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## **THE TAXPAYER'S BEHAVIOR AT SOUTH – EASTERN EUROPEAN LEVEL**

***Abstract:** Through this article we have identified factors of influence that determine a significant impact in the change of taxpayer behavior in the South - East of Europe. In this regard, we considered seven countries for which we selected and centralized data on tax rates, corruption indices, corruption control, government efficiency, economic growth and the underground economy. The tax rate was the dependent variable in the multifactorial model, a model that was applied to each country, and the rest of the variables were dependent variables. As a result, we have been able to see that the rate of taxation is influenced by corruption and how it is perceived, as well as the efficiency of governance, including the capacity to increase domestic product and the underground economy in countries such as Greece, Poland and Bulgaria.*

***Keywords:** tax compliance, fiscal behavior, tax incidence, multifactorial regression, statistical analysis.*

**JEL Classification: H20, H22, H26, C50, C52.**

### **1. Introduction**

Zhang et al. (2016) said about fiscal compliance in Southern Europe, or rather about the reasons for non-compliance in this region, that among these would be the low level of quality of services in state institutions, so we do not surprise that certain taxpayers do not want to pay their tax obligations. The authors show that the literature has formulated more and more theories, theories they call "institutionalist", and which, to a large extent, correlate the quality of the government with the willingness to comply with the taxpayer. Thus, taxpayers are more conscientious when they are convinced that their money is spent honestly and efficiently, and on the other hand, taxpayers become unclear when they perceive corrupt and wasting state institutions.

Starting from this region and from the impact of the quality of public services on fiscal compliance, as a nucleus around which we have developed the whole article, we have, through this paper, to analyze the factors of influence in tax compliance of the taxpayer in South - East. Thus, the first part of the article constitutes a critical review of the literature, which since 1992 has presented a number of factors influencing fiscal compliance through various studies, econometric models and statistical methods used. Subsequently, within the research methodology we presented the factors of influence which in our opinion, are important, showing, *mutatis mutandis*, graphically the category they are part of. We also defined and presented their calculation mode, presented the shape of the selected model, and the characteristics of the data to be included in the model. The empirical results present the model obtained in each country and the interpretation of the coefficients thus obtained by reference to the new contemporary fiscal reality, and last but not least by reference to the empirical results from studies found in the specialized literature.

## 2. Background and related work

To begin with, we consider it important to present the factors that determine tax compliance and / or non-compliance through a review of the literature, considering it imperative to define compliance and non-compliance. Thus, according to Harun et al. (2014, pp), tax compliance can be defined as "the legal use of the tax regime for its own advantage" to reduce the tax paid by legal means, meaning that the authors refer, without expressly speaking *verbis*, to those advantages fiscal nature provided by the tax code. As regards tax non-compliance, this represents the non-fulfillment of tax obligations, intentionally or unintentionally. The relationship between the two concepts influenced by the compliance rate result. According to Fonseca and Myles (2012),  $0 \leq \text{compliance}$

rate  $\left[ = \frac{\text{Reported income}}{\text{Revenue earned}} \leq 1, 0 \right]$ , which means that none of the income earned is declared, and 1 that the total income is declared.

Influencing factors are found to be analyzed long before Fisher's cataloging (1992), but as this article suggests framing certain selected indicators in advance, we will go from cataloging rather than identifying them. So, in 1992, Fischer grouped the influence factors into four categories: demographic (age, gender, education), non-conformance opportunity (income level / source), attitude and perception (influence) and system / control, sanctions, quota). Chau and Leung (2009) suggest a refinement of the model presented by Fischer by incorporating another factor: the effect of the interaction between the opportunity for non-compliance and the system / structure of the fiscal system on tax compliance. A refinement of the Fischer model is also suggested by Lawan & Salisu (2017), according to which "emotional intenlingens" is another factor worth to be corroborated by the model. Regarding this factor, the authors assert that they represent the quality of man in managing their emotions, and they also constitute the "catalyst" that motivates the motivation to take action in order to achieve the

desired objective. Two months later, in another paper, Lawan (2017) suggests adding to the Fischer model and two other factors: "the moderating effect of fiscal reform" and "the moderating effect of the perceived tax service quality."

Thúc (2013) reviews the literature and groups the authors who studied and analyzed the impact of influence factors on how they in turn shared factors of influence, and the categories of factors that distinguish between the authors presented are (tax, knowledge, accountancy), psychology (social norms, public expenditure, tax morals, correct perception), tax administration (the application of the rules): the industry (competition, marginal profit, industry risk, growth rate, capital structure) law, probability of control, sanctions, etc.), economy (share, interest, inflation). A group of literature will also be found in Marandu et al. (2014), but this time after the existence or not of a model in the paper and a statistical method, and depending on the variables used and associated with the tax compliance phenomenon. Influence factors are grouped into four other categories: attitude, subjective norms, performance of behavioral control, and other factors.

Bătrâncea et al. (2012) outlines the practical effects for understanding tax compliance factors from 2 Australian Taxation Office Compliance Model (ATO) and New Zealand Inland Revenue. The authors show that the two models resemble, based on the BISEP instrument, a tool made up of the five important categories of compliance factors: business, industry, sociological, economic and psychological. The ATO model is based on the intrinsic and applied motivation of the taxpayer, which we will also find under the name of its fiscal moral.

Feld and Frey (2001) established a link between external factors and intrinsic motivation, showing the impact of tax authorities' attitudes on the individual morals of individuals, and the empirical results highlighted that the desire to conform and implicitly moral falsity is directly influenced by the way in which taxpayers are treated by the authorities. Kiow et al. (2017) presents tax morality as the taxpayer's own perception that paying taxes is a natural thing, moreover, by resorting to literature as well, demonstrating that a taxpayer has a fiscal moral if he pays taxes, regardless of how in which the state will manage that money and regardless of the tax behavior of others.

### **3. Research methodology and empirical data**

Ocheni (2015) shows that despite the fact that taxes are a major source of revenue mobilization for the state budget, not all states exploit this generating source at maximum capacity and the causes are related to the vulnerability of the systems, namely: taxation, legislation and administration, political issues, corrupt tax collection practices and the taxpayer's attitude towards paying taxes and others.

Beale and Wyatt (2017) argue that when looking at fiscal compliance, factors such as corruption, malpractice, resource shortages, inefficiency of legislation, and failure to adopt effective legislation need to be analyzed. The authors submit tax compliance in terms of land and property tax, while pointing out that the literature is abundant in compliance studies.

When looking at fiscal compliance, we cannot neglect the impact of effective public governance, because effective governance, according to Everest-

Phillips & Sandall (2009), has an overwhelming role in the tax system. The authors point out that the connections between governance, the tax system and the investment climate are presented as three key and complementary key elements: good governance builds a "healthy" fiscal system, an effective fiscal system defines sustainable governance, a fair tax system contributes to the formation of an investment climate capable of attracting investors.

Al-Ttaffi & Abdul-Jabbar (2015) states that it is generally defined as "effective" when the government uses and manages the resources of the country to meet the needs of the population, only that the authors show that, having given that the requirements vary according to importance, the government should have accurate priorities. Starting from this definition of good governance, we could say that a public government should be able to contribute, during its existence, to the growth of the economy marked by a steady growth rate of GDP and, why not, to a considerable reduction of the underground economy.

In view of the above factors of influence, we considered that corrupt practices or corruption, public governance, economic growth and the underground economy could also underpin sustainable tax compliance in South - East Europe. Selected countries within the region on the basis of data availability were: Greece, Czech Republic, Hungary, Romania, Poland, Slovakia, Bulgaria. Therefore, at the level of each selected country, we have built a multifactorial regression model, in which we selected the tax compliance as a dependent variable and the factors of influence previously presented as independent variables.

Given that, in order to be introduced into the model, each variable must have a numerical expression and an evolution while it is to be analyzed, for each variable I have associated an indicator and a number of 17 observations on that indicator (17 years) as follows:

**Dependent Variable** - Tax compliance - Tax rate ( $R_t$ ) =  $\frac{\overline{\text{Total taxes}}}{GDP}$ ;

**Independent variables:**

- Corrupt practices / corruption - Corruption Perception Index (IPC) and Corruption Control ( $C_c$ );
- Public Governance - Government Efficiency ( $E_g$ );
- Economic Growth - GDP Growth Rate ( $C_e$ );
- The underground economy - The underground economy at the level of each selected country ( $E_s$ );

Turning to the Fischer (1992) model on tax compliance factors, as presented by Chau & Leung (2009) and Bruce-Twum (2011), we will identify the influence factors presented in Figure 1 of Annex B, the area where the factors in our model are located. Also, the factors that we considered important to be selected can be categorized as "behavioral control performance" presented by Marandu et al. (2014).

So, we can see that out of the papers analyzed, corruption is similar in our case to two forms: corrupt government and corruption of tax agents, and economic growth in the form of gross national product. Paradoxically, out of the 18 studies,

only one establishes a direct link between the corrupt government and tax compliance, and another indirect link between corrupt tax officers and tax compliance, due to the fact that the intrinsic motivation to pay taxes is different from one area to another. In terms of economic growth, a single study analyzes this variable, according to which there is no causal link between it and tax compliance. According to Baszczynska & Pekasiewicz (2011), the Corruption Perceptions Indicators, the CPI, as presented below and in the model, represent a way of quantifying the phenomenon of corruption, defined as the abuse of public power for the private use of dignitaries and politicians in their country. As for the calculation method, according to Thompson & Shah (2005), it would be:

$$\overline{CPI^j} = \frac{1}{N_j} \sum_{i=1}^{N_j} S_i^j = \frac{1}{N_j} \sum_{i=1}^{N_j} [V_t^j - \mu_t^{sub}] \frac{\sigma_{t-1}^{sub}}{\sigma_t^{sub}} + \overline{\mu_{t-1}^{sub}},$$

where:

„ $N_j$  – the number of different sources of corruption assessment in country j  
"(Thompson & Shah, 2005, pp. 2);

„ $V_t^j$  – the value obtained from an assessment of corruption in a given country in year t;

$\overline{\mu_t^{sub}}$  – the average of the subgroup for a certain corruption assessment in year t;

$\sigma_{t-1}^{sub}$  – standard deviation of the CPI sub - group in year t - 1;

$\sigma_t^{sub}$  – the standard deviation of the CPI sub - group in year t;

$\overline{\mu_{t-1}^{sub}}$  – the standard deviation of the CPI sub - group in year t

*Corruption Control*,  $C_c$ , is an indicator that quantifies the quality of government and expresses the perception of the extent to which public power is exercised for the benefit of private gain, both in large and small forms of corruption, and how the state is "captured" by elites and personal interests.

*Government efficiency*,  $eg$ , is an indicator that quantifies the quality of government and expresses the quality of public service, public policy making, implementation, and independence from political pressures, the credibility of the government and its commitments.

With regard to the underground economy,  $Es$ , as a percentage of GDP, includes the underground economy of labor, the material used, illegal activities related to goods and services.

*The estimation method* used in predicting parameters is the least square regression technique (OLS). According to Anyaduba et al. (2014) method presents coherence, impartiality and efficiency properties. The software platform used is the Eviews 9.0 program. The form of the econometric model of multifactorial regression is (Anghelache et al., 2012):

$$\overline{y_{it}} = \alpha + \sum_{i=1}^n \beta_i + \overline{\varepsilon_{jt}}, \text{ where:}$$

$\overline{y_{it}}$  – the endogenous variable adapted to the model used - Rf;

$\alpha$  – constant, which the software platform will provide as a result of the estimate;

$\beta_i$  – parameter vector to be estimated for explanatory variables using Eviews 9.0;

$\overline{X_{ijt}}$  – the vector consisting of explanatory variables, adapted to the current situation, vector of the selected factors of influence for the model;  
 $\overline{\varepsilon_{jt}}$  – Residue vector (model-associated errors).

We have built such a model at the level of each selected country, and its shape is:  $R_f = \alpha + \beta_1 IPC + \beta_2 C_c + \beta_3 E_g + \beta_3 C_e + \beta_3 E_s + \varepsilon_{jt}$

Empirical data has been collected from the World Bank portal, whose credibility cannot be doubted. The data presents an annual frequency, between 2000 and 2016, representing a total of 17 periods. The total number of observations is 714.

#### 4. Empirical results

In presenting the obtained results, we will go from the estimation of the parameters in the model, in the manner performed with the software platform Eviews 9.0. and presented in Tables 1 to 7 of Annex A. We will subsequently replace the parameters obtained in each country, we will interpret the parameters, the intercept or the constant, the values obtained by the coefficient of determination and the coefficient of determination corrected with degrees of freedom, in which case we will observe the extent to which the model is well chosen from one country to another. Because we will not resort to testing the assumptions for each model, given the number of countries chosen, we will summarize the interpretation of the values obtained by the F-statistical test as a test that confirms or invalidates the validity of the regression model. Thus, according to Table 1 of Annex A, the form of the regression model for Greece is:

$$R_f = 38.57584 - 0.703256IPC + 6.158088C_c - 13.81212E_g - 0.011504C_e - 0.277498E_s + \varepsilon_{jt}$$

**Table 1. Estimation of multifactor model parameters in Greece**

<b>The dependent variable: Greek tax rate as an expression of Greek fiscal pressure</b>				
<b>Explanatory variable</b>	<b>Coefficient</b>	<b>Standard error</b>	<b>t-statistic</b>	<b>Probability</b>
IPC (Greece)	-0.703256	1.300067	-0.540938	0.5993
C <sub>c</sub> (Greece)	6.158088	4.503317	1.367456	0.1988
E <sub>g</sub> (Greece)	-13.81212	4.867556	-2.837588	0.0162
C <sub>e</sub> (Greece)	-0.011504	0.035494	-0.324125	0.7519
E <sub>s</sub> (Greece)	-0.277498	0.513883	-0.540002	0.6000
Constant	38.57584	15.04595	2.563868	0.0263
<b>R<sup>2</sup></b>	0.779106	<b>Durbin-Watson stat</b>	1.187353	
<b>R<sup>2</sup> adjusted</b>	0.678700			
<b>F - statistic</b>	7.759524	<b>Prob(F-statistic)</b>	0.002388	

Before interpreting the parameters, it should be noted that for the time series containing the values of the underground economy, series marked with  $E_s$ , for 2016 no information was available, which is why we approximated the value of 22.4, value obtained in 2015. Similarly, we did the same for the rest of the countries due to the fact that the data for the whole 2016 underground economy data were not available, so we considered it appropriate to estimate them from 2015, as follows:  $E_s$  (Czech Republic)/2016 = 15,1,  $E_s$  (Hungary)/2016 = 21,9,  $E_s$  (Romania)/2016 = 28,  $E_s$  (Poland)/2016 = 23,3,  $E_s$  (Slovakia)/2016 = 14,1,  $E_s$  (Bulgaria)/2016 = 30,6.

Regarding the parameters obtained, we can see a negative correlation between the tax rate and corruption perceptions, government efficiency, economic growth and the underground economy. Although we can see that the negative relationship between the tax rate and the underground economy is predictable, since as long as the amounts of money representing taxes converge under different forms in the underground economy and lead to a reduction in tax revenues and implicitly rate of taxation, in the case of the other parameters it is necessary to explain the results obtained individually

Therefore, the negative correlation between the rate of taxation and economic growth would seem to be a paradox in the first instance, especially when we take the assumption that the main source of revenues to the state budget is represented by fiscal revenues. However, having a mathematical departure from the calculation formula, economic growth over time means GDP growth, which is the denominator of the formula for calculating the tax rate, with some steady tax revenues and a base the tax rate is diminishing. According to this explanation and the related results, we could say that in the case of Greece economic growth is sustained by a large proportion of other income, also repaired in its geography, a suggestive example being the incomes from tourism.

Regarding the negative relationship between the tax rate and the efficiency of the government, the explanation might in principle be the same as the previous one; if Greece has high government efficiency, that is to say, the quality of public service, high government policies, budget money does not have the main source of income taxes, and GDP at a larger count reduces the rate in the whole They.

In the case of the negative relation between the corruption perception index but positive between the corruption control and the rate of taxation, we consider that this relationship is justified by what we referred to as "tax morality", more precisely, the intrinsic motivation to pay taxes. The taxpayer's motivation is even lower as it perceives higher corruption and is more accentuated as it realizes that it is controlling (in the idea of a gradual decrease) by state authorities.

According to Anghelache et al. (2013) the determinant coefficient ( $R^2$ ) shows the validity of the chosen model, in order to explain the variance of the dependent variable, and the more the value obtained by this coefficient is closer to 1, the more we can say that the model is well-chosen. The corrected coefficient of determination with degrees of freedom (adjusted  $R^2$ ) has the same meaning as the determinant coefficient. In the light of this explanation, we will interpret the following models obtained for the following countries only if they each exceed the

50% threshold so that after writing the model, we will analyze the value obtained by the two coefficients.

In the case of Greece, the determination coefficient is approximately 77.91% and the corrected coefficient of determination with degrees of freedom is 67.87%, which is why we can state that selected independent variables express over 70% the variation of the independent variable, and the model for Greece is well-chosen

Regarding test values  $F_{\text{statistic}} = 7.759524 > F_{\text{tabelar}} = 6.1121$ , given that the calculated F is higher than the table (according to which the model is econometrically valid), we can state that this model is appropriate and valid econometric.

According to Table 2 of Annex A, the shape of the regression model for the Czech Republic is

$$R_t = 19.87159 - 0.281373IPC + 0.933501C_c - 2.119677E_g + 0.016515C_e - 0.156363E_s + \varepsilon_{jt}$$

**Table 2. Estimation of multifactor model parameters in Czech Republic**

<b>Dependent variable: Czech tax rate as an expression of tax pressure in the Czech Republic</b>				
<b>Explanatory variable</b>	<b>Coefficient</b>	<b>Standard error</b>	<b>t-statistic</b>	<b>Probability</b>
IPC (Czech Republic)	-0.281373	0.402949	-0.698285	0.4995
C <sub>c</sub> (Czech Republic)	0.933501	1.846827	0.505462	0.6232
E <sub>g</sub> (Czech Republic)	-2.119677	2.409684	-0.879650	0.3979
C <sub>e</sub> (Czech Republic)	0.016515	0.018322	0.901366	0.3867
E <sub>s</sub> (Czech Republic)	-0.156363	0.246869	-0.633385	0.5394
Constant	19.87159	6.647142	2.989493	0.0123
<b>R<sup>2</sup></b>	0.172545	<b>Durbin-Watson stat</b>	1.205257	
<b>R<sup>2</sup> adjusted</b>	-0.203571			
<b>F - statistic</b>	0.458754	<b>Prob(F-statistic)</b>	0.798939	

Analyzing the values obtained by the determinant coefficient and the correction coefficient of correction with degrees of freedom much lower than 50% (17% and -20%) we will not interpret parameters as the selected independent



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variables do not explain to a significant extent the intrinsic motivation of taxpayer to pay taxes in the Czech Republic.

According to Table 3 of Annex A, the shape of the regression model for Hungary is:

$$R_t = -5.526654 + 1.299446IPC - 6.954331C_c - 3.210619E_g - 0.017092C_e + 1.140628E_s + \varepsilon_{jt}$$

**Table 3. Estimation of multifactor model parameters in Hungary**

Dependent variable: Hungarian tax rate as an expression of fiscal pressure in Hungary				
Explanatory variable	Coefficient	Standard error	t-statistic	Probability
IPC (Hungary)	1.299446	0.920874	1.411100	0.1859
C <sub>c</sub> (Hungary)	-6.954331	2.906046	-2.393056	0.0357
E <sub>g</sub> (Hungary)	-3.210619	3.638966	-0.882289	0.3965
C <sub>e</sub> (Hungary)	-0.017092	0.022241	-0.768462	0.4584
E <sub>s</sub> (Hungary)	1.140628	0.772067	1.477368	0.1676
Constant	-5.526654	17.94201	-0.308029	0.7638
R <sup>2</sup>	0.717022	Durbin-Watson stat	1.560626	
R <sup>2</sup> adjusted	0.588396			
F - statistic	5.574470	Prob(F-statistic)	0.008439	

Given that the two determinants are higher than the 50% threshold, we can state that for Hungary, the variables selected explain the variation of the tax rate. However, given that the values of the Fstatistic test = 5.574470 < Ftabelar = 6. 1121 we cannot say that this model is econometric, so we will not resort to the interpretation of the parameters.

According to Table 4 of Annex A, the shape of the regression model for Romania is:

$$R_t = 5.436740 + 0.894605IPC + 2.047395C_c + 1.547958E_g + 0.011138C_e + 0.308179E_s + \varepsilon_{jt}$$

**Table 4. Estimation of multifactor model parameters in Romania**

The dependent variable: The Romanian tax rate as an expression of the fiscal pressure in Romania				
Explanatory variable	Coefficient	Standard error	t-statistic	Probability
IPC (Romania)	0.894605	0.815314	1.097252	0.2960
C <sub>c</sub> (Romania)	2.047395	3.854049	0.531232	0.6058

$E_g$ (Romania)	1.547958	2.061652	0.750834	0.4685
$C_c$ (Romania)	0.011138	0.016708	0.666642	0.5187
$E_s$ (Romania)	0.308179	0.340559	0.904920	0.3849
Constant	5.436740	11.96597	0.454350	0.6584
$R^2$	0.286937	<b>Durbin-Watson stat</b>		1.819487
$R^2$ adjusted	-0.037183			
<b>F - statistic</b>	0.885281	<b>Prob(F-statistic)</b>		0.522496

Similarly, to the Czech Republic, given that the values obtained by the determinant coefficient and the correction coefficient corrected with degrees of freedom are much lower than 50% (28% and  $\approx 3.7\%$ ), we will not interpret parameters as the independent variables selected does not explain in a significant proportion the fiscal moral level in Romania.

According to Table 5 of Annex A, the shape of the regression model for Poland is:

$R_t =$

$$10.39959 + 0.480164IPC + 3.878221C_c - 7.381612E_g + 0.041881C_e + 0.233050E_s + \varepsilon_{jt}$$

**Table 5. Estimation of multifactor model parameters in Poland**

<b>Dependent variable: Tax rate in Poland as an expression of fiscal pressure in Poland</b>				
<b>Explanatory variable</b>	<b>Coefficient</b>	<b>Standard error</b>	<b>t-statistic</b>	<b>Probability</b>
IPC (Poland)	0.480164	0.395842	1.213020	0.2505
$C_c$ (Poland)	3.878221	0.933915	4.152649	0.0016
$E_g$ (Poland)	-7.381612	1.376939	-5.360884	0.0002
$C_e$ (Poland)	0.041881	0.010973	3.816681	0.0029
$E_s$ (Poland)	0.233050	0.182449	1.277347	0.2278
Constant	10.39959	6.148216	1.691480	0.1188
$R^2$	0.864243	<b>Durbin-Watson stat</b>	1.845188	
$R^2$ adjusted	0.802535			
<b>F - statistic</b>	14.00540	<b>Prob(F-statistic)</b>	0.000186	

Taking into account the values obtained by the determinants, coefficients that are higher than 50% ( $\approx 86\%$ ,  $\approx 80\%$ ), and that Fstatistic is higher than Ftabelar, we can state that the model is well-chosen and valid econometric, which is why they will interpret the parameters obtained for the Polish model.

Firstly, we can see that, unlike in Greece, where we were able to see a negative correlation with CPI and positive with  $C_c$ , in the case of Poland, the results

indicate a positive correlation of  $R_f$  with both indicators reflecting corruption. Since, in the case of corruption control, the same interpretation we have presented for Greece, we will only interpret the positive correlation between  $R_f$  and  $IPC$ . Therefore, the increase in the corruption perception index doubled by an increase in the rate of taxation can be understood if we assume that as long as corruption increases, the impact on GDP will be negative, as the act itself of corruption implies an advantage for the benefit of private and not public status, which is why we believe that this growth would only be supported by the increase in tax revenues much more pronounced than GDP growth as a whole, in essence, of the factors that make up it. Thus, we believe that in Poland, according to the obtained results, the increase of corruption and, implicitly, the index of its perception, results in fiscal measures and / or policies meant to increase the level of tax revenues to the state budget.

Because in the case of the efficiency of the Government we observe the same negative correlation with  $R_f$  as in the case of Greece, we maintain the interpretation presented above for the case of Poland. Due to the fact that, in the case of Greece, a negative correlation of  $R_f$  to  $C_e$  could be observed, and in the case of Poland a positive one, we will interpret the results obtained by different ways. Thus, in the case of Greece, according to the results obtained, the economic growth is supported to a large extent by other incomes than the fiscal ones, in the case of Poland we consider, in support of the results provided by Eviews 9.0, that this economic growth is sustained in large in part, by the tax revenues in terms of a GDP with a time evolution, thus increasing the tax revenues to the numerator, in the conditions of a progressively increasing denominator justifies a higher tax rate (when tax revenues grow faster than GDP growth and a markedly higher economic growth).

We also see in Poland a positive correlation between  $R_f$  and the underground economy, based on the same idea above, that money in the underground economy reduces tax revenues and, implicitly, the rate of taxation, at constant GDP; if this GDP grows faster than tax revenue is diminishing, which would also indicate that the impact of taxes on GDP is not overwhelming, then this positive relationship would meet. In other words, according to the results obtained, we can say that in Poland, tax revenues are not the only major source of income for Poland's state budget. According to Table 6 of Annex A, the shape of the regression model for Slovakia is:

$$R_f = \frac{22.87971 - 0.237850IPC + 4.614753C_c - 5.055913E_g - 0.007474C_e - 0.132477E_s + \varepsilon_{jt}}{}$$

**Table 6. Estimation of multifactor model parameters in Slovakia**

<b>The dependent variable: The tax rate in Slovakia as an expression of the fiscal pressure in Slovakia</b>				
<b>Explanatory variable</b>	<b>Coefficient</b>	<b>Standard error</b>	<b>t-statistic</b>	<b>Probability</b>
IPC (Slovakia)	-0.237850	0.810250	-0.293551	0.7746
C <sub>c</sub> (Slovakia)	4.614753	2.877803	1.603568	0.1371
E <sub>g</sub> (Slovakia)	-5.055913	3.781217	-1.337113	0.2082
C <sub>e</sub> (Slovakia)	-0.007474	0.026261	-0.284596	0.7812
E <sub>s</sub> (Slovakia)	-0.132477	0.386431	-0.342821	0.7382
Constant	22.87971	10.51074	2.176793	0.0522
<b>R<sup>2</sup></b>	0.312899	<b>Durbin-Watson stat</b>	1.008820	
<b>R<sup>2</sup> adjusted</b>	0.000581			
<b>F - statistic</b>	1.001860	<b>Prob(F-statistic)</b>	0.460457	

Given that the two determinants are below 50% (≈31% and ≈0.5%) and that the values of the Fstatistic test = 1.001860 < Ftabelar = 6. 1121 we cannot say that this model is representative of Slovakia and the less it would be econometric.

According to Table 7 of Annex A, the shape of the regression model for Bulgaria is:

**R<sub>t</sub>=**

$$46.36464 + 1.185643IPC + 9.510405C_c - 9.635512E_g + 0.041426C_e - 0.887168E_s + \varepsilon_{jt}$$

**Table 7. Estimation of multifactor model parameters in Bulgaria**

<b>Dependent variable: The Bulgarian tax rate as an expression of the fiscal pressure in Bulgaria</b>				
<b>Explanatory variable</b>	<b>Coefficient</b>	<b>Standard error</b>	<b>t-statistic</b>	<b>Probability</b>
IPC (Bulgaria)	1.185643	0.992280	1.194867	0.2573
C <sub>c</sub> (Bulgaria)	9.510405	3.185742	2.985303	0.0124
E <sub>g</sub> (Bulgaria)	-9.635512	2.663717	-3.617318	0.0040
C <sub>e</sub> (Bulgaria)	0.041426	0.022977	1.802977	0.0988
E <sub>s</sub> (Bulgaria)	-0.887168	0.158014	-5.614484	0.0002
Constant	46.36464	7.794062	5.948713	0.0001
<b>R<sup>2</sup></b>	0.826548	<b>Durbin-Watson stat</b>	2.111458	
<b>R<sup>2</sup> adjusted</b>	0.747706			
<b>F - statistic</b>	10.48363	<b>Prob(F-statistic)</b>	0.000679	

The Taxpayer's Behavior at South – Eastern European Level

By pointing out that the values obtained by the determined- nation coefficients, which are above the 50% threshold ( $\approx 83\%$ ,  $\approx 75\%$ ), and that  $F_{\text{statistic}}$  is bigger than  $F_{\text{tabelar}}$ , we can state that the model is well-chosen and valid econometric, which is why they will interpret the parameters obtained for the resultant model in Bulgaria.

This latter model is all the more interesting as it fills the first 4 indicators as a correlation with the situation of Poland, and the last on the case of Greece, which is why we are keeping the opinions formulated above and we present them centrally for the three representative models econometrically valid in Table 8

**Table 8. Centralization of the parameters obtained and their brief interpretation / country**

	Independent variables in the representative and valid econometric model					Coefficients of determination		Validati on confirm ation test
	IPC	C <sub>c</sub>	E <sub>g</sub>	C <sub>e</sub>	E <sub>s</sub>	R <sup>2</sup>	R <sup>2</sup> adjust ed	F - statistic
<b>Greece</b>	-0.703256 ↑Corruption⇒ Trust ⇒↓Taxes	6.158088 ↑Trust⇒ ↑Taxes	-13.81212 ↑public service quality ↓taxes	-0.011504 ∃ and other revenue with a major impact on GDP	-0.277498 Money in the underground economy reduces tax revenues	0.779106 Reprezentativ (R)	0.6787 (R)	7.759524  Valid econometric
<b>Poland</b>	0.480164 ↑Corruption⇒ fiscal policy ⊃ tax burdens	3.878221 ↑trust⇒ ↑taxes	-7.381612 ↑ public service quality ⇒↓taxes	0.041881 Tax revenues - a main source of revenue for BS	0.23305 ∃ and other revenue with a major impact on GDP	0.864243 (R)	0.802535 (R)	14.0054 Valid econometric
<b>Bularia</b>	1.185643 ↑ fiscal policies ⊃ tax burdens	9.510405 ↑trust⇒ ↑taxes	-9.635512 ↑ public service quality ⇒↓taxes	0.041426 Tax revenues - a main revenue source for BS	-0.887168 Money in the underground economy reduces tax revenues	0.826548 (R)	0.747706 (R)	10.48363 Valid econometric

Table 8 shows that at the level of the three countries (Greece, Poland, Bulgaria) a higher level of trust in the status authorities can lead to an increase in the taxpayer's motivation to pay taxes and implicitly to increase the revenue collected from them in the budget of these countries. In Greece, we have noticed that a high level of corruption is likely to diminish the trust of the population and implicitly their desire to comply with the tax. A high level of corruption in Poland and Bulgaria can be doubled by fiscal policies that burden the taxpayer's tax burden. Also, in these countries, we have found that tax revenues are a major source of income, at least for Bulgaria. According to the results, we could say that it is also the main source for Poland, but we can say that there are other revenues

with a major impact on GDP, which can also be verified for Greece. As for the impact of the underground economy, the "axiom" meets that money in the underground economy reduces tax revenues and, why not, reduces the "breadth" of the economy as a whole.

The results obtained and the interpretations formulated in this paper have several limitations. These were made strictly based on the empirical results obtained and the statistical data collected from the World Bank's portal, and it is very likely that, depending on certain political, economic instabilities in these countries, the results could be interpreted and / or otherwise, in accordance with those country / country specific situations.

Referring to other studies in the literature, regarding indicators such as corruption perceptions, control and efficiency of governance (we will analyze these indicators in groups, because the literature presents them as substitutes for the quality of governance), we consider the results obtained by Alabede et al. (2011); according to the authors' regression at Nigeria level, a positive causal link is established between the quality of the perceived tax service and the fiscal behavior / tax compliance as well as a positive causal link between the public governance and the tax compliance of the Nigerian taxpayer. A positive causal link between "healthy" governance and an efficient fiscal system (with all that it means, including compliance) was also presented by Phillips & Sandall (2009), through the three key dynamics as presented in the early part of the methodology of this paper.

Another relevant study is that of Mustapha et al. (2015), because the selected factors would fall, according to the study made by these authors, in the category of institutional factors. According to the authors, this category includes: the quality of tax administration, the quality of tax service, the level of awareness among taxpayers and good governance. These factors were also included in a regression as exogenous variables with an impact on the tax compliance score. Thus, between good governance and the tax compliance score, a significant positive relationship has been established, the authors concluding that good governance is an effective engine in conducting tax compliance in the state.

A significant positive relationship between the quality of governance and the behavior of taxpayers through compliance has also been achieved by Alabede et al. (2011b), which, through the study, confirms once again that there is a significant positive correlation between the quality of public governance and tax compliance; moreover, the results indicate that the relationship between the quality of public governance and tax compliance is a significant impact on the financial condition and the aversion to risk. Regarding the aversion to risk, the authors assert that they would have a moderately negative moderating effect, as well as the financial condition the authors show that they would have a positive but insignificant effect.

An important aspect related to the results obtained in the present paper, if we look at economic growth as an indicator representative of the financial condition of the status, respectively of the taxpayer in the above assertions.

Moreover, in the literature we will frequently identify the impact of the financial condition in the compliance of the taxpayer.

So, in the following, we will present the results of the studies that analyzed the impact of the financial condition of individuals (because, as we have seen, this may also be an expression of the economic growth in the analyzed state). Thus, in our first paper, conducted by Alabede et al. (2011a), the authors show that this financial condition has a strong impact on the tax compliance / morale. However, this positive relationship between the financial condition and the moral reasoning gradually turns into a negative one, as this taxpayer's financial condition improves. A taxpayer with a better financial condition and a set of high moral standards tends to become less compliant with the increase in the financial condition (the results were obtained using Nigerian data).

Torgler (2003) emphasizes that financial satisfaction has a significant positive effect on tax morale, and higher income has a significant negative effect on tax morale (financial capacity being described by financial satisfaction and income levels). This is explained by the author in the fact that financial dissatisfaction is not conferred by the level of income, but by the "stress" on the financial condition. Regarding the actual economic growth, we will identify in the literature a growing number of studies which analyze this impact in the opposite direction, namely how the impact of the taxation system (on its various components) on economic growth.

Ojong et. al. (2016) builds a multifactorial model in which it selects oil tax, company tax and non - oil income as an independent variable, and as exogenous variable GDP, and according to the results, the profit tax has had a positive impact on growth economic situation in Nigeria. Clearly, this is a randomly chosen study, and the list of studies may continue, given that such influence is intuitively possible to materialize.

Intuitively, at first glance, we would also see a negative relationship between the rate of taxation and the underground economy, but as we have seen from the results of the econometric study presented in this article, it is supported only at the level of Greece and Bulgaria at the level of Poland between the rate of taxation and the underground economy, the empirical results reveal a positive relationship. Also, a negative relationship ( $r = - 0, 26$ ) between the underground economy and the tax rate is also established by Alm & Martinez-Vazquez (2007), more than the results of the authors indicate a negative correlation between the underground economy and GDP per capita, and corruption indices.

Alm & Torgler (2006) establish a significant negative relationship (Pearson  $r = - 0, 46$ ) between the underground economy (measured as% of GDP) and the level of tax morale. By means of a simple linear regression, the authors demonstrate that the variation in tax morals explains 20% the change in the size of the underground economy, showing that if the fiscal morale decreases, the underground economy is likely to grow. Torgler et al. (2007) emphasizes that studies have generally shown a negative correlation with a Pearson  $r$  coefficient

between - 0.51 and -0.66, manifested between tax morale and size of the underground economy in Western, emerging or Latin American countries.

### 5. Conclusions

Regarding the establishment of the fiscal behavior, the taxpayer is taken into account the trustworthiness *vis – á – vis* of the tax authorities, especially within the state, through the control authorities, in case of forced or imposed conformity, cases in which the taxpayer react's at risk, penalties and even detention. In the vast majority of the states, it can be identified two types of non – compliance taxation: tax evasion bidding which regards the exploitation of several legislative breaches and fiscal fraud by which it violates consciously the legislation having the final purpose of decreasing the tax obligations.

In conclusion, we can state that the objective of this paper has been achieved, distinguishing in countries in the South - East of Europe, for which the model we think about influence factors influencing the behavior of the taxpayer should be representative and valid. We can also assert that tax morality, as it is called in the literature, the intrinsic motivation to pay taxes is a variable dependent on many other factors, including those related to corruption and its control, the efficiency of government, economic growth and the underground economy. In other words, these indicators (at the level of the studied region) are checked as indicators that influence the attitudes and perceptions of the taxpayer on the Fischer model and ultimately tax compliance.

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