The estimation of the tax evasion degree in Europe

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Abstract

The present paper is focused on how is evaluated the degree of tax evasion and on the manner in which the fiscal organizations in european states are concerned to establish effective measures to combat tax evasion, leading to the development and improvement of state structures. The objective of this research is to analyse the phenomenon of tax evasion in the context of economic and social inequity by attempting to answer two questions: **Are tax evasion and fiscal pressure related?** and **How can we approach the the pheonemon of tax evasion so as to generate positive results?**

Keywords: *tax evasion, fiscal pressure, tax revenue, contributors, fairness*

Introduction

The issue of tax evasion and its impact on financial-economic structure is a widely debated topic over time locally, nationally and internationally. The effects of this are negative for the state and are increasing, resulting in minimization of state budget revenues collected, but positive for taxpayers to evade tax obligations, thus maximizing their revenues.

Our study provides a practical approach to problems of identifying causes and effects on tax evasion, and the degree of its estimate based on an analysis developed for a group of three European states as follows: developed economy (Belgium) emerging economy (Romania) and highly developed economy (Germany).

The first chapter details the concept of tax evasion, forms, causes and some of its effects, based on the literature review in the field that includes pros and cons views of specialized authors highlighted by studies, articles and other related documents.

The second chapter covers the issue of tax evasion seen in the Romanian state. In it we presented escapist phenomenon covered by the laws of Romania, tasks and objectives of fiscal control structures (Ministry of Finance, National Agency for Fiscal Administration and the General Tax Fraud Direction) and the structure of budget revenues and tax evasion for each category of income.

In the third chapter is presented a study on the relationship between index of tax evasion - the dependent variable and the fiscal pressure - explanatory variable, using simple OLS regressions to check the robustness of the model in Belgium, Romania and Germany, from 1996 to 2010. Following data analysis, the implementation of econometric models and statistical tests concluded that there is a correlation relationship between the two variables studied, thus answering the first question presented above.

To answer to the second question stated above, our recommendations to combat this phenomenon are that fiscal institutions and all the tax payers have to try to adopt the best measures and techniques to improve the fiscal system and also to cooperate for establishing the equilibrum of central budget.

Literature Review

Since the moment the state exists as a central institution and the "crystallization of the economy as a science of its own"[1] and so far, tax evasion was one of the most controversial macroeconomic problems in most countries.

Regarded as a matter of general interest and economic offence type frequently encountered, tax evasion is found on a large scale, both in our country and in most countries, at local or national level. Whatever the form it takes, this type of fraud is characterized by creating a severe imbalance at micro and macro level, with a major impact on the development of an economy. In the specialty literature, this concept is assigned to multiple interpretations.

[1] Catrina I. L., *Lupta pentru finanțarea deficitelor. Despre iluzia prosperității și epuizarea financiară a statului*", Revista „Sfera politicii", nr. 170, „Securitate națională, securitate regională, securitate globală", București, iulie, 2012.

Another view of the concept of tax evasion is presented as "the embezzlement by any means from the constraint or payment of taxes, fees, contributions and other amounts owed to the state budget, local budgets, social insurance budgets and special funds budgets by individuals and legal entities Romanian or foreign".[2] This approach shows that all the economic policy instruments are affected by the perpetration of the fraudulent actions by taxpayers through public debt default.

In contrast, Richard R. Cebula and Edgar Feige[3] believe that tax evasion phenomenon prevents the government to do its legal duty, namely to collect taxes and therefore reduces the ability of the state to provide public services leading to increased national debt. Disobedience to these accomplishments attract the transfer of resources from honest taxpayers to the fraudulent ones and also the transfer of present debt to future generations.

Along with legal and illegal tax evasion, some authors have defined also legal abuse as the situation where is circumvented the application of tax law by concluding legal acts of formally complying with legal requirements, but which have as purpose precisely the evade of the tax law or statements by declaring lower prices for real estate acquisition to minimize notary fees.

In Romania, the first regulations on tax evasion appeared in 1929 in the "Law for crackdown on tax evasion direct contributions"[4] published in Official Gazette no. 228 of December 25, 1929, indicating irregularities with administrative character or fraud with fiscal character. In 1994 comes into force another law, Law no. 87/1994, which includes penalties and sanctions applied to this activity. The law remains in force until 2005 when was repealed by another law, Law no. 241/2005 which provides tax evasion as "avoidance by any means, in whole or in part from payment of: taxes, fees and other amounts owed to the state budget and to other budgets, for by individuals and legal entities having the status of Romanian or foreign taxpayers.

This type of fraud has always existed and certainly will continue to exist, its dimensions rated as very high, it may never be accurately measurable because the existing information is too relative. Thus, although it is called in different ways: fraud, tax evasion, phenomenon "Phoenix" or "tax haven" and opinions of the authors regarding the interpretation of tax evasion phenomenon are divided, it continues to exist everywhere and manifest in different forms.

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[2] Văcărel I., *Finanțe publice*, Ediția a-VI-a, Editura Didactică și pedagogică, București 2007, pag. 455 - preluare din Legea nr. 241/2005 privind prevenirea și combaterea evaziunii fiscale,publicată în Monitorul Oficial nr. 672/27.07.2005.

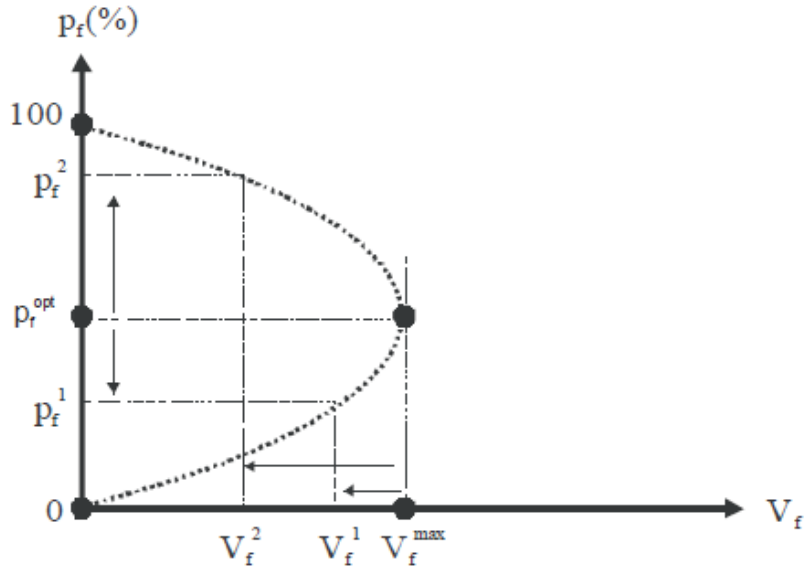
[3] Cebula R.,Feige E.L., *America's Underground Economy: Measuring the Size, Growth and Determinants of Income Tax Evasion in the U.S.*, pag. 2, sursa www.ideas.repec.org.

[4] *Legea nr. 241/2005 pentru prevenirea și combaterea evaziunii fiscale*, publicată în Monitorul Oficial nr. 672 din data de 20.07.2005.

Case study

The analyse of this study begins with an qualitative model based on Laffer curve which represents a ”dynamic modelling of fiscal revenues (V_f) of central budget according to the average fiscal pressure in the economy (p_f): (V_f) = f (p_f)”.[5] It is estimated that tax revenue growth aims, in reverse, escapist behavior dynamics: the tax revenues decreases more, the tax evasion is considered major.

Graphic no. 1 - Graphical representation of the Laffer curve



Source: ”*Consideraţii teoretice privind evaziunea fiscală vs. frauda fiscală*”, Emil Dinga (2008).

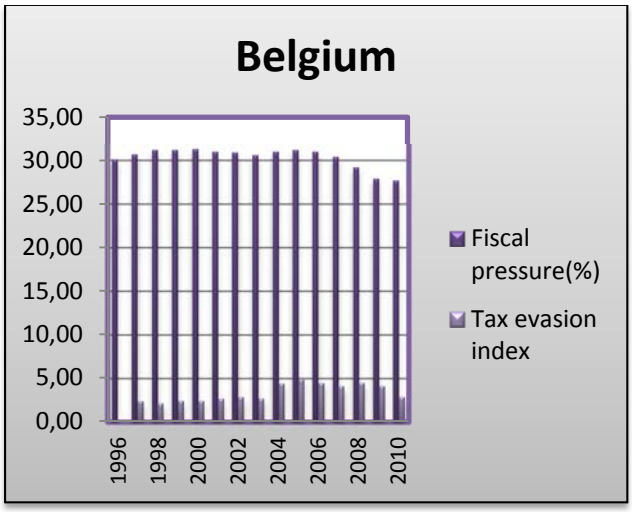
In the chart above we can see that an increase in the fiscal pressure, tax revenues fall because a high fiscal pressure will lead to tax evasion and thereby reduce revenue to the state budget.

Therefore, the Laffer curve indicates reduction in tax revenue collected from the central budget with the increases of fiscal pressure, not only the occurrence of the phenomenon of tax evasion, but also due to the reduction of the tax base. Thus, this curve does not separate the two effects: the tax evasion effect, resprectively the reducing of the tax base effect, but also outlines the relationship between them.

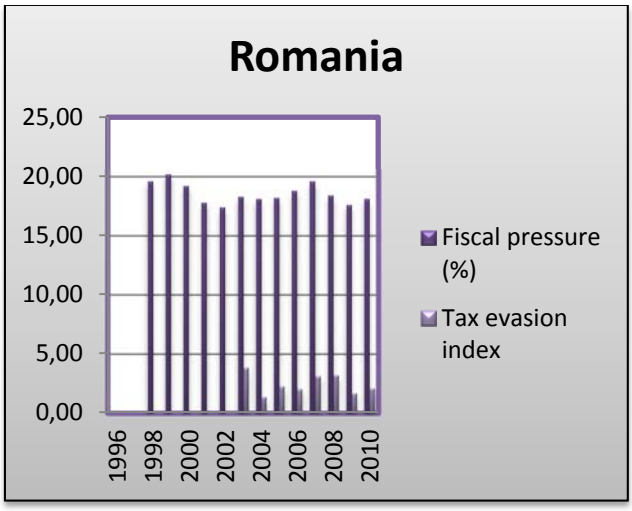
[5] Dinga E., *Consideraţii teoretice privind evaziunea fiscală vs. frauda fiscală*, 2008, pag. 26, sursa: ftp://www.ipe.ro/RePEc/vls/vls_pdf/vol12i4p20-50.pdf .

To estimate the impact of tax evasion on revenue collected from the state budget and to validate the relationship between tax evasion and fiscale pressure we made three simple linear regressions, for a period of 15 years (1996-2010). They verify the relationship between the two variables for three EU countries: Belgium (developed country), Romania (emerging country) and Germany (highly developed country). Considering the difference of economic development, we analyzed the differences in the way that integrates economic and financial market information about fraudulent tax.

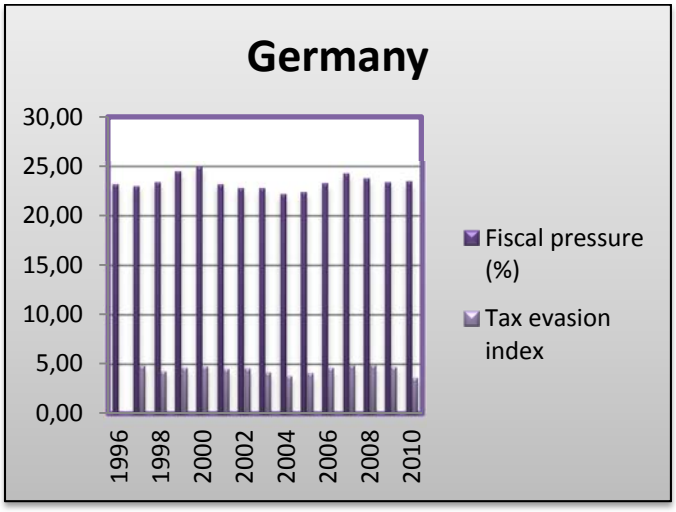
Graphic no. 2 - Evolution of fiscal indicators in Belgium



Graphic no. 3 - Evolution of fiscal indicators in Romania



Graphic no. 3 - Evolution of fiscal indicators in Germany



Making a comparison between the three graphics above, we can say that Belgium is an economy where the fiscal pressure is the highest on record as opposed to Germany which shows a low level of this index, but the values of the tax evasion index recorded are closer to 10, which indicates a high degree of tax evasion. Thus, if the size of tax evasion index increases, the level of taxation is evolving in the same direction, and reverse.

Studied phenomenon involves the development of OLS regressions where we noted: Y - fiscal pressure at macroeconomic level, X - index of tax evasion, β_0 şi β - model parameters, with $\beta > 0$, then the mathematical model of the state revenues macroeconomic level is given by the equation of the form: $Y = \beta_0 + \beta_1 X_1$.

Parameter estimation based on econometric model, built by the method of least squares is done by using statistical technique called "regression analysis", as it is presented in annexes no. 1-3.

Interpretation of results:

Coefficient β (Belgium) is 0.966021 and indicates that at the increase with one unit of tax evasion index, fiscal pressure will increase by 0.966021%.

Coefficient β (Romania) = 1.695618 which means that one unit increase in the index of tax evasion, the fiscal pressure will increase by 1.695618%.

Coefficient β (Germany) = 1.483539 which indicates that the increase with one unit of tax evasion index, the fiscal pressure will increase by 1.483539%.

Therefore, increasing the indicator X and Y value shows a phenomenon that will lead to lower tax revenue for the state in these three countries: Belgium, Romania and Germany.

For Romania and Germany, the regression equation is valid and indicates a good approximation of reality and also, it will be able to make predictions about state tax revenue projections based on certain assumptions about the possible values of the tax evasion index. For Belgium , the model is not valid and national tax revenue projections are difficult to assess .

If it is assumed that the rate of tax evasion increases during the next period, tax evasion will register lower values and the dependence between those two variables X and Y will keep the values of the parameters from the regression equation. A reduced perception of tax evasion will lead to lower tax revenues of the state, according to Laffer curve evolution .

Thus, if they keep to the given parameters in the regression equation , it is concluded that the relationship between the two indicators (fiscal pressure and tax evasion index) is directly proportional , and that between tax evasion and tax revenue of the state is one inversely proportional and therefore a higher level of the first one will cause the reduction of the two, in a given period of time.

Conclusions

As a result of implementing the econometric model, previosly shown, on data from the three european countries (Belgium, Romania and Germany) from 1996 to 2010, it appears that the relationship between the rate of tax evasion (dependent variable) and fiscal pressure (explanatory variable) is one of dependence and correlation. Thus an increase in the index of tax evasion, fiscal presure improves in the same direction, and reverse. This means that tax evasion may act indirectly to reduce the tax base, having as a final result the decrease of state tax revenues.

Making a comparison between the three countries it can be seen that although the values of the two indicators studied are quite relative, economically and politically the most affected country is Romania, and the least affected is Germany.

Correlating the results of this work, we can determine the final conclusion: tax evasion generates declining tax revenue both through legal methods and by the illegal one, which decreases the government's ability to fulfill its functions.

Being a widely debated issue worldwide the manifestation of tax evasion by avoiding the payment of taxes and contributions owed by taxpayers, affects the economic structure and the balance of a state budget . To combat this phenomenon, consider the need to implement measures aimed at specific directions such as clarifying and strengthening tax legislation , techniques and strategies to improve tax administration, establishing a level of favorable taxes for both payers and for budget and the most important of them is the attempt to model the behavior of the taxpayers and to convince them about the importance of fulfilling the duties tax .

The most effective attitude towards the phenomenon of evasion is to achieve better management of it starting with a good forecasting, then identification and control of it.

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7. *** *Legea nr. 571/2003* actualizată, publicată în M.O. nr. 927/ 23 decembrie 2003, coroborată cu H.G. 44/2004 privind Codul Fiscal cu normele metodologice de aplicare, art. 11.
8. http://static.anaf.ro.
9. http://www.jstor.org.
10. www.ideas.repec.org.

Annexes

Annexe no. 1 - The results of the regression model estimated for Belgium

PRESIUNEA_FISCALA=C(1)+C(2)*INDICE_DE_EVAZIUNE

VARIABLE	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	30.66490	0.848736	36.13006	0.0000
INDICE_DE_EVAZIUNE	0.966021	0.250595	-0.385491	0.7061

R-squared	0.211301	Mean dependent var	30.36067
Adjusted R-squared	0.064751	S.D. dependent var	1.172022
S.E. of regression	1.209372	Akaike info criterion	3.341645
Sum squared resid	19.01355	Schwarz criterion	3.436052
Log likelihood	-23.06234	Hannan-Quinn criter.	3.340640
F-statistic	0.148604	Durbin-Watson stat	0.272414
Prob(F-statistic)	0.706107		

Annexe no. 2 - The results of the regression model estimated for Romania

PRESIUNEA_FISCALA=C(1)+C(2)*INDICE_DE_EVAZIUNE

VARIABLE	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	13.86900	2.283990	6.072268	0.0120
INDICE_DE_EVAZIUNE	1.695618	1.211897	1.399144	0.1852

R-squared	0.350876	Mean dependent var	16.08800
Adjusted R-squared	0.064021	S.D. dependent var	6.579613
S.E. of regression	6.365512	Akaike info criterion	6.663232
Sum squared resid	526.7566	Schwarz criterion	6.757639
Log likelihood	-47.97424	Hannan-Quinn criter.	6.662227
F-statistic	1.957604	Durbin-Watson stat	0.844201
Prob(F-statistic)	0.185175		

Annexe no. 2 - The results of the regression model estimated for Germany

PRESIUNEA_FISCALA=C(1)+C(2)*INDICE_DE_EVAZIUNE

VARIABLE	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	22.76704	0.730799	31.15362	0.0112
INDICE_DE_EVAZIUNE	1.483539	0.168381	0.881060	0.3943

R-squared	0.296348	Mean dependent var	23.38667
Adjusted R-squared	0.016240	S.D. dependent var	0.763326
S.E. of regression	0.769500	Akaike info criterion	2.437413
Sum squared resid	7.697683	Schwarz criterion	2.531820
Log likelihood	-16.28060	Hannan-Quinn criter.	2.436407
F-statistic	0.776266	Durbin-Watson stat	1.048562
Prob(F-statistic)	0.394283		