc. cover all compulsory, unrequited payments, in cash or in kind, levied periodically by general government and by the rest of the world on the income and wealth of institutional units, and some periodic taxes which are assessed neither on that income nor that wealth. Current taxes on income, wealth, etc. are divided into taxes on income and other current taxes.³ Figure 2 outlines the fact that Poland has the highest level of income taxes,

³ <http://ec.europa.eu/eurostat/data/database>

followed by Hungary and Slovakia. Bulgaria and Romania have the lowest level of income tax. Of course, the subjective and narrow opinion of the Romanian national, living and working in the Romanian economy, is that the taxes are too high. Nevertheless, when compared to those of neighboring countries, this perspective can be partially dismissed. Still, the point can be made that the taxes we pay are somehow high compared to the salaries and living conditions, but more on that further on.

Figure 3



Source: Eurostat

Other countries with low taxation systems on income and wealth are the Baltic States. On the other hand, the highest taxation levels across Europe can be observed in Sweden, Norway and Finland, which form the economic, social and cultural cluster of “the Nordic states”. In

order to provide a clearer perspective of this matter, the total GDP of the countries shall be taken into account, to observe if it matches the taxation level.

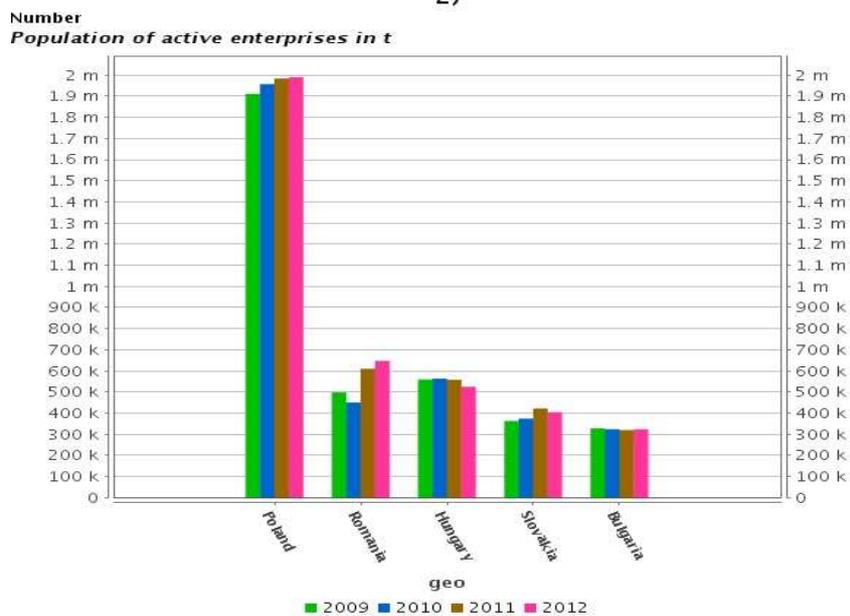
GDP (gross domestic product) is one of the most widely used indicators when observing a nation's economic situation. It reflects the total value of all goods and services produced less the value of goods and services used for intermediate consumption in their production. Expressing GDP in PPS (purchasing power standards) eliminates differences in price levels between countries, and calculations on a per head basis allows for the comparison of economies significantly different in absolute size.⁴ The country which has most to gain from this comparison is definitely Slovakia. It has medium level taxes on income and has the best GDP rate among the five. This means that from this particular point of view, more money stay within the internal economy, which means better living conditions for Slovakia's citizens, from the tax payer's perspective.

Business demography

Business demography provides information regarding the specific characteristics and demography of the population of a country involved in business activities. The data in Figure 4 shows that, as expected, Poland has the largest number of population active in enterprises. A surprising outcome is that Romania takes the second place in this order.

⁴ <http://ec.europa.eu/eurostat/data/database>

Figure 4
Business demography main variables – NACE Rev. 2 (B-N excluding K6 2)



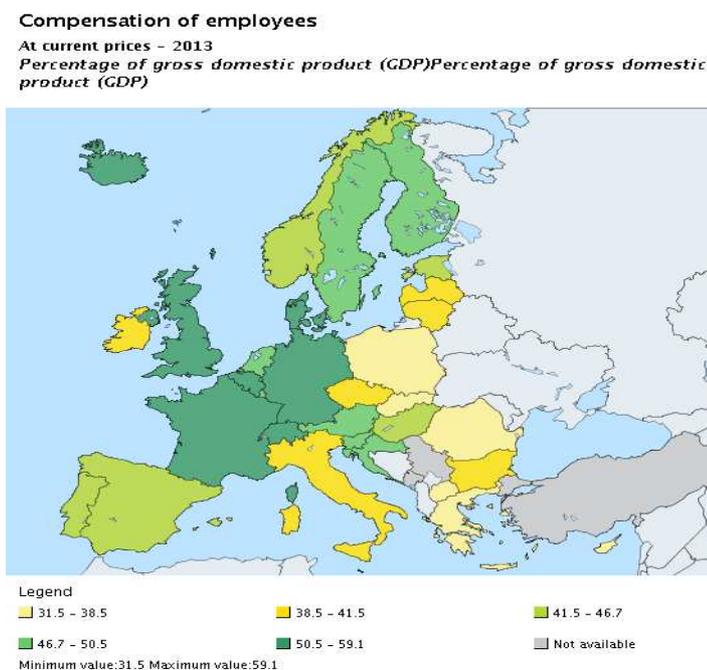
Source: Eurostat

Summarizing the information analyzed so far reveals not only that Romania has a low tax level for income, but also that it is currently active in the field of entrepreneurship. On negative aspect in this respect is that the GDP level in Romania is consistently low. So far, the Bulgarian economy ranks in last in the statistics, showing a lack of economic development over time. Another conclusion which can be derived from the business demography indicator is that the available data shows an increase in this area in Romania. This means that the level of entrepreneurship is increasing, therefore the premises for improving the economic state of the country are present and could lead to such a development.

Compensations of employees

Compensation of employees can be defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for services rendered by the latter. In particular, it also includes social contributions paid by the employer.

Figure 5



Source: Eurostat

The map in Figure 5 reveals the fact that, in the Central and Eastern part of Europe, the level of compensation received by an employee varies between 31% (of GDP) and 41%. This provides supplementary evidence to the aforementioned conclusion that Romania and even its neighbors (except Hungary, which has a level between 41% and 47%) have normal level taxes, considering the category in discussion, which includes salaries and all types of contributions that an employer makes

for its employee. For the purposes of this research, “normal level taxes” designates the average tax rates of EU member states.

The data also shows that the Baltic States (Estonia, Latvia, and Lithuania) also have a low employee compensation level, compared to the rest of Europe. Such is the case also with Ireland, Italy and Greece also have a compensation level under 41.5%.

This type of information is extremely relevant for newcomers on the European business market. If you are an entrepreneur searching for a perfect country to establish your business, the countries listed above are perfect from the perspective of cheaper labor force and also openness to new businesses.

At-risk-of-poverty thresholds

The Europe 2020 strategy promotes social inclusion, in particular through the reduction of poverty, by aiming to lift at least 20 million people out of the risk of poverty and social exclusion. This indicator corresponds to the sum of persons who are: at risk of poverty or severely materially deprived or living in households with very low work intensity. Persons are only counted once even if they are present in several sub-indicators. At risk-of-poverty are persons with an equivalent disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equivalent disposable income (after social transfers).⁵

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http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=t2020_50&plgin=1

Tabel 1

At-risk-of-poverty thresholds

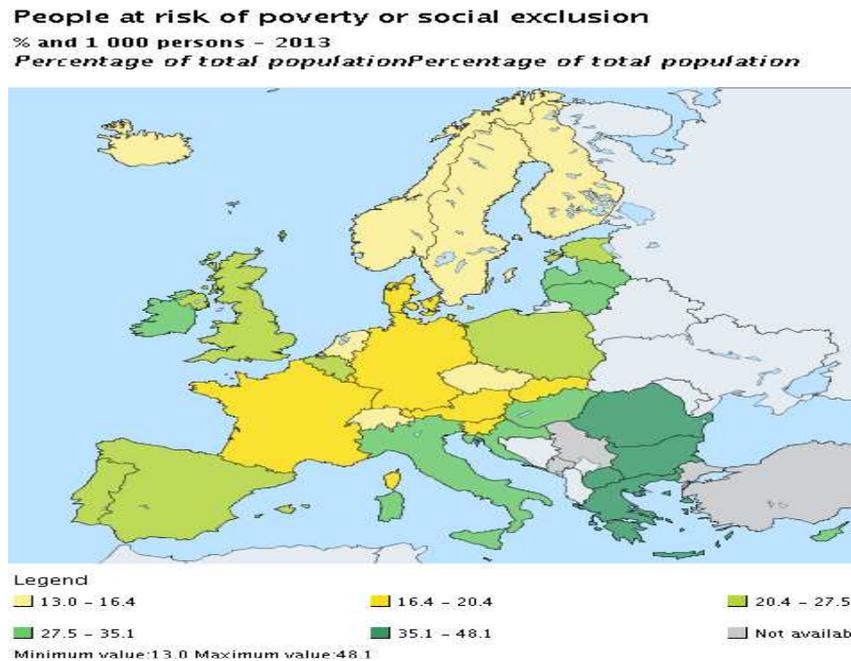
HHTYP	Single person				
INDIC_IL	At risk of poverty threshold (60% of median equivalised				
CURRENCY	Euro				
TIME/GEO	Bulgaria	Hungary	Poland	Romania	Slova
2010	1,810	2,544	2,643	1,222	
2011	1,749	2,721	3,015	1,270	
2012	1,716	2,852	3,036	1,270	
2013	1,754	2,717	3,098	1,240	
2014	:	2,738	:	:	:

Source: own processing of data from Eurostat

At the time this analysis was conducted, Eurostat did not provide data for 2014 (with the exception of Hungary), therefore the research is focused on the most recent period available at the time, namely up to the year 2013.

The poverty risk indicator seems to provide a negative outcome to Eastern Europe, which includes Romania. Romania, Bulgaria and Greece are at the bottom of the list here, which means that the threshold of poverty risk is over 35 %. Between 35% and 48% of the total population is at risk of poverty. The Baltic States rank in slightly better in this respect, but the lowest thresholds of poverty risk are in the Czech Republic, Switzerland, The Netherlands, Iceland, Norway, Sweden and Finland.

Figure 6



Source: Eurostat

Inequality of income distribution

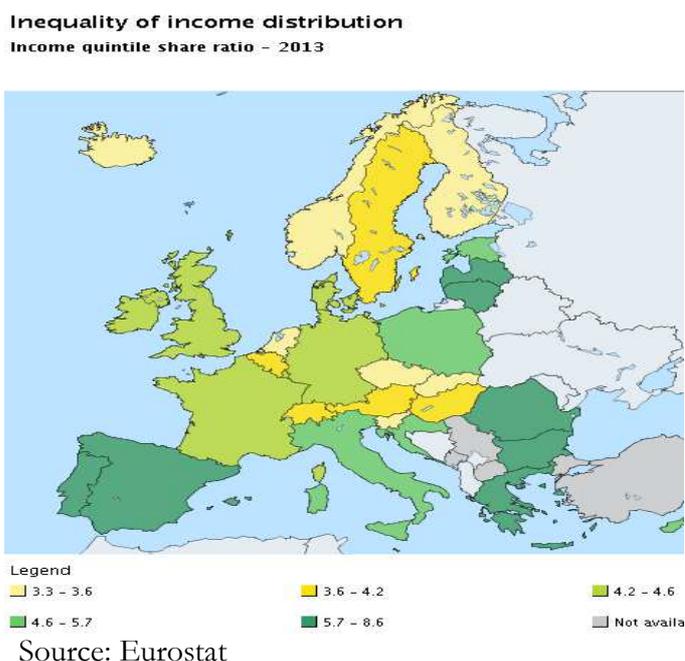
It can be most broadly described as the ratio of total income received by the 20 % of the population with the highest income (top quintile) to that received by the 20 % of the population with the lowest income (lowest quintile). For purposes herein, income must be understood as equivalent disposable income.

The inequality of income distribution represents another indicator which can bare significant relevance in a decision whether to establish a business in a certain country or not or to simply choose a new workplace.

The lower the rate of inequality, the better. The map of the inequality of income distribution (Figure 7) outlines big discrepancies in Romania, Bulgaria, Greece, the Baltic States, Spain and Portugal

(noting that the latter have decreased their inequality of income distribution in 2013 and 2014).

Figure 7



The mapping also reiterates a previous conclusion, which is that Nordic States receive the highest ranking scores. They have low inequality of income, which means that the salaries and wages are decent for all types of work fields (even the lowest incomes show very good numbers); nevertheless, it should also be noted that the same countries have higher tax levels, when compared to the average.

Employment rate

Another indicator that proves relevant to entrepreneurs, investors or simply citizen workers is the employment rate. The employment rate is calculated by dividing the number of persons aged 20 to 64 in

employment by the total population of the same age group. The indicator is based on the EU Labor Force Survey. The survey covers the entire population living in private households and excludes those in collective households such as boarding houses, halls of residence and hospitals.⁶ Employed population consists of those persons who during the reference week did any work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent.

Table 2

Employment rate

SEX	Total				
INDIC_EM	Employment rate (20 to 64 years)				
GEO/TIME	2010	2011	2012	2013	2014
Bulgaria	65.4	62.9	63.0	63.5	63.5
Hungary	59.9	60.4	61.6	63.0	63.0
Poland	64.3	64.5	64.7	64.9	64.9
Romania	64.8	63.8	64.8	64.7	64.7
Slovakia	64.6	65.0	65.1	65.0	65.0

Source: own processing of data from Eurostat

This field does not provide much variations. The numbers show that Hungary has recorded the highest increase in the employment rate in the last two years. And in the year 2014, the scores across countries vary from 65.1% to 66.7%.

Number of new enterprises

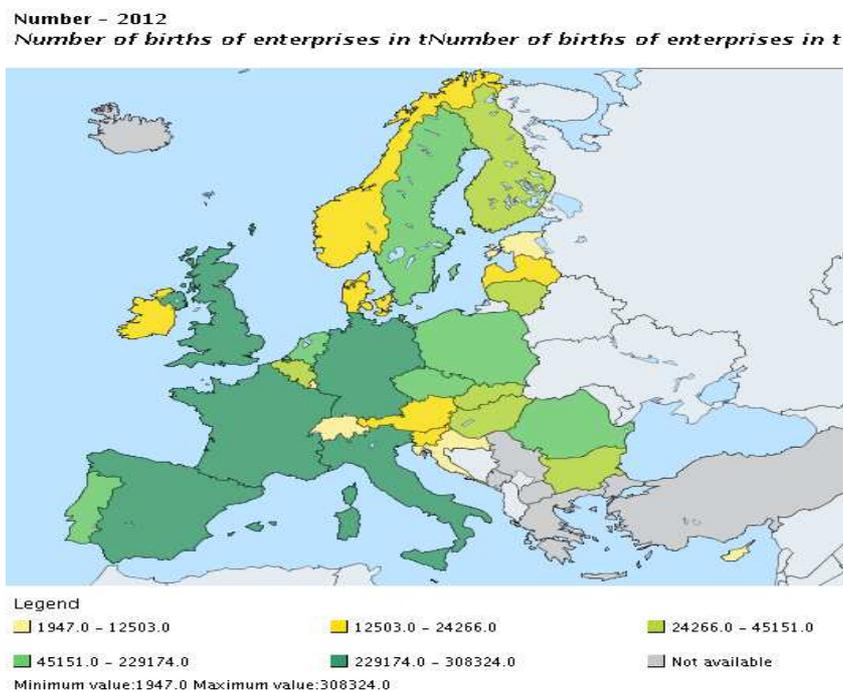
This particular indicator represents the traditional tool for measuring the level of entrepreneurship within a country. It is evident that a big number of business entrants and company establishments will derive

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<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdec420&plugin=1>

in an elevated level of entrepreneurship. Usually, a high level of entrepreneurship is desirable because as long as private institutions are multiplying and running well, they boost the national economy by offering new jobs, investment opportunities in the local market, exports and so on.

Figure 8



Source: own processing of data from Eurostat

The map provided in Figure 8, shows a low level of entrepreneurship in Central and Eastern Europe (in the year 2012 – most recent available data on Eurostat at the time the study was conducted). Western and Southern EU (with the exception of Ireland) show high levels of entrepreneurship, in conjunction with their level of taxes.

Therefore, it can be stated that there is an obvious correlation between the tax level, entrepreneurship level and living conditions. While the entrepreneurship level grows, so does the living standards, but what is important to know is that the taxes value will also grow alongside the country's GDP.

Recent studies show that the level of entrepreneurship in Romania is modest and it is not showing signs of quick recovery. The high level of investor's aversion towards risks and the uncertainty of economic perspective, together with administrative barriers negatively influenced the evolution, activity and performance of Romanian entrepreneurship.

According to the White Paper on SMEs, the most common problems of entrepreneurs are referring to: legislative framework (51.32%), excessive bureaucracy (45.22%), low possibility to predict the evolution of business environment (32.30%) and corruption (31.76%). These are accompanied by social tension (27.12%), political changes in country management (22.93%) and the politics of IMF and WB (17.11%). (Research Company GfK Nuremberg-Germany, Case Study on Romanian Entrepreneurship, 2013).⁷

According to the study, men (64.96%) are more actively involved in the new venture creation process than women (35.04%). For recent entrepreneurs (less than 3 years), the highest rate of business creation is recorded by individuals between 26 and 30 years old (30.88%) and between 31 and 35 years old (31.5%). The rate of business creation decreases with respect to age, and moves from 13.10% for individuals between 36 and 40 years old to 6.76% in the case of individuals over 50 years old.

⁷ Amway Global Entrepreneurship Report 2013 "Encouraging Entrepreneurs – Eliminating the Fear of Failure" The study has been made by the research company GfK Nuremberg, Germany, and the Centre for Entrepreneurship of the Ludwig Maximilian University in Munich, in 16 European countries; can be found at: <http://www.youngstartups.eu/wp-content/uploads/2014/02/Case-Study-Romanian-Entrepreneurship.pdf> - last visited June 2015

Regarding the social traits, self-confidence is one own entrepreneurial skills that fuels entrepreneurial activity, the individuals involved in entrepreneurial activities having a lower social fear to business failure.

Correlations

According to the correlation matrix provided in Table 3, which processes data from Eurostat, it can be said that there are high levels of correlation between: Government revenue – Compensation of employees, Unemployment rate – Taxes on income, Unemployment rate – Compensation of employees.

Table 3

Correlation matrix

Equation: UNTITLED Workfile: DATA FOR TAXES::Untitled\									
View	Proc	Object	Print	Name	Freeze	Estimate	Forecast	Stats	Resids
Coefficient Covariance Matrix									
	TAXES_ON_...	TOTAL_GOV...	TOTAL_GOV...	UNEMPLOY...	POPULATION	COMPENSA..	C		
TAXES_ON_INCOME	29.66588	-30.33266	16.30702	32683.12	0.010879	32.04818	-464657.3		
TOTAL_GOVERNMENT_EXPENDI	-30.33266	107.8342	-73.13603	-57808.70	-0.054480	-135.5902	1032050.		
TOTAL_GOVERNMENT_REVENUE	16.30702	-73.13603	52.56604	45237.10	0.031564	85.52744	-731696.5		
UNEMPLOYMENT_RATE	32683.12	-57808.70	45237.10	3.06E+08	-25.38614	42178.32	-3.44E+09		
POPULATION	0.010879	-0.054480	0.031564	-25.38614	0.000148	0.062733	-342.5198		
COMPENSATION_OF_EMPLOYEE	32.04818	-135.5902	85.52744	42178.32	0.062733	210.2867	-1063198.		
C	-464657.3	1032050.	-731696.5	-3.44E+09	-342.5198	-1063198.	5.12E+10		

Source: own processing of data from Eurostat

Influence probability of the level of entrepreneurship

Table 4

Influence probability of the level of entrepreneurship

Equation: UNTITLED Workfile: DATA FOR TAXES::Untitled\									
View	Proc	Object	Print	Name	Freeze	Estimate	Forecast	Stats	Resids
Dependent Variable: NUMBER_OF_ENTERPRISES									
Method: Least Squares									
Date: 06/04/15 Time: 00:01									
Sample: 1 28									
Included observations: 28									
Variable	Coefficient	Std. Error	t-Statistic	Prob.					
TAXES_ON_INCOME	0.989636	5.446640	0.181697	0.8576					
TOTAL_GOVERNMENT_EXPENDI	-12.21879	10.38432	-1.176657	0.2525					
TOTAL_GOVERNMENT_REVENUE	7.405733	7.250244	1.021446	0.3187					
UNEMPLOYMENT_RATE	26777.57	17486.14	-1.531360	0.1406					
POPULATION	0.042289	0.012173	3.474023	0.0023					
COMPENSATION_OF_EMPLOYEE	23.21706	14.50127	1.601037	0.1243					
C	-245157.6	226309.8	-1.083283	0.2910					
R-squared	0.853888	Mean dependent var	798097.5						
Adjusted R-squared	0.812142	S.D. dependent var	971455.5						
S.E. of regression	421053.8	Akaike info criterion	28.95123						
Sum squared resid	3.72E+12	Schwarz criterion	29.28428						
Log likelihood	-398.3172	Hannan-Quinn criter.	29.05304						
F-statistic	20.45428	Durbin-Watson stat	2.369784						
Prob(F-statistic)	0.000000								

Source: own processing of data from Eurostat

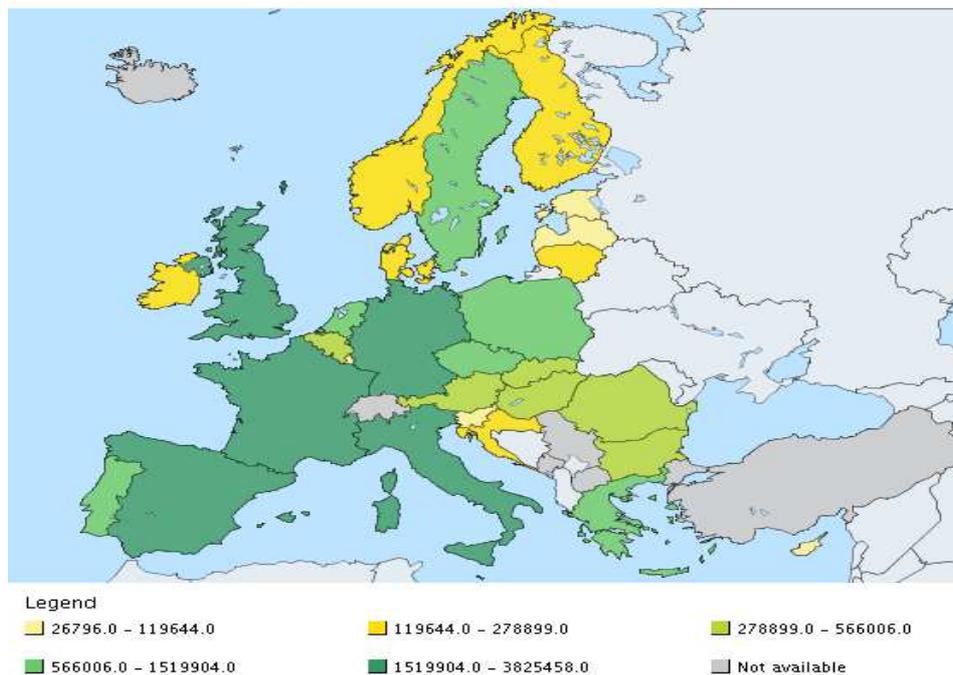
The estimation table (Table 4) provides data as to ascertain the fact that the number of enterprises (the level of entrepreneurship) is mainly influenced by the population number, with the unemployment rate ranking in second.

Other indicators: Number of enterprises

Figure 9

Number of enterprises in the non-financial business economy by size class of employment

TOTAL
2012



Source: own processing of data from Eurostat

The data shows that Eastern European countries and those along the border of the EU present a lower number of enterprises. The lowest numbers of companies are in the North-East of Europe, and Ireland. Again, the Baltic States have the lowest scores in this area too, which means that they are open to business entrants on any available market.

Conclusions

If it can be accepted as common knowledge the fact that trade is a powerful tool for government, it can be further accepted that it represents the main engine of the country's economic support and the

backbone of investments. World-wide taxation levels reflect, in a certain measure, the economic state of a particular country. It is safe to contend that if the tax level within a country is higher, the living standards are also higher (conditions, GDP, etc.). Where the tax level is lower, along with the economic growth, the taxes are bound to eventually rise.

There is no perfect balance between taxation levels and living conditions within a country, but there is that starting moment of economic improvement, when people begin to manifest a tendency to invest their savings. The first businesses started in countries with low taxation levels have a lot to gain, as they enjoy a period of low-taxation and cheap labor force. The tipping point is represented by the increasing number of economic agents which come with fresh capital, their entrance also marking also a rise in the tax level.

Although there are some examples of countries that have low tax values and higher GDP percentage (e.g. Slovakia), it is only a matter of time until the fiscal system begins to develop new fees, and in a couple of years the taxation level will increase.

Another strong “tool” and main ingredient of economic growth is the private field. Companies, businesses and private institutions are the main purveyors of financial growth. Their activity is also the main sources of obtaining tax revenue. We can also observe the fact that countries with a high level of business demography also have a better financial and social status (they become attractive and desirable). These countries have a higher employment level and also the poverty risk is very small.

The member states of the European Union that fall into the abovementioned category are situated in the West-Central part of Europe and they are: Spain, United Kingdom, France, Germany and Italy in the South.

Thirdly, there is the problem of the less developed countries and their desperate need for economic and social integration. Despite the fact

that they have all the necessary elements for proper business establishments and offer a favorable environment for many different market entrants, investors tend to avoid these countries and the internal population is hard to motivate and convince to develop private companies. There are several reasons which cause this obstruction development. As the case study has shown, the countries which need financial investments most are cast aside for their negative points like: cultural background, level of GDP (low GDP is not appealing), high poverty risks, and overall low living standards.

The European Union's member states with the lowest taxes on income and wealth are the ones situated in the East and Central Europe, which consist of Romania and its neighbors, Bulgaria, Slovakia, Hungary, Poland and of course the Baltic States, Latvia, Lithuania and Estonia.

Also, if one would be interested in developing a business in one of the countries mentioned within this analysis, it could be said that, owing to demography data, Poland and Romania would be the best two choices because of their business rate. On the other hand, speaking subjectively, all five would be a good choice because of their low level of business demography, which means that there are a lot of uncovered fields, leading to a certain openness of the population to new market entrants.

References

- Benczes, I. (2014) *Deficit and Debt in Transition*, Budapest, New York: CEU Press
- Blanchard, O., Amighini, A. and Giavazzi, F. (2010) *Macroeconomics: a European Perspective*, Essex: Pearson Education
- Borio, C. (2014) 'The financial cycle and macroeconomics: What have we learnt?', *Journal of Banking & Finance*, vol. 45, August, 1 pp. 182–198

- Buchanan, J.M., Irwin, R.D. (1970) *The Public Finances*, Georgetown: Irwin Dorsey Limited
- Eurostat statistical database [Online], Available: <http://ec.europa.eu/eurostat>
- Fisher, R. (1987) *State and local public finance*, London: Scott Foresman.
- Ferreiro, J., Garcia del Valle, M. and Gomez, C. (2012) 'Similarities and Differences in the Composition of Public Expenditures in the European Union', *Journal of Economic Issues*, vol. 46(3), pp. 633–659
- Mulas-Granados, C. (2006) *Economics, Politics, and Budgets-The political Economy of fiscal consolidation in Europe*, New York: Palgrave
- Mutiganda, J.C. (2013), 'Budgetary governance and accountability in public sector organisations: An institutional and critical realism approach', *Critical Perspectives on Accounting*, vol. 24, pp. 518–531
- Rubin I.S. (2014) *The Politics of Public Budgeting*, London: CQ Press
- Shoup, C.S. (1955) 'Taxation in France', *National Tax Journal*, vol. 8, December, pp. 325-344

