

PRIORITIES FOR FORMATION OF ANTI-CRISIS TAX POLICY

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ABSTRACT

The article describes the essence of the fiscal and regulatory functions of taxes; their role is defined in creating favorable conditions to support economic activity and to promote economic growth. It is proved that adopting a tax incentives policy is expedient in the periods of economic recession due to the expansion of regional tax authorities; it will ensure the effective implementation of the regulatory impacts on the restorative economic growth processes. Perspective directions have been defined to reform the legislative framework towards the taxation liberalization of the enterprises' capital ensuring achievement of the cumulative effect on the development of production and the increase in budget revenues. An economico-mathematical model has been suggested to evaluate the effectiveness of providing tax benefits for the corporate profit tax. The simulation results indicate that the increase in the taxable base of enterprises in the short term will not be able to compensate for the resulting budget losses.

Keywords: *Tax policy, economic growth, promotion, cycle, industry-specific complex*

1.INTRODUCTION

In the modern conditions of overcoming the consequences of the global financial crisis, an acute problem exist to develop the priorities of the national economic policy and adaptation of the enterprises' financial and economic activity thereto, which will contribute to sustainable economic growth both in the industry-specific and territorial aspects.

Currently, the executive and legislative agencies of all levels assign a critical part to the tax regulation mechanisms. However, absence of a set of interrelated instruments stimulating reproduction processes and effective management systems for socially oriented development of individual regions, territorial and industry-specific complexes creates additional obstacles for sustainable economic growth, and it could be one of the causes of crisis situations in the future.

In forming an optimistic Russian economic performance scenario, it should be taken into account that the development and implementation of an effective system of governmental regulation has a number of restrictions on the planning horizons. If the monetary and credit policy is more oriented on smoothing the cyclical fluctuations in the short term, the use of tax instruments can also solve these problems in the medium and long term.

The aforementioned leads to the need to improve the existing tax system, to make a critical generalization of domestic and foreign experience in the use of tax instruments in order to eliminate the inappropriate

dissemination of external crisis processes on any internal activities and, ultimately, to create a science-based complex of the tax regulation measures that stimulate economic growth.

2.SPECIAL FEATURES OF THE TAX POLICY INFLUENCE ON THE DEVELOPMENT OF ECONOMIC COMPLEX

A radical change in views on the role of the state in the economy has become a characteristic feature of the last decade. Hopes for an automatic self-regulation of the market did not materialize. In this context, the idea of minimum interference in the economic system both in practice and in theory moved to the background for a while. A new understanding of a state and public regulation appeared; it is based on the use of indirect instruments, including tax ones.

L. Erhard said the resource allocation between the present and future tended to a distortion, since economic agents were inclined to overdiscounting of the future [16]. The tax system should take this into account, otherwise the savings would not be sufficient. In this respect, he adhered to the classical economic tradition, in contrast to J.M. Keynes [1].

Later, in connection with the crisis of Keynesian ideas, expediency of adopting the active fiscal stabilization policy was challenged from different viewpoints. The main argument was that the impact of growth in government expenditure on the aggregate demand could be leveled by lower private investment and consumption expenditure [14]. In other words, at full employment there is a displacement of private expenditure by public one so that the tax policy can eventually have no stabilizing effect, but it only redistributes a product between the public and private sectors of the economy.

Change in taxes inevitably affects an offer of debt liabilities and, consequently, a monetary policy. Assuming that the increase in financing through the debt issuance is undesirable or unacceptable, it imposes additional restrictions on the discretionary tax policy, because in such circumstances, any tax reduction should be compensated by an identical change in expenditure.

The rational expectation hypothesis proves that economic agents try to anticipate future events [4]. Such actions are considered rational in the sense that they combine all available information and, therefore, they do not lead to any systematic errors of the forecast. Regarding the problem under consideration it is understood in this case that the economic agents would depreciate any general expected change in taxes in the decision-making process.

According to the Ricardo-Barro equivalence theorem [10], the taxation and public debt issue acting as alternative ways to finance current public expenditure can be considered as equivalent by their influence on the economy. This implies that at any of them economic agents consider financing of public expenditure as taxes - current or future (for servicing and repaying of previous debt liabilities), and the discounted value of both ways (assuming an infinite planning period, complete prediction of the future tax burden and some others) is the same.

However, despite a reasonable criticism of the conscious use of taxes to solve the macroeconomic regulation issues, in general it has retained its significance. Many contemporary taxation professionals recognize anyway the regulatory tax function. For example, P. Krugman directly notes: "The change in economic situation requires changing tax regulations" [3]. Among the fiscal system's functions, G. Haberler calls a stabilization one, under which the use of tax policy as a means to maintain a high level of employment, acceptable price stability and appropriate economic growth is understood [12]. P. Samuelson and W. Nordhaus point out: "The main government tool to control the cyclical fluctuations and to ensure the economic growth is monetary and fiscal policies" [11].

Russian scientists also emphasize the importance of the regulatory function of taxation. For example, V.G. Pankov points out that "...each tax is based on a regulating function" and that "...a state can deliberately use it to regulate certain proportions in the socio-economic life of society" [8]. Yu. Yutkina notes "The formation of government revenues should not only solve the problem of financing, but also meet the objectives, which are defined by the governmental functions in a market economy" [17]. Emphasizing the dynamic aspects of the problem, M. Shmakova highlights "... regularity of increasing the regulatory function of taxes subject to the strengthened governmental intervention in social and economic processes and their reduced regulatory significance on the condition of easing the governmental regulation of the economy" [13].

In this connection, it is necessary to emphasize that in the modern sense the regulation includes not only a certain arbitrary interference in market processes, but above all the adjustment of embedded mechanisms in the cases where they fail to work. At the same time, it has been argued about the effectiveness of discretionary tax policy at the macro level for the reason that the market's inability to automatically ensure sustainable development is widely recognized, but the main problem is to find the best ways of conscious influence on the economic processes.

4. TAX STABILIZERS IN ENDOGENOUS GROWTH MODELS

As known, the reproduction complex is characterized by a diversity of various social, economic, environmental, regulatory and other properties, processes, and relationships between elements. The study of its functioning in the framework of existing theories and paradigms suggests that mainly the dynamic approach provides an integral space-time picture of the causes of recurrent imbalance in the national or territorial socio-economic systems.

Supporters of the exclusively market-based economic models assign a leading part to the "built-in fiscal stabilizers" [18] acting in self-control mode and limiting governmental intervention by determining the economic development directions and by using bounds to the territorial space. Meanwhile, the obvious advantages of the above instruments should not lead to an overestimation of their abilities because when reducing market fluctuations, they can not eliminate them completely.

Increased market uncertainty and availability of crisis manifestations should indicate the need for changes in the governmental position regarding the impact on the internal economic situation. In this case, the discretionary tax policy becomes demanded in respect of conscious adjustments of applicable tax instruments to increase the volume of domestic production, to improve employment of population, to stimulate investment activity, to contain inflation, etc.

Studies of the empirical relationships of economic growth and indicators of public policies establish a connection of the economical growth rate with a variety of parameters, the reason for which can often be explained by the indirect impact on investments or uneven distribution.

The specifics of governmental policy in the endogenous growth models occur when a difference arises between private and social rates of return [6]. If a social rate of return exceeds a private, subsidies for production or investments may enhance the latter up to the social return level and, consequently, increase the rate of balanced growth to the optimal level.

However, the public policy issue appears in a special way in the models that set the existence of any specific relationship of economic growth versus governmental behavior and governmental policy parameters. The model of productive government services has different versions, interpretations, and applications that can be used to explain the economic growth relationships. In the majority of them, the analysis of the state tax policy and its impact on the country's budget system comes to the fore.

5.PRECONDITIONS FOR USING THE MODEL OF TAX STIMULATION OF ECONOMIC ACTIVITY

Based on the provisions of welfare economics, the generally recognized sphere of governmental tax regulation of economic processes is, first of all, the so-called market failures or market inabilities [7]. In their absence, any search for specific grounds to differentiate the effective corporate profit tax rate becomes impractical. Thus, the condition for the use of a single effective corporate profit tax rate is a special condition of the institutional business environment. To this end, it should have three properties.

1. The economic agents' profit should reflect the economic efficiency of the employed capital and the management system used under competitive conditions, rather than a possibility of seeking for rent in connection with a special position, which one or another corporation holds in the market.
2. Financial results of economic activities should take into account the costs or revenues related to externalities (negative or positive) of economic agents' operation in an adequate manner. In terms of the Coase Theorem, it assumes that property rights in the economy are relatively clear, transaction costs are low, so the result of negotiations between a producer and externality receiver can be a Pareto optimality, which does not require any special governmental intervention [2].
3. The market failures that need governmental regulation and financing do not directly affect the economic activities of enterprises; they appear as external problems towards them. In this case, the taxes, as a means for solving these problems, can be neutral, i.e. the tax adjustment relating to operation of enterprises is not needed because, guided by the market incentives, they independently use their limited resources in the best way.

However, in practice, these conditions are generally not fulfilled. First, even in developed countries, and especially in Russia, the market is not fully competitive. A significant part of the agents operating thereon has the monopoly power both in relation to natural and technological features of business (natural monopolies) and virtual absence of any of the five competitive forces, namely: competition among sellers; competition among goods; threat of new competitors; competitive forces due to economic opportunities and trade abilities of buyers; competitive forces due to economic opportunities and trade abilities of suppliers.

Secondly, the institution of property rights in Russia is not perfect, so the problem of externalities can not be solved through negotiation of market agents. As noted by a number of researchers, in the modern conditions, the property rights are not specified clearly [15], therefore, as a rule, the externalities are not adequately reflected in the costs of economic agents, and, consequently, the financial results declared in public accounting are distorted. A high level of transaction costs should be also taken into account; it is connected, primarily, with the existing problems in the search for information, and in particular, the protection of property rights and the coercion to performance of contracts.

Third, there are market failures, which directly affect the enterprise's behavior in a competitive environment. In particular, it is associated with the practical impossibility in the early stages of development and application of new products and technologies to anticipate economic consequences of their mastering. Therefore, in practice "...transition to a new technology is almost always less economical than preservation of an old one, as a new technology needs acceleration" [9]. As a result, even in competitive markets, the power of influence of natural economic incentives can be insufficient to direct the activities of economic agents towards technical solutions that eventually turn out to be the most effective [5].

Thus, in view of these circumstances, the profit obtained as a result of economic activities of different enterprises is not completely neutral, and therefore it can and should be subject to different effective tax rates, which differentiation is caused by targeted use of tax incentives in order to control and optimize economic processes.

6. TAX BENEFIT EFFICIENCY MODEL AS EXAMPLIFIED BY CORPORATE PROFIT TAX

In our opinion, the corporate profit tax benefits should influence the industry-specific structure of regional reproduction complex, which is associated with the following. Firstly, because of granting special industry-specific benefits and, secondly, on the grounds that the full tax benefits, for example, aimed at encouraging scientific and technological progress, have consequences, including the industry-specific ones. However, the changes occurred in the industrial structure evidence the low efficiency of their use.

The profit tax has a significant impact on the economic agent's economic activity and financial condition. This is explained by the fact that a part of the working capital of profitable economic agents is withdrawn; therefore, changing the tax rate, it is possible to regulate the economic processes. If it is reduced, an amount of financial resources to be available to enterprises increases; they, in turn, can be invested in the expansion of production. As a result, under otherwise equal conditions, the sales profit with regard to products, works and services increases, and through the tax base expansion – the enterprise's payments in the budget.

However, to achieve simultaneous reduction of the tax rate and increase in the budget revenues may not be possible in practice. This requires a relatively high growth rate of the tax base arising from a decrease in the tax pressure on the economic agents' performance, which corresponds to the A. Laffer hypothesis, or, mathematically speaking, a condition is to be complied, under which [125].

$$\frac{df}{dt} * \frac{t}{f(t)} \leq -1, \quad (1)$$

where t is a profit tax rate;

$f(t)$ is a tax base.

In turn, the tax base growth rates are determined by the factors such as the profitability of manufactured products, the working capital turnover, the ratio of fixed and semi-variable costs and a number of others. It is important to consider here that these factors have expressed industry specifics, as the profitability varies considerably across industries, the working capital turnover is determined by technological features of an industry (for example, a production cycle in the mechanical engineering is larger than in the light industry), etc. Therefore, reducing the profit tax rate by the same value, different results can be obtained in individual industries. In some, the tax base will increase with the necessary pace, while ensuring a simultaneous increase in government revenues, and in others, despite a slight broadening of the tax base, the budget revenues will be reduced.

In this connection, the industry can be divided generally into two parts: industries, which, under otherwise equal conditions, positively respond for a specific period at reducing profit tax rate and ensure the growth of budget revenues, and those, in which the Laffer Curve condition is not satisfied. It should be taken into account that at any given point of time the industry's reaction to the change in profit tax rate depends on the industry's structure.

In order to create such a model, represent each industry as a single enterprise, which using the material and human resources, manufactures products, sells them in the market at the prevailing exogenous prices, receives sales revenues, pays a corresponding profit tax, and uses the remaining part for own needs. Subsequently, the cycle repeats itself (Table 1).

Table 1. Mathematical model of industry-specific economic activity

Item no.	Sales cost	Sales profit	Amount of tax paid to the budget	Profit available to a branch of industry
0	n_0u	$\Pi_0 = n_0u - (C + vn) =$ $= n(u - v) - C$	$D_0 = \Pi_0 T$	$O_0 = \Pi_0 - \Pi_0 T = \Pi_0(1 - T)$
1	$n_1u; (n_1 = n_0)$	$\Pi_1 = n_0(u - v) - C;$ $(\Pi_1 = \Pi_0)$	$D_1 = \Pi_1 T$	$O_1 = \Pi_1(1 - T)$
2	$n_2u; (n_2 = n_0)$	$\Pi_2 = n_0(u - v) - C;$ $(\Pi_1 = \Pi_0)$	$D_2 = \Pi_2 T$	$O_2 = \Pi_2(1 - T)$
...
m	$n_mu;$ $(n_m = n_0)$	$\Pi_m = n_0(u - v) - C;$ $(\Pi_m = \Pi_0)$	$D_m = \Pi_m T$	$O_m = \Pi_m(1 - T)$
Total	$(n_0u) \sum_{i=0}^m \frac{1}{(1+r)^i}$	$\Pi_0 \sum_{i=0}^m \frac{1}{(1+r)^i}$	$\Pi_0 T \sum_{i=0}^m \frac{1}{(1+r)^i}$	$\Pi_0(1 - T) \sum_{i=0}^m \frac{1}{(1+r)^i}$

where:

n_i is the number of manufactured and sold product units;

u is the unit price of a product;

v are variable costs per a product unit;

C are fixed costs of the entire volume of sold products;

Π_i is the sales profit earned on the results of the i -th economic turnover;

T is a profit tax rate.

It is obvious that the modeled industry is the payer of a single tax – the corporate profit tax. It is believed that other taxes do not have a significant impact on the amount of funds remaining available to the industry, as the offer of goods is elastic. Such taxes, as the VAT and payroll charges, are fixed per a product unit, and the other taxes (property tax) remain unchanged, they are a part of the fixed costs. In this case, the funds for their timely payment are available in sufficient amount, they are composed of the resulting sales revenue. The profit remaining after the tax payment is fully allocated, and therefore, it is not spent for the production expansion. External sources of expanded reproduction are not involved.

In view of these circumstances, the condition, under which an increase in budget revenues is achieved due to a decrease in the profit tax rate, consists in the following:

$$(T - \Delta T) \sum_{i=0}^m \frac{\Pi_i}{(1+r)^i} \geq \Pi_0 T \sum_{i=0}^m \frac{1}{(1+r)^i} \tag{2}$$

In our case, the impact of changes in the industrial structure on the budget revenues is to be assessed provided that a corporate profit tax rate is reduced. In this connection, a general mathematical solution to inequality (2) should be found for a limiting case, when $m \rightarrow \infty$. In other words, the question is: under which values of the variables R and L of the industry-specific enterprises the condition is basically satisfied, that is, if the time interval of the study is not restricted and infinity of economic turnovers is allowed.

To make further transformations, introduce the following notations:

$$\beta = \frac{R + L}{1 - L} = \frac{\Pi + C}{V}; \tag{3}$$

$$\gamma = \beta(1 - T + \Delta T). \tag{4}$$

After condition 2 has been checked, we obtain:

$$\frac{\beta(1+r)}{r^2} > \frac{1+r}{(T - \Delta T)r}; \beta(T - \Delta T) > r \Rightarrow -\gamma > r - \beta. \tag{5}$$

Besides

$$F(m, \beta, T, \Delta T, r) = \beta \left(\frac{m}{r} - \frac{1}{r^2} + \frac{1}{r^2(1+r)^m} \right). \tag{6}$$

This implies that government revenues will not reduce because

$$F^0 = \lim_{m \rightarrow \infty} F(m, \beta, T, \Delta T, r) = +\infty. \tag{7}$$

Thus, the condition $\beta \geq 1 + r$ is necessary and sufficient to ensure that the government revenues are not decreased as a result of reducing the industry-specific corporate profit tax rate. The economic sense of this expression is that the product profitability and savings of fixed costs should be greater than a certain critical value determined by the discount coefficient. If it is not observed, the basic condition (2) will not be basically satisfied even at any number of economic turnovers. This condition is checked using the formula (7).

Proceeding from this, the inequality $\beta \geq 1 + r$ can be used to calculate the impact of changes in the industrial structure on the budget revenues in the conditions of changing the corporate profit tax rate, both standard (common to all industries) and differentiated by industries. This can be done by calculating a coefficient, which reflects a production value share of the industries, which satisfy the condition of non-reduction of the budget revenues after decreasing the corporate profit tax rate.

7. SIMULATION RESULTS

The proposed economico-mathematical model was checked through the example of the Stavropol Krai industrial complex using data of the official statistical reports, as well as the Stavropol Krai's Ministry of Industry, Energy and Transport for the period of 2013-2015. The average level of the economic activity profitability amounted to 13.3%, and the share of fixed costs - 27.9%. In this case, $\frac{R+U}{1-U} = 0,57$.

The actual average duration of a single economic turnover is equal to 0.63 years. Assuming the refinancing rate of the Central Bank of the Russian Federation at 9.5%, we obtain $dt = 0.06$. Then we have $0.57 < 1 + 0.06$, i.e. the necessary condition is not satisfied.

The calculation results indicate that the reduction in the corporate profit tax rate in Stavropol Krai will lead to increased efficiency of industrial production (Table 2).

Table 2. Calculation results relating to the minimum profitability of economic activity providing preservation of budget revenues while reducing the profit tax rate*

Branches of industry	Profitability of enterprises			Difference between the calculated and actual profitability in 2015
	Actual		Calculated 2015	
	2013	2015		
Industry, total	11.4	7.5	16.3	8.8
Minerals extraction	11.3	7.0	15.7	8.7
Food processing industry	7.0	7.4	9.8	2.4
Consumer goods industry	2.8	-6.5	10.4	16.9
Woodworking industry	- 18.6	- 11.8	13.7	25.5
Chemical industry	46.0	24.0	14.9	-9.1
Metalworking production	12.3	5.4	19.2	13.8
Mechanical Engineering	10.0	18.0	21.3	3.3
Manufacture of transport vehicles and equipment	6.1	1.8	19.9	18.1
Production and distribution of power, gas and water	4.3	3.2	10.4	7.2

*The calculation implies that the fixed costs include: depreciation charges and other expenses, 10% of material costs; 30% of labor costs and benefits-related deduction. Accordingly, the semi-variable expenses include 90% of material costs; 70% of labor costs and benefits-related deduction.

The consequent increase in the taxable base of enterprises in the short term will not be able to compensate for inevitably resulting budget losses. The minimum profitability ensuring the preservation of the same level of tax revenues is significantly higher than actually achieved indicator in most types of industries.

8. CONCLUSIONS

The main directions of the tax policy's transformation should comply with phases of the market cycle, when active influence on the reproduction complex of built-in fiscal stabilizers should accompany the intense economic growth periods, and dominant influence of discretionary tax instruments – the economic recession stages. Increased market uncertainty and availability of crisis manifestations should indicate here the need for changes in the state's position regarding the impact on the internal economic situation. In this case, the discretionary tax policy becomes demanded in respect of conscious adjustments of applicable tax instruments to increase the volume of domestic production, to improve employment of population, to stimulate investment activity, to contain inflation, etc.

The territorial entities' tax authority should be broadened as to adjustments to the existing legislation according to the current economic growth trends, national targeted priorities, budget interests and civil society's needs. The necessary condition to realize this development scenario consists in harmonization of interests of all parties to the reproduction process. The fiscal aspect includes delimitation of tax authorities; it is based on the mechanisms of budget federalism and involves the formation of regionally adapted tax policy. Based on the national priorities of functioning of the economic space, the Russian Federation constituent entities should pursue their own fiscal interests and take them into account in the models of regional development. In this case, the tax potential is the basis for budget independence, and its size largely determines the local government agency's prospects for implementation of their social obligations.

CONFLICT OF INTERESTS

The authors confirm that the provided data do not contain any conflict of interests.

ACKNOWLEDGEMENT

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