
Tax burden level leverage on size of the shadow economy, cases of EU countries 2003-2013

Evaldas Stankevičius\textsuperscript{a},* Asta Vasiliauskaitė\textsuperscript{b}

\textsuperscript{a, b} Kaunas University of Technology, K. Donelaiciio g. 73, LT-44029 Kaunas, Lithuania

Abstract

The burden of taxation and social security levels are combined with rising activities of the state regulatory. Fiscal and social policies in the current economic times are becoming one of the most important formal driving forces controlling the shadow economy levels in EU. Spearman’s correlational coefficients connections between changes of the social contributions, along with its benefits, tax burden structure elements (% of GDP ratio) are used to discern impact for the shadow economy’s level and the aim is to examine the relationship between this type of economy and tax system input factors influence in EU countries, with different level of economic development, groups.

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1. Introduction

The aim of this paper consists of analysing the relationship between the tax burden, and shadow economy level in case of different economic development level within EU countries during 2005-2012. Brief literature review shows that shadow economy impacts negatively on the formal economy. According to empirical evidence, about 1/3 volume of activities in the shadow economy would continue to take place in the formal economy following an elimination of the shadow economy (Jensen & Wöhlbier, 2012). Reduction in the size of the shadow economy will also reduce tax gaps and generate additional revenues for EU governments (Palda, 1998). A strong causal relationship exists between a country’s tax rate and the size of its shadow economy (Schuknecht, 2011).

*Corresponding author. Tel.: +370 68632000
E-mail address: e.stankevicius@mail.lt
Perceptions about the effectiveness of tax systems consist with the extent of tax non-compliance and tax fairness, the quality of public services (Feld & Frey, 2007; Slemrod, 2007) which are all important drivers and depend on the inevitability of tax system structure.

There are significant differences in the composition and profile of the informal workforce activity and economic development levels across the different regions of Europe (WB, 2012a). It’s possible to define it into three different development groups or paths:

- **“Western” group** - with mild economic improvements and long tradition of efforts reduced shadow economy after crisis of 2008, which consists of the following countries: Germany, France, UK, Sweden, Netherlands, Denmark, Finland, Austria, Ireland, Belgium;
- **“Eastern” group** - where generally GDP growth is relatively high, shadow economics remains strong, but have had decreasing tendencies, which consists of the following countries: Poland, Romania, Czech Republic, Hungary, Bulgaria, Croatia, Slovakia, Lithuania, Slovenia, Latvia, Estonia;
- **“Southern” group** - where shadow economic level is flat, but has about 1/3 national incomes of countries GDP, which consists of the following countries: Italy, Spain, Portugal, and Greece. (Schneider, F., 2012).

The Eastern countries or the New European Union members had higher shadow economies compared to the “old” European Union countries; hence it’s an increase in the size of the shadow economy from West to East. The shadow economy often is considered to be a normal part of society and it’s prevalent in “Eastern” countries. Also we observe an increasing trend in the size and development of the shadow economy from North to South. The Southern European countries on an average have considerably higher shadow economies than the one in Central and Western Europe. This can also be demonstrated looking at Figure 1. According to Schneider (2012) the size of the shadow economy of the EU in 2012 was estimated at 18.4% of GDP, about 2/3 of shadow economy is concentrated within the biggest economic power of EU - Germany, Italy, France, UK, Spain. The Eastern Europe is much larger in relation to size of official economy, than in Western Europe (shadow economy is almost 1/3 size of official economy).

Therefore, the EU will be fragile and vulnerable to economic shocks and need more fiscal integration (see e.g. Sala-i-Martin & Sachs, 2002). Several authors have proposed an increase in the European tax burden level in order to establish a horizontal fiscal equalisation mechanism (Jensen & Wöhlbier, 2012).

![Figure 1. The shadow economy level, related to GDP, %](source: Schneider, F., 2012; LE calculations 2012.)

In neoclassical models the most important factor is the tax rate (tax burden level). If we follow Schneider, (2011, 2012) major reduction in the direct tax burden did not lead to a major reduction in the shadow economy because legal tax avoidance was abolished and other factor, as regulations, social policy. It has been found out that the
increase of the tax and social security contribution burdens is one of the main causes for the increase in the shadow economy. Empirical results of the influence the tax burden on the shadow economy are provided in the studies of Schneider (2012) and Johnson & Zoido-Lobaton (1998). Therefore, the EU will be fragile and vulnerable to economic shocks and need more fiscal integration (see e.g. Sala-i-Martin & Sachs, 2002; Jensen & Wöhlbier, 2012). Several authors have proposed an increase in the European tax burden level in order to establish a horizontal fiscal equalisation mechanism (Schneider, 2012).

Further evidence on the effect of taxation on the shadow economy concluded that not higher tax rates increase the size of the shadow economy level, but the application of the tax system and the regulations by governments. Finding that there is a negative correlation between the size of the unofficial economy and the tax rates might be unexpected. Since there are other factors like tax deductibility, the choice between different tax systems, were not taken into account. This is not that surprising.

On the other hand Schneider (2011) found a positive correlation between the size of the shadow economy and the corporate tax burden. These findings show that it can be presumed to the overall conclusion that there is a large difference between the impact of either direct taxes or the corporate tax burden and indirect taxes, especially taxes on consumption.

As usual, there were attempts to transfer the tax burden from labour taxation to consumption which faced increased VAT rates (see Annex No. 1). Labour taxation level was increased for countries that belong to "Southern" group, in comparison with "Western" group level. While personal income tax trends in some of the EU “Eastern” countries show a decline in labour taxation but the overall tax burden on labour remains high enough.

Considering basis theoretical research results that taxes actively participates in the formation of economic level and has impact on level of the shadow economy, it can be stated, that the assessment of the causal relationship between the economy and the tax burden on different groups of countries exist historically confirmed 'good' practice experience. "Western” countries economic status creates preconditions to assume that existence of such type of tax structure which ensures the decline of the shadow economy level.

2. Methodology

1. Theoretical and empirical research, statistical analysis of changing in tax revenue, influence to relationship between shadow economy levels.
2. Mathematical statistics. Correlations for the detection and qualitative data analysis applied to Spearman’s coefficients, the calculation regression results of the data processed in SPSS 17.0.

In these models macro-economic elements of the real economy are used to discern the shadow economy’s impact and examine the relationship between this economy and tax system input factors, such as the share of direct taxation or the social security burden. The calculation of correlative connections directions and the strength of the EU countries group indicate the prevailing fiscal practices which are relevant to the assessment study.

3. Results

This part of the study calculates correlational connections between changes of the shadow economy, tax structure elements, transfer payments (ΔSB) indicators in countries groups. In evaluating the correlational connections (Table 1) and made analysis of fiscal policy and tax structure in terms of the elements according to the main categories of tax revenue (direct, indirect, consumption, labour taxation and social security contributions).
Table 1. Spearman correlation coefficients between components of the tax structure, transfer payments (ΔSB) indicators, shadow economic changes in the different groups of countries

<table>
<thead>
<tr>
<th>Countries group</th>
<th>Components of the tax structure, % GDP</th>
<th>ΔSB Social benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indirect taxes</td>
<td>Direct taxes</td>
</tr>
<tr>
<td>„Western“</td>
<td>0,572</td>
<td>0,636</td>
</tr>
<tr>
<td>„Southern“</td>
<td>0,829</td>
<td>0,784</td>
</tr>
<tr>
<td>„Eastern“</td>
<td>-0,469</td>
<td>-0,434</td>
</tr>
</tbody>
</table>

Source: Eurostat, 2014. Correlation significance level is of 0, 01. N (data no. 2150)

The main groups of taxes have seen outliers:

1. The coefficients of VAT had the opposite direction on the “Southern” and “Eastern” countries groups. There is low connection strength (0.384) in the "Western" group. This suggests that VAT is the main indirect tax group element that would be treated as significant in assessing taxation and the shadow economy level. It shows that VAT taxes collection has importance and necessity to pay attention to the use of tax harmonization priorities and opportunities to expand and extend the tax base towards consumption taxes. Analysing the VAT tax as one of the taxes to which it pertains the creation of clearer and socially-oriented fiscal policies, which ensures increasing tax collection from indirect taxes on consumption. It should be noted that, due to the exceptional features seen above, it can’t be stated that tax growth assumptions are appropriate to each analysed countries.

2. Labour taxation in all groups has negative correlations with respect to the values in shadow economy level. High correlations coefficients of labour taxation show that it has a significant importance to shadow economy level, which is not surprising, considering that exactly low-skilled labour income is not taxed and which make up a significant part of the shadow economy income. Exactly “Southern” -0.953 and “Eastern” -0.919 country values of the coefficients are high. The opposite correlations coefficients demonstrate that labour taxation problem is more complex than just the illegal income taking into payment for transfer payments relationship (ΔSB), which is reverse and has a strong correlation in these groups of countries.

3. Capital tax changes have opposite directions of significant correlations coefficients for “Southern” countries - 0.759 and “Eastern case” -0.626, which suggests that in these groups current capital taxes are too small or low collection efficient. Corporate income tax, even though it’s normally considered one of the most important taxes on capital is not the main source of income in the these EU countries. Viewing the increased capital mobility in the past decade in terms of fiscal policy the taxes harmonization in the global environments have become exceptionally important due to taxes impact on the domestic and foreign capital investments, especially in creating incentives to transfer the benefits of the low taxable jurisdiction. Significant correlations coefficients show that these tax groups have the potential to promote decline shadow economy level on fees harmonizing and monitoring.

4. Significant and in the same direction of social contribution correlations coefficients in all groups (“Western” 0.529; “Southern” 0.843, “Eastern” 0.964) shows that these fees depend on labour taxation category but their impact on the shadow economy level is significant and has the positive impact on all countries groups. The strong relationship between rising tax and social security contribution burdens cause a higher shadow economy - the higher the overall social security and tax burden, the higher the shadow economy and ceteris paribus.

The direct and indirect taxes element in “Eastern” countries had negative impact and low levels of correlation coefficients. It can be assumed that in these countries the tax system elements have less significant impact on the level of shadow economy, in “Southern” cases changes of tax elements have more favourable taxation avoidance and applied tax rates for shadow economy the reduction.

4. Conclusions

The question of this paper is to determine a relation between the size of the shadow economy, the tax and social burden and social benefits. This relationship is relevant for economic development and several input factors such as the share of direct taxation or the social security burden.
Furthermore the results of this study show that an increasing burden of taxation and social security levels are combined with rising state regulatory activities and this are the major driving forces for the size and growth of the shadow economy.

Although the results between different groups of countries are contradictory and correlation reliance is different in size and direction, it can be said that the positive trends in the practice general fiscal will occur in the future when countries will reach corresponding competition and economic development levels. High labour taxation has a greater impact on the residents and the shadow economy level than growing consumption taxes.

For countries that have different economic development levels, same decision in the same situation can’t be made and it is necessary to use individual viewpoints but the general trend assessing them with selected macroeconomic indicators shall meet the “good” fiscal policy trends and criteria.

References


