TAX BURDEN FOR THE COMPANIES IN GEORGIA

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Received 15 02 2016; accepted 04 03 2016

Optimally determined tax burden is very important issue for sustainable development of business and economics. The national authorities arise the question does tax burden should be equal for different size and type companies? The goal of the research was to propose methodology and evaluate existing tax burden in Georgia. Empirical investigation of heaviness and lightness of tax burden for the companies according to its types (large, medium, and small) and economic activities of enterprises has been performed. By offering new methodology for construction and calculation of optimal tax burden, the idea about depiction of economic, social and ecological conditions in one generalized indicator was elaborated. By investigating of empirical data of enterprises’ tax burden and by inquiries of entrepreneurs there were defined the conclusions that tax burden in Georgia is unequal by types of enterprises and by their activities, whereas according to tax code enterprises irrespective of their size and type of activities are paying the same interest rate taxes. Thus the obtained results could be useful for executive and legislative authorities of Georgia for transition from proportional taxation system to progressive taxation system, as well as for scientists and students of corresponding field.

Key words: decile inequality, proportional taxation system, progressive taxation system, tax burden, tax rate, types of enterprise activities.

JEL Codes: G28, H21, H25.

1. Introduction

In Georgia regarding to tax burden is considerable conceptual as well as terminological definition. A common approach to its content still does not exist. As synonym of “tax burden” is considered “tax pressure”. Tax burden (pressure, ratio) – total tax revenue as a percentage of gross domestic product (Balackij, 2000a). Taxation is the main economic instrument in the hand of governments (Akay, 2012). Tax burden is calculated for the country as a whole, as well it is calculated for institutional units (corporation, enterprise).

First assumptions about tax burden is related to seventeenth century, when Adam Smith mentioned in his work “An Inquiry into the Nature and Causes of the Wealth of Nations” that by reducing tax burden state will have more profit, by releasing resources additional revenue can be obtained.
Problems of optimal size of tax burden have significant importance for both developing and developed countries. Century-old practice of tax system construction shows that collecting more than 30% of taxes from taxpayers’ income is the level above which effective entrepreneurial activities are impossible, as a result we have accumulation and investments decrease in economy. In other words, state should not withdraw more than 1/3 from taxpayers’ income (Zhidkova, 2009).

Tax revenues and tax rates interdependence graphic image is the Laffer curve. Laffer curve concept is expressed in optimal level of taxation at which tax revenues reach the maximum. Given interdependence is investigated by American scientist Arthur Laffer. Ideological grounds and graphic expression of Laffer curve has number of controversial moments. Numerous well-known economists have skeptical evaluation of Laffer curve (Connell, 2014; Dornbush, 2011; Krugman, 1995; 2015; Menkiw, 2014; Samuelson, 2009), but despite this fact, nowadays, numerous applied research exist which proves existence of Laffer effect by examples of countries of post-communist capitalism (Balackij, 2000b; Papava, 2002; Vishnevskij, 2000).

Scientists all over the World have different attitude toward optimality of tax burden and they can not specify how much heavy the tax burden should be for business and particularly, for large, medium and small enterprises (also by types of their activities). Therefore the problem for the national authorities arise when solving the question does tax burden should be equal for different size and type companies? Therefore, the overall goal of the research is to propose methodology, evaluate existing tax burden in Georgia and propose solutions for the transition from proportional taxation system to progressive taxation system.

The research tasks are: 1) theoretical background of the research and methodology for the tax evaluation; 2) empirical investigation of heaviness and lightness of tax burden for the companies according to its types (large, medium, and small) and economic activities of enterprises; 3) solutions for the transition from proportional taxation system to progressive taxation system.

The methodology of this research is focused on the several areas of the theoretical backgrounds: 1) definition of companies’ size and type; 2) high lightening functions for the evaluation of the tax burden of different companies, divided into deciles; 3) revealing impacts of economic, social and ecological conditions in one generalized indicator and perform calculations, using statistical data; 4) interweaving of entrepreneurs’ of the different types and sizes companies.

The object of the research is large, medium and small enterprises, their economic activities. The subject of the research is determination of new methodology for calculation of tax burden, investigation of heaviness and lightness of tax burden on the basis of declared indicators of entrepreneurs (turnover, tax revenue indicator), also inquires of enterprise managers.

The research methods: 1) monograph and descriptive analysis is applied for overview of target scientific references and research reports of last decade; 2) content and meta-analysis is applied for building final conceptual explanation of theoretical and empirical frame of the tax burden evaluation new methodology development; 3) selective statistical observation method (Empirical data presented by 8515 large, medium and small enterprises at National Statistics Office of Georgia); 4) cognitive
opinion studies of businessmen by conducting independent empirical research, according to heavi
ness and lightness of tax burden in their 146 (large, medium and small) enterprises; 5) studies of tax burden by average value methods to reveal decile inequality; 6) methodological determination is applied for generalization and synthesis of the conclusions.

Research results are formulated and presented in the article under the offered methodology for calculation of tax burden and under the empirical studies of heaviness and lightness of tax burden in enterprises according to types (large, medium, small) and activities of enterprises, which contributes to sustainable development of business and economics. Thus, research given in an article will be useful for executive and legislative organs of Georgia for transition from proportional taxation system to progressive taxation system, as well as for scientists and students of corresponding field.

2. New methodology for tax burden calculation

While considering complex of events for achieving optimal level of tax burden on macro level, first of all, we have to consider, on the one hand, determinants of economic growth, prosperity of society and quality of life. On the other hand, we have to look at tax revenues of the country and try to improve methodology of rate calculation. In many countries of the world, economists think that GDP is not a good measure of economic growth, prosperity of society and quality of life (Stiglitz, 2009).

For characterization of GDP with material standards of living, prevailing emphasis is on income, consumption and wealth indicators. Second level indicators include quality of life indicators. In particular, indicators such as: state of health, ability of education, living conditions, financial problems, stable job and working conditions, participation in political and public life, economic security, total ecological footprint indicators. Depiction of sustainable development in one generalized indicator is very difficult methodological work, where huge effort is addressed from world’s famous scientists, international organizations and non-governmental organizations. In our opinion, compound indicator should be built in the same way as Human Development Index. Thus, consolidated index of sustainable development will look like this:

$$E_{SD} = \sqrt[3]{E_{EC} \times E_{S} \times E_{EN}}$$  \hspace{1cm} (1)

where: $E_{EC}$ – is compound sub index of economic development, $E_{S}$ – is compound sub index of social indicators, $E_{EN}$ – is compound sub index of characteristics of environmental indicators, $E_{SD}$ – is compound index of sustainable development.

One of the most important issues for determining optimal tax burden on macro level is offering a new formula, which can be expressed as follows:

$$TB_{opt} = \frac{\sqrt[3]{T_{man} \times T_{con} \times T_{acc}}} {\sqrt[3]{E_{EC} \times E_{S} \times E_{EN}}} \cdot 100\%$$  \hspace{1cm} (2)
where: $\text{TB}_{\text{opt}}$ – Optimal tax burden, $T_{\text{man}}$ – Taxes from product (service) manufacturing, $T_{\text{con}}$ – Taxes from consumption, $T_{\text{acc}}$ – Taxes from accumulation.

3. Empirical research of tax burden inequality

In order to calculate the tax burden of enterprises, special research was conducted according Tax Code of Georgia (2010):

$$\text{burden of enterprise} = \frac{\text{corporate tax} + \text{property tax} + \text{import duty} + \text{income tax} + \text{excise tax}}{\text{total income}}$$

59028 enterprises in 2013 were registered in informational database of National Statistics Office of Georgia. We investigated 8515 enterprise by using combined system of observation\(^1\). Large enterprises – 3323, Medium enterprises – 1949, small enterprises – 3243. Selection was implemented by selecting stratified groups and selection of enterprises within the groups was managed by simple random sampling. Information was processed by computer programs: MS Access; MS Excel, SPSS.

<table>
<thead>
<tr>
<th>Type of enterprises</th>
<th>Number of enterprises, Unit</th>
<th>Average tax burden, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>3323</td>
<td>24.7</td>
</tr>
<tr>
<td>Medium</td>
<td>1949</td>
<td>26.1</td>
</tr>
<tr>
<td>Small</td>
<td>3243</td>
<td>28.3</td>
</tr>
<tr>
<td>Total</td>
<td>8515</td>
<td>26.4</td>
</tr>
</tbody>
</table>

(Author's calculations, based on data of the National Statistics Office)

Investigation shows that tax burden of large enterprises is lower by 2 percentage points than the total average tax burden of whole enterprises. This difference is even more noticeable between large, medium and small enterprises. In particular, tax burden of small enterprises is more by 3.6% compared to tax burden of large enterprises. Analysis of tax burden by types of economic activities of enterprises also has significant importance (see table 2).

During analysis of tax burden such trend has been established: tax burden is high in commodity producer fields and tax burden is low in service sectors, whereas according to tax code of Georgia, enterprises irrespective of their size and type of activities are paying the same interest rate taxes.

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\(^1\) Combined system implies full observation of large enterprises, while exploration of medium and small enterprises with selective method.
Table 2. Tax burden of enterprises by type of economic activities in 2013

<table>
<thead>
<tr>
<th>Section</th>
<th>Economic activities of enterprises</th>
<th>Average tax burden %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Agriculture, hunting and forestry</td>
<td>31.4</td>
</tr>
<tr>
<td>B</td>
<td>Fishing</td>
<td>30.5</td>
</tr>
<tr>
<td>C</td>
<td>Mining</td>
<td>28.0</td>
</tr>
<tr>
<td>D</td>
<td>Manufacturing</td>
<td>25.7</td>
</tr>
<tr>
<td>E</td>
<td>Electricity, gas and water supply</td>
<td>25.5</td>
</tr>
<tr>
<td>F</td>
<td>Construction</td>
<td>27.1</td>
</tr>
<tr>
<td>G</td>
<td>Trade, repair of motor vehicles and household appliances</td>
<td>23.4</td>
</tr>
<tr>
<td>H</td>
<td>Hotels and Restaurants</td>
<td>25.1</td>
</tr>
<tr>
<td>I</td>
<td>Transport and communications</td>
<td>27.4</td>
</tr>
<tr>
<td>K</td>
<td>Operations with real estate and lease</td>
<td>30.1</td>
</tr>
<tr>
<td>L</td>
<td>Education</td>
<td>31.1</td>
</tr>
<tr>
<td>M</td>
<td>Health care and social services</td>
<td>32.4</td>
</tr>
<tr>
<td>N</td>
<td>Social and personal service activities</td>
<td>33.7</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>26.4</td>
</tr>
</tbody>
</table>

(Author's calculations, based on data of the National Statistics Office)

Although the tax burden of enterprises are different in large, medium and small enterprises, as well as by types of economic activities of enterprises, we can have more detailed analysis about lightness and heaviness of tax burden by distribution of enterprises by decile groups ($d_i$). In this case, ranked columns, by the tax burden of enterprises, should be divided into 10 equal parts. The first decile ($d_1$) divides the aggregate accordingly to $\frac{1}{10} - \frac{9}{10}$. The second decile ($d_2$) divides aggregate accordingly to $\frac{2}{10} - \frac{8}{10}$ and etc.

We calculated decile in the same way as median is calculated. Particularly:

$$
\begin{align*}
  d_1 &= xd_1 + i \cdot \frac{\left(\frac{1}{10} \sum F - Sd_1 - 1\right)}{fd_1} \\
  d_9 &= xd_9 + i \cdot \frac{\left(\frac{9}{10} \sum F - Sd_9 - 1\right)}{fd_9}
\end{align*}
$$

where: $d$ is decile, $xd_1$ – lower limit of interval, $i$ – size of interval, $F$ - sum of frequency, $Sd$ – is accumulated frequency, $fd$ - frequency of 1 decile, 1/10 is the first decile.

Now enterprises of our observation area should be divided into 10 parts (table 3).
Table 3. Distribution of enterprises by decile groups according to burden size

<table>
<thead>
<tr>
<th>Number of group</th>
<th>Minimum of Burden, %</th>
<th>Maximum of Burden, %</th>
<th>Number of enterprises, Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20.002</td>
<td>26.996</td>
<td>2383</td>
</tr>
<tr>
<td>2</td>
<td>26.996</td>
<td>33.988</td>
<td>805</td>
</tr>
<tr>
<td>3</td>
<td>33.988</td>
<td>40.980</td>
<td>189</td>
</tr>
<tr>
<td>4</td>
<td>40.980</td>
<td>47.973</td>
<td>58</td>
</tr>
<tr>
<td>5</td>
<td>47.973</td>
<td>54.966</td>
<td>30</td>
</tr>
<tr>
<td>6</td>
<td>54.966</td>
<td>61.959</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>61.959</td>
<td>68.952</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>68.952</td>
<td>75.945</td>
<td>11</td>
</tr>
<tr>
<td>9</td>
<td>75.945</td>
<td>82.937</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>82.937</td>
<td>89.930</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 3514

(Author's calculations, based on data of the National Statistics Office)

Number of the first decile group

\[ N_{d1} = (\sum f) \cdot \frac{1}{10} = \frac{3514}{10} = 351.4 \]

\[ d_1 = 20.002 + 6.992 \cdot \frac{3514.2 - 0}{2383} = 21.033 \]

Ninth decile group number

\[ N_{d9} = (\sum f) \cdot \frac{9}{10} = 316.26 \]

\[ d_9 = 26996 + 6992 \cdot \frac{3162.6 - 2383}{805} = 33.7 \]

By given calculations, we can conclude that according to tax burden, 10% of low burden enterprises have 21.03% of whole burden, while also 10% of high burden enterprises have 33.7% of whole burden, which is 1.6 times higher than the lowest, whereas according to tax code of Georgia, enterprises irrespective of their size and type of activities are paying the same interest rate taxes (Kbiladze, 2015).

Above given research shows that tax rates should differ by type of enterprises (large, medium, small), also by type of enterprise activities (trade, extractive industry, energy, manufacturing, etc.) Empirical research of 146 enterprises was conducted by combining findings made on basic results of research with proposals of enterprise managers.

Research results by types of enterprises are given in table 4.

Two-thirds of inquired large enterprises consider that existing taxes are heavy for their enterprises. Also, four-fifths of total number of large enterprises considers that tax rates should differ by types (size) of enterprises, while 64% considers that tax rates should differ by economic activities of enterprises.
Table 4. Inquiry results of 146 enterprises

<table>
<thead>
<tr>
<th>Types of enterprises</th>
<th>Are existing taxes heavy for your enterprise? (%)</th>
<th>Should tax rates differ by types (size) of enterprises? (%)</th>
<th>Should tax rates differ by activities of enterprises? (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>It is heavy</td>
<td>It is not heavy</td>
<td>Did not answer the question</td>
</tr>
<tr>
<td>Large</td>
<td>71</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Medium</td>
<td>77</td>
<td>23</td>
<td>0</td>
</tr>
<tr>
<td>Small</td>
<td>70</td>
<td>30</td>
<td>0</td>
</tr>
</tbody>
</table>

Research results show that managers of medium enterprises prefer differentiation of tax rates and this indicator is the highest among this type (size) of enterprises.

As it can be seen from the data presented, small enterprises remain the same regularity in heaviness and lightness of tax burden and in tax rate differentiation matters as large and medium enterprises.

### 4. Conclusions

1. The survey revealed that tax burden in business of Georgia is unequal according to types and economic activities of enterprises, whereas by Georgian legislation tax liabilities to budget is the same for everyone. Inequality of tax burden is more noticeable by decile groups of tax burden. Thus, in business of Georgia is ignored universally recognized demand – The rich pays more than the poor. Two-thirds of inquired managers of enterprises consider that existing taxes are heavy for their enterprises. Absolute majority of enterprise managers considers that tax rates should differ by types (size) and economic activities of enterprises.

2. The investigation showed that authorities of Georgia by equitable redistribution of tax burden on business can transit from proportional taxation system to progressive taxation system, which is the very important issue for European choice of Georgian statehood. So, authorities while planning tax policy should take into account the results of this investigation.

3. In Georgia, more attention should be paid to new methodology of taxation, taking in consideration influencing factors of global processes, for which new novation is proposed in the article.

### References


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Pateikta 2016 02 15; priimta 2016 03 04

Santrauka
