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THE INFLUENCE OF OPTIMAL TAX BURDEN ON ECONOMIC ACTIVITY AND PRODUCTION CAPACITY

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Abstract. That the modern state couldn't exist without taxes is something that doesn't need to be argued to society. It is also acknowledged that tax burden influences not only the budget revenues, but investments, demand and supply, prices and others. All this has direct as well as indirect influence on the economic activity and production capacity. In the concept of tax burden the important fact is the connection of tax burden with the economic activity and production capacity. The influence of tax burden on budget tax revenues and production capacity can be realized in two different ways. On the one hand, tax burden influences production technologies, effective usage of resources that accordingly will be depicted on the production capacity and, on the other hand, the change of tax burden influences budget tax revenues that will be depicted on the economic activity.

JEL classification: E62, H21, H61.
Keywords: finance, state budget, tax policy, tax burden, production capacity.
Reikšminiai žodžiai: finansai, šalies biudžetas, mokesčių politika, mokesčių našta, gamybos pajėgumai.

1. Introduction

The principal factors determining the extent of the impact of taxation pressure on economic activity and output include profitability of production in the sector, competition severity, manufacturing and sale of concrete products, industrial specificity of sectors, regions and spheres, general social and political condition in the country, incomes of various sections of the population and their economic status.

Extent of competition between the enterprises and their profitability make one of the main determining factors of tax burden, as severity of competition enforces manufacturers to sale their products at the minimum prices. Taking into account that the average costs of enterprises in the same sector are almost equal, i.e. they do not prevail in

production costs, the prices inflated with taxes may be reduced by means of taking tax burden by these enterprises upon themselves. This way price reduction and demand stimulation are possible. They take tax burden upon themselves at the cost of profit gaining by these enterprises. But only high-yielding enterprises can afford reduction of profit, i.e. competition enforces enterprises to reduce prices and their profitability is the main factor of realization of the price reduction tend.

Based on the above-mentioned information, lack of competition in the sector will eliminate stimulation of the price reduction tend and correspondingly cause taxation pressing of the customer, but in case of low profitability of enterprises in the sector they rather will not be able to take upon themselves the price-inflating taxes burden. But it does not mean that taking the tax burden is an end in itself or that the enterprises care of welfare of customers. It is only a way of their survival in competitive fighting.

The bigger the organic content of capital in sector, the less the possibility of variation of output, which may be related to changes of taxation policy, general economic situation in the country and generally to the development of the processes casing reduction of aggregate demand.

Monopolistic enterprises are comparatively secured from such situations. Even in ordinary situations they apply price rising for the purpose of income maximization.

In talking about the tax burden and its impact it is necessary to remark on its influence on territorial entities. For this purpose we should use so-called tax diffusion, what means unity of arrangement-making by tax and financial bodies for the purpose of budget balancing at the cost of assigning of payments to so called regulating taxes as interests. In such a case the named payments are assigned to the budget of the appropriate level of the budget system, i.e. vertical balancing of budget is performed.

Tax burden and tax diffusion have double meaning, depending on what it applies to: physical persons or state territorial units. This is a contradiction, as the bigger the tax burden towards region, the more stable is its financial condition and less are the problems related to budget balancing. Absolutely differently is assessed tax burden towards legal persons and individual tax payers. Even the insignificant growth of burden may cause worsening of their property status.

The object of this paper is the tax policy and optimal tax burden.

The aim is to analyse the influence of Optimal Tax Burden on Economic activity and production capacity.

Methods of research: Deduction, synthesis, comparative analysis of scientific literature, statistical analysis, historical approach.

2. Literature Review

According to the so-called pessimistic concept (http://www.wisegeek.com/what-is-keynesian-economics.htm) it is impossible to establish any dynamic regularity in this process, as due to incidental circumstances various tax payers bear different tax

burdens. Proudhon stated that all taxes finally focus at final consumers of products and cause reduction of their income, disproportions and losses in economics, injustice in society (http://wn.com/Pierre-Joseph_Proudhon-General_Idea_of_the_Revolution_in_the_Nineteenth_Century/#/book).

According to optimistic production (http://thefiscaltimes.com) all the taxes are finally evenly distributed between all tax payers in direct proportion to goods consumption and utility.

The mathematic concept based on theory of marginal utility of production, founded by the famous scientists Bohm-Bawerk, Walras etc. were (Kugaenco, Belyanin, 1999), illuminated research of this problem and is used for its explanation of such economic categories as demand, supply and price, i.e. elasticity of demand and supply. They consider relation of these categories to taxes.

Statistic concept tries to explain the named phenomena by the way of fundamental analysing of the statistic data received resulted multiple statistic observation.

According to E. Atkinson and J. Stiglitz (Atkinson, Stiglitz, 1995), payment of taxes results in reduction of individuals' incomes. They really grow poorer and have to suspend retirement, reduce spare time on cost of growing working hours etc.

3. Survey

In respect to taxation pressure, peculiarities of economic activeness and output may be explained by means of the balancing of positive and negative effects. Hereinafter the effects promoting growth of economic activeness and output in case of increase of taxation pressure and those preventing such growth in case of decrease of taxation pressure is called "positive", and vice versa: the effects preventing growth of economic activeness and output in case of increase of taxation pressure and those promoting such growth in case of decrease of taxation pressure is called "negative."

The group of positive effects may include the effect of creation of economic environment (or economic ability of state) and the effect of benefits. The effect of creation of economic environment supposes that the growing of taxation pressure up to the optimal level—38,2% (Abuselidze, 2005)—extends the financial abilities of the state and performs its economic function better (please see the Abuselidze curve, Fig. 1).

This effect is positive for output, as in conditions of growing tax revenues, first of all supply from the public sector itself grows by means of creation of more public wealth and services, and, secondly, the state the improves business environment, which is very important for promotion of growth of economic activeness in private sector . The effect of benefits defines direct influence of taxes on individuals' behaviour. So, the effect of benefits promotes economic activeness in case of growing of taxation pressure up to the optimal level.

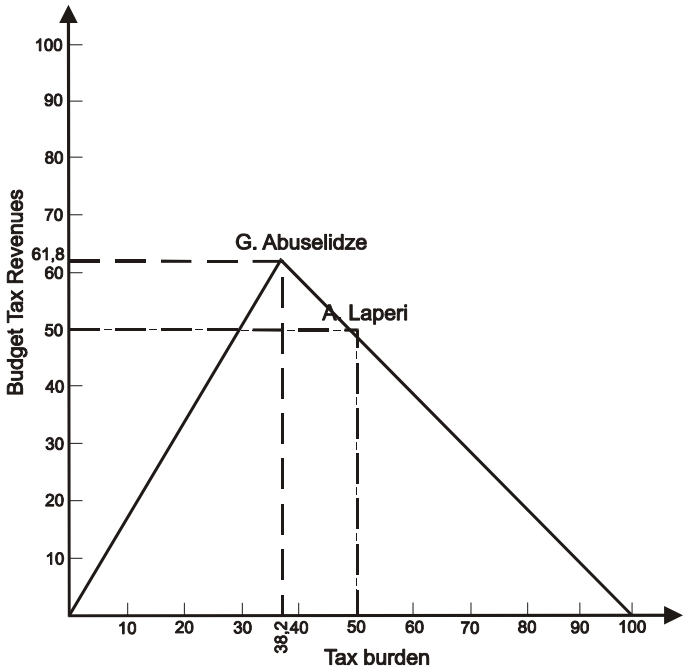

Fig. 1. Abuselidze curve

The group of negative effects includes the effect of replacement and financial effect. Existence of the effect of tax replacement is provided with that some kinds of business are not taxable, besides those taxable are liable to various rate taxes. When tax rates grows over the optimal pressure, the result is the effect of the replacement of business transfers from taxable spheres to tax-free spheres or from the spheres of heavy taxes to the spheres of lower taxes. Individuals actively seek and often find ways to avoid taxes partly or wholly. Such ways of avoiding taxation lead to reduction of budget revenues (Abuselidze, 2005). The same result is received resulted financial effect. This effect originates when the same business may be compensated in various forms and correspondingly the rate may vary. A classic example of the influence of this effect is the case when for the purpose of avoiding grown tax the business entities shift taxes onto each other and transfer to shadow economy.

To establish the main and most important factor having the biggest influence on redistribution of taxation pressure between economic activeness and output, let's consider the mechanism of shifting taxes.

Historical, theoretical and practical inheritance of tax shifting enables the modern economist to make two very important decisions:

1. Tax shifting is determined with prices;
2. Tax shifting is governed with sales volume.

When state intends to levy a tax on a concrete part of the population, this part tries to avoid the burden of this tax by means of various mechanisms and shift it to the other

part of the population. For example, the tax levied on manufacturers must reduce their profits and give their part to the state. But not wishing to bear this burden, they try to shift it to the customer by the way of price rising and they really often do it successfully.

Taxes may be shifted from seller to customer and vice versa. On the first case burden shafting is achieved by the way of price rising, but the in other case, it is on the contrary—by the way of price reduction. Shifting may be performed in several stages. It is possible when goods transfer from manufacturer to final customer through several stages. This process is called the complex shifting mechanism.

So, taxes are shifted through the prices, but let's be clear as to for who's benefit this mechanism starts to work in the concrete case and what factors determine it, i.e. we intend to determine in what cases taxes are shifted by manufacturer to customer and vice versa.

Even Adam Smith (Smith, 2011) and David Ricardo (Ricardo, 1937) pointed out in their works the factors determining the real addressees of tax burden. Adam Smith connected the size of wages to elasticity of labour supply, but David Ricardo developed the ideas related to reaction of demand and supply regarding change of price for different goods, i.e. he considered elasticity of demand and supply a reference point. These considerations underlie the modern views which explain the problems of shifting of tax burden.

Elasticity of goods demand means that the demand of goods significantly rising resulted in change of price, but non-elasticity of goods demand means that demand value insignificantly changing resulted in change of price. Elasticity of demand is determined by several factors, namely: 1. is it the product of first priority or luxury: if it is necessary for the customer and is impossible to replace or withdraw it from use, the customer is ready to pay any price for it; 2. existing of nearest substitute, i.e. customer may, in case of rising price for one product, replace this product with another one, which can substitute the first product due to its physical or any other features. Such other factors may include also market limits, period etc.

Elasticity of supply is determined similarly. Goods supply is elastic if the quantity of supplies significantly changing resulted in change of price and vice versa; goods supply is not elastic if quantity of supplies insignificantly changing resulted in change of price.

On the basis of determination of demand-supply elasticity, its relation to tax shifting becomes apparent. It may be formulated as follows:

As we mentioned above, taxes are shifted through the prices, i.e. it is included to the goods price raising it. Correspondingly, its real payer coincides with the final customer. But this mechanism cannot be used in all times, as when manufacturer rises the product's price through taxes, he should preliminarily determine the expected results. Providing the laws of the market, in other equal conditions price rising for any products causes lowering of demand for such products. And one of the tasks of the manufacturer is just determination of the extent of demand lowering. But this is no other than determination of elasticity of demand for goods. In case of neglecting this condition, price rising may cause a complete crash of business in the market, as in

conditions of elastic demand, even an insignificant rise in price causes appreciable lowering of demand quantity. It will cause sharp lowering of the company's benefits. This negative result may be avoided only one way: the company should take the tax on itself, i.e. pay it at the cost of its profit. The above-mentioned may be done by highly profitable companies only. Otherwise business will lose any commercial meaning and wind up.

The enterprises having more elastic demand for their products are secured from such situations to more of an extent. They have more possibilities for tax shifting, i.e. price rising, as in the case of non-elastic demand, and such a rise cannot cause any significant changes in the size of demand and, correspondingly, the indexes of sales hardly change.

But such a simple approach to the mentioned matter is not purposeful. We should not imagine that if demand is not elastic, then the manufacturer can shift the whole tax burden onto the customer or, vice versa, if demand is elastic, manufacture cannot shift the tax and has to take the whole tax burden upon himself. Tax burden in any case is borne by both manufacturer and customer, but to what extent? To establish this we can use concrete examples and graphs of the function (Fig. 2 and 3).

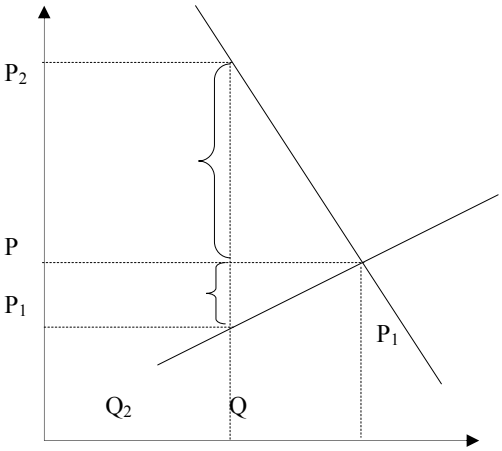

Fig. 2. Graph of function.

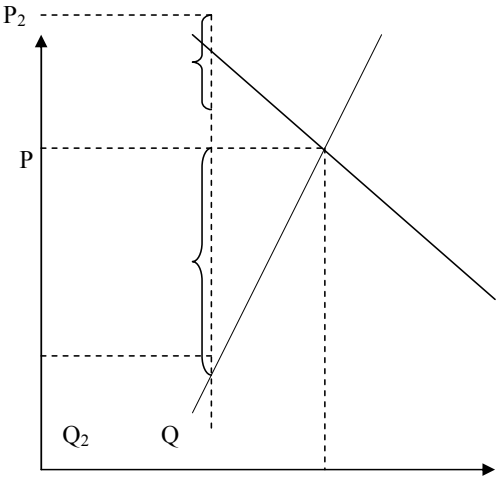

Fig. 3. Graph of function.

Fig. 2 shows the curves of demand and supply and such types of market, where demand is comparatively non-elastic, but supply is very elastic. P and Q mean relatively goods price and sales volume. After tax levying price rises. It reaches point P_2, causing the lowering of demand and reaching at some point Q_2. Correspondingly, the following disproportion origins exist: if earlier customers paid price P, now they have to pay higher price P_2, but sellers receive lower price P_1 instead of price P and sell less quantity of products. Just the value equalling difference between price paid by customer and price received by manufacturer ($P_2 - P_1$) is a tax burden which should be distributed between manufacturer and customer and we can establish its proportion with the help of the graph. Customer's burden equals a difference between earlier and present prices,

i.e. $P_2 - P$, but manufacturer's one—$P - P_1$. So, finally, manufacturer and customer take upon themselves new tax burden: $(P_2 - P) + (P - P_1) = P_2 - P_1$. But they do not distribute this burden evenly.

Proving all above mentioned, we can draw a conclusion that in the market, where supply is very elastic, but demand is not elastic, it should not be understood so, as the whole tax burden is levied on the customer. But due to this circumstance the bigger part of tax burden is borne by the customer and less part—by the manufacturer.

Fig. 3 shows the market type, where supply is comparatively non-elastic and demand is very elastic. Such a case should be discussed in a similar way, but taking into consideration the above-mentioned difference. P and Q are values of price and demand relatively. After tax levying price rises up to P_2, but demand goes down to Q_2. The difference, i.e. tax burden equals to a value of $P_2 - P_1$. As demand is elastic, customers are very sensitive towards price and price rising causes significant lowering of demand. Due to this circumstance customers avoid a great part of tax burden and correspondingly its great part presses the manufacturer, what is conditioned with lowering of really received price and demand quantity.

To present it more expressively we here provide the following example: in 1990 The USA Congress levied taxes on luxury, namely yachts, airplanes, fur coats, jewellery and expensive cars. The purpose of this tax levy was to impose a tax on the richest people, as only rich people could buy such things. That is why, luxury taxation seemed enough logical. But after activation of the forces of supply and demand elasticity the result was found out absolutely different from that the Congress intended to achieve. Let's consider yachts market. Demand is elastic enough, as millionaires are free not to buy a yacht and spend their money otherwise, ex. buying a bigger house or travel or generally increase their savings. As for yachts supply, it is non-elastic enough, more so in the short period, as their manufacturer cannot easily transfer to production of alternative goods. Besides, these plants employees are not able to change career and be employed in the other sector.

Our analysis enables us to make exact prediction. Under conditions of elastic demand and non-elastic supply the main part of tax burden will press suppliers. But it means that the yacht tax will be paid by enterprises and workers, but workers are not rich. So, the most part of luxury tax will press the middle class, not the rich. Impropriety of assumption regarding shifting of luxury tax became apparent, when the tax started operating. Luxury suppliers informed their representatives in the Congress about these difficulties and in 1993 this tax was cancelled.

That is why, when the state intends to levy new taxes, change any tax or its rate, it is necessary to determine preliminarily, who will really pay this tax. And only after that the matter of changing, levying, growing or lowering taxes should be resolved.

4. Conclusions and recommendations

In the optimal taxation pressure concept relation of taxation pressure to economic activeness and output is especially important. According to this concept, at critical val-

ues of taxation pressure t = 0 and t = 1 activeness drops to minimum; at t = 0—because state will not have any revenues, nor fulfil its economic functions, and at t = 1—because at 100% taxation no one wishes to work out any legal revenues. At the same time, providing this concept, there are levels, differ from taxation pressure (t = 0 and t = 100), namely t_1 = 50% (Laffer) and t_2 = 38,2% (Abuselidze), when economic activeness and output differ. Besides, role and importance of these rates are determined with correlation of: a) taxation pressure and output; b) budget revenues and economic activeness.

Let us assume that at the initial stage balance of output and economic activeness is at point F and it is corresponded with tax rate t. Let us say that due to some circumstances state charge grew to some value. In other equal conditions this change will cause growing of economic activeness and correspondingly curve moves to the new position. In such situation, for the purpose of achieving the new balance, simultaneously with grown expenses state has to rise t value up to t_2. The matter is that at F point of the initial balance economy is on the ascending part of the curve of aggregate supply. In such case, among the effects originated resulted rise of the t sum of the effect of creation of output promoting environment and the effect of revenues prevail. That is why, ironically enough, rise of taxes up to t_2 will promote growing of recourses supply. In circumstances of grown quantity of using recourses available the aggregate output will grow and balance will be achieved at point F_1 (Fig. 4).

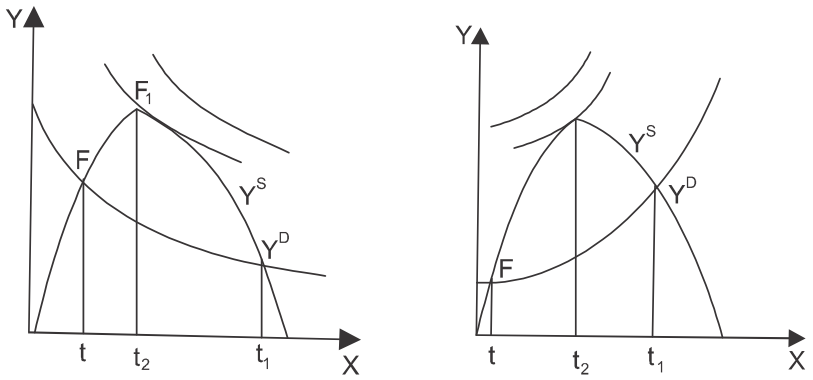

Fig. 4. Tax policy and effect of Economics—Abuselidze version

The different situation takes place, when the initial balance point is at E. This latter is on the descending part of output and aggregate supply, where prevailing role belongs to negative effects of taxes (effect of replacement and financial effect). Certainly, in such conditions lowering of taxation pressure is a natural way of economic activeness stimulation and growth of output. That is why, in this hypothetic situation, if state reduces t value from t_1 to t_2, then economy will manage to transfer to the new balance at E_1 and satisfy the grown aggregate demand (Fig. 5).

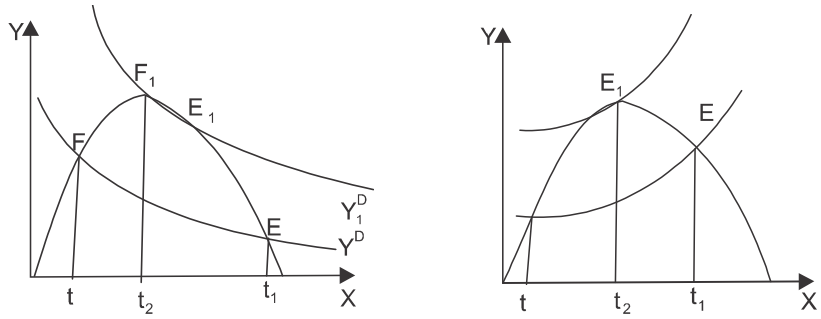

Fig. 5. Tax policy and effect of Economics—Abuselidze version

In spite of curves shifting fiscal points t_1 and t_2 remain unchanged, although maximum values of output and economic activeness determined by these points do change (Fig. 6). So, the level of balance of economic activeness and output depends on optimal taxation pressure t_2=38,2%.

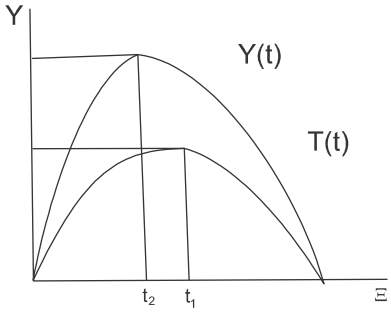

Figure 6. Tax burden curves—compliance with Laper and Abuselidze

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OPTIMALIOS MOKESČIŲ NAŠTOS ĮTAKA EKONOMINEI VEIKLAI IR GAMYBOS PAJĖGUMAMS

George ABUSELIDZE

Santrauka. Moderni valstybė negali egzistuoti be mokesčių, kuriuos būtina pagrįsti visuomenei. Mokesčių našta veikia ne tik biudžeto pajamas, bet ir investicijas, pasiūlą ir paklausą, kainas ir kita. Visa tai turi tiesioginę įtaką ekonominei veiklai ir gamybos pajėgumams. Mokesčių naštos koncepcijoje labai svarbus yra mokesčių naštos ir ekonominės veiklos bei gamybinių pajėgumų tarpusavio ryšys. Mokesčių naštos poveikis biudžeto mokestinėms įplaukoms ir gamybos pajėgumams gali būti realizuotas dviem skirtingais būdais. Vienu atveju mokesčių našta veikia gamybos technologijas, efektyvų išteklių panaudojimą, kas savo ruožtu atsispindi gamybos pajėgumuose, o iš kitos pusės, mokesčių naštos pokyčiai turi įtakos mokestinėms biudžeto pajamoms ir atsispindi ekonominėje veikloje.

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