

TAX INSTRUMENTS TO COUNTERACT THE ECONOMIC ACTIVITY IN THE SHADOW ECONOMY

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ABSTRACT

The main reasons for tax avoidance are objective and due to gaps in the existing regulatory framework, controversial government policy, market imbalances, ineffective functioning of the tax administration system and supervisory agencies. In this connection, institutional forms of counteracting the economic activity in the shadow economy, which manifests itself as violations of the tax and criminal laws, should be created at all hierarchical levels of the economic system. The conducted analysis of qualitative characteristics of taxpayers' behavior at the meso-level systems showed the presence of a self-organizing mechanism for the shadow economy's expansion, which key parameter is tax avoidance. The existing polyvariation of forms and methods of the deviant taxpayers' behavior complicates diagnostics, detection, criminal prosecution or imposition of administrative sanctions for the tax violations. In this connection, an economico-mathematical model has been developed to estimate the level of tax discipline across industries, it allows carrying out the analytical optimization of tax control procedures and increasing transaction costs of dishonest taxpayers.

Keywords: *shadow economy, sectoral complex, avoidance, behavior, taxpayer, tax control*

INTRODUCTION

One of the main factors of harmonizing the economic relations among the state, business and population is to reduce the level of shadow activities in the illegal economy. The basic manifestation of this phenomenon is failure to perform the obligations on payment of taxes and fees, which adversely affects the formation of a profitable part of the consolidated budget. In turn, the tax avoidance leads to a reduction in the production of public benefits by the state, and the appeared deficit is compensated by an increase in the level of tax burden towards entrepreneurs and population. This negatively affects the law-abiding taxpayers' behavior and reduces the level of tax discipline.

At the microlevel, the law violators have additional competitive advantages over honest entrepreneurs in terms of optimizing their in-house financial flows, what triggers other economic agents to the deviant

behavior. It should be borne in mind that the use of legalized financial resources also stimulates the growth of effective demand, and it results, through the multiplicative effect, in the improved welfare of all members of the society. However, there is no doubt that the negative effects of this phenomenon take precedence, which determines the need to find effective mechanisms and instruments to counter the shadow economy's expansion and tax avoidance.

2. CAUSES OF THE SHADOW ECONOMY

Analysis of exogenous and endogenous factors affecting the quality characteristics of the socio-economic development of meso-level systems and the degree of their sustainability is impossible without considering the informal institutionalization trends relating to market relations, which are based on the shadow business with its own specifics, regularities of functioning, dynamics, structure of manifestation and form of realization. This makes it necessary to identify a self-organizing mechanism for the shadow economy's expansion and to determine the extent of its negative impact on the formal economy, as overcoming of critical values threatens the national economic security.

As noted by A.A. Kuklin, "There is a fundamental factor associated with the perception of formal rules by the market participants and the determination of their real status. It reads as follows: a law is not perceived as an absolute immutable rule obligatory for accurate execution" [1]. It should also be taken into account that not only entrepreneurs but also officials, who generate formal rules and supervise their execution, developed such an attitude to the compliance with the law. In this case, a formal rule is the basis for an "institutional adjustment", i.e. an object of adjustment and further adaptation to changing internal and external conditions. And as rightly pointed out by Frey, this process turned into a routine process to develop certain management schemes and a new rent with the planned increase in transaction costs [10].

It is evident that this transformation of the economic agents' behavior leads to significant deformalization of the rules when conventional institutions are changed due to the substitution of formal rules by informal ones and their subsequent incorporation in informal relations. As noted by D.P. Frolov, "At the same time, a border between the institutions becomes relatively transparent and less rigid. As a result, a formal rule is embedded in the system of informal norms without completely losing its formal compulsory force" [7].

The algorithm for deformalization of rules consists of a number of basic elements:

- adopted formal rules of the game do not assume their full and unconditional implementation by both entrepreneurs and regulatory agencies;
- lack of the effective channels for legal support of the relationships between entrepreneurs and regulatory agencies, as well as the ways for pre-trial challenge of disputes;
- systematic violations of the regulatory framework and bypassing the existing formal rules by economic agents;
- existence of selective control over the observance of formal rules;
- development of a mechanisms for transformation of the structure of transaction costs in favor of growth of an informal component;
- creation of tools for legitimization of the shadow economic activities.

Economic agents, who have a choice among legal, semi-legal or illegal activities, often opt for the use of shadow schemes because of current the institutional environment. This systematic delegalization of forms and methods for conducting economic activities leads to additional types of transaction costs: fee for the use in illegal tax avoidance schemes; fee for minimization of their use.

3. TAX AVOIDANCE AS AN ELEMENT OF SHADOW ECONOMY

Any tax system affects, directly or indirectly, the business activity of economic agents, and the allocation of regulatory function of taxes allows the state solving the main problems using the fiscal system, namely: stimulation of economic growth, development of high-priority industries and territories, growing number of small and medium-sized businesses, improved stability of the budget system, etc. However, the specific instruments for their implementation are often diametrically opposed. Constant change of the legal framework regulating the taxpayers' activity results in the revision of tax rates, benefits, payment terms and order. In conditions of high volatility of exogenous factors at a rather high level of fiscal burden, the economic agents are not able to build long-term development strategies; that reduces the level of their financial stability and may lead to a decision to withdraw "into the shadows."

Tax avoidance involves "financial and economic transactions, which do not have any business purpose and which are aimed at obtaining an unjustified tax benefit" [3]. This process is based on the creation of "informal models of conducting financial and business activities, financial and tax accounting, documenting civil transactions" [3]. In this case, an unjustified tax benefit appears due to the tax base underestimation and tax undercharge, tax and fee avoidance, as well as illegal tax and charge reimbursement from the budget system.

The existing diversity of forms and methods of the deviant taxpayers' behavior complicates diagnostics, detection, criminal prosecution or imposition of administrative sanctions for the shadow economy's organizers and participants. However, the informal activity analysis allows specifying some templates, by which social norms and rules violation forms and methods can be grouped: structure of tax crime participants; industrial or territorial specificity; tax base distortions; way of damage; complexity of implementation and forms of operations used for tax avoidance.

The taxation system has a direct or indirect impact on the socio-economic development and forms a complex polyvariant system of cause and effect relationships. For example, the fiscal function's prevalence reduces the financial sustainability of taxpayers who with a view to raise it may decide to withdraw into the shadows, which in turn leads to decrease in investment activity, drop in economic growth and reduction of the budget system's stability. Consequently, the modern fiscal policy, which has a number of imbalances that manifest themselves especially at the regional level, suggests the need to neutralize the threats to social and economic development of the territories and to scrutinize the tax avoidance as a key element of informal economic activity.

4. TAX DETERMINANTS OF THE ECONOMIC AGENTS' DEVIANT BEHAVIOR

The classical models that describe the specifics of the tax system's functioning do not allow determining the taxpayers' deviant behavior, therefore, they require a certain upgrade. The generally acknowledged definition of deviant behavior is stated below: "behaviour, which deviates from the generally accepted norms, violates the social individual's and group's behavior and which is perceived as reprehensible from the standpoint of prevailing values" [4]. In the tax field, the deviance is closely linked with the term "shadow economy", so almost any informal activity is an economic agent's deviant behavior. At the same time, one of the key factors influencing the taxpayer's decision made on the withdrawal is the effectiveness of the existing tax control system.

In the foreign literature [8, 9], the tax control is, in its narrow interpretation, the possibility of implementing functions related to collecting mandatory fiscal payments. In its broadest sense, this is an integral part of the financial control related to the need for supervisory functions in the tax administration system that allows to partly identify it with the financial control as a whole. The foreign specialists also associate the "tax control not only with a supervisory, but also a preventive form of control procedures taking into account the possibility of studying the social and psychological effects of the tax avoidance" [11]. They also note that the "mass opportunism of taxpayers has a destructive effect not only on the taxation, but in general on all spheres of public life, economy and state, which is a significant threat to the country's economic and national security" [14].

Thus, the taxpayers' opportunism is linked with the taxpayers' deviant behavior. However, in some countries, especially with underdeveloped institutions, and where the shadow economy is considerable, the opportunism and deviance are not identical concepts. In our opinion, the Russian society does not consider the tax and charge avoidance as a model of deviant behaviour; that is connected with the lack of the "tax morality" concept.

Kerrick MacAfee claimed quite rightly [13] that the results of tax law compliance based on the intrinsic motivation to pay taxes are associated with the moral hazard, which directly affects the taxpayer's motivation. The essence of this phenomenon lies in the fact that a taxpayer sees a high intensity of fiscal control as an invasion threat to his/her private life. In this connection, the author draws attention to the need to create social contracts of the population and business with the government, which imply, first of all, possible benefits of cooperation in the form of additional benefits in the future. At first glance, we do not think that such conclusions are ambiguous; a logically established tax policy to encourage tax revenues in exchange for future goods is a quite justified price to pay for the opportunity to timely obtain revenues in the budget, but on the other hand, a sequence of reforms and tax incentives, which really reflects the contribution of business and population to the country's welfare, is important here. So far, only the Scandinavian countries managed to create such social contracts stimulating to pay higher taxes in exchange for social benefits and competently established social and fiscal policy.

Based on the works of Schneider F. and Enste D. [15], the tax mentality can be characterized as taxpayers and their tax burden ratio. Having described the term "tax mentality" for the first time, Gutmann [12] describes it as a person's willingness to pay a tax. Watson H. [16] considered the tax mentality as a positive or negative attitude to the tax avoidance using a survey method. He also found that the tax mentality is different at the country level - according to the country's social characteristics, demographic situation, and so on.

Despite these promising tax morality studies, any objective taxpayer's rational behavior evidence and models subject to response to possible sanctions or penalties have not been obtained yet. In more recent works, the existence of tax mentality is mainly associated with the level of trust to the state and fiscal agencies. For example, according to Yaniv [17], if citizens do not trust their President, the tax mentality will continue to decline, as well as the motivation to payment of mandatory contributions and charges. Such "protective" reaction is expressed not only in the underdeclaration of revenues, but also in more sophisticated tax avoidance schemes. These theories also sheds light on the causes of economic crises in a state because of a sharp decline in trust in the government and, as a result, trust in the governmental fiscal policy, which has a direct impact on the tax control procedures as well.

Yitzhaki [18] argued that there were three key factors for understanding the tax morality: moral principles and rules of a society, temper of the masses; justice of the tax burden, because the poorest should not pay for the rich; relationship between taxpayers and the government (trust of the masses). As soon as one of these factors becomes difficult to achieve, a conflict appears, the society's tax morality decreases, loyalty and understanding of the fiscal burden's importance disappear.

One can not force to pay taxes in the absence of social incentives, which is the basis for the tax morality. Formation of the bases for the tax mentality is also closely linked with the principles and approaches defined for population groups with a different level of revenues, education and employment, which ultimately constitutes the forms of the tax control to be used as a tool to implement an effective fiscal policy.

5. ANALYSIS OF THE TAX AUTHORITIES' CONTROL ACTIVITY

In order to exemplify the analysis of the tax administration system's impact of the shadow economic activity, the Stavropol Krai agricultural sector and wholesale and retail trade were selected.

The following circumstances determined this selection. In the last decade, the Stavropol Krai service sector plays an increasingly significant role in the industry-specific structure of GRP. In 2011, the wholesale and retail trade moved into first place with a GRP share of 20.0%, which is higher than the values of the agroindustrial complex and manufacturing industry. On the other hand, as the results of studies show, economic agents in the trade are often consciously involved in a variety of grey schemes to cash money resources or avoid tax payments, such as illegal VAT reimbursement. The agriculture is characterized by the lowest level of the tax burden that is associated with the use of the Single Agricultural Tax. So, in 2014 the agricultural complex's share in the Stavropol Krai GRP was 12.3%, and the valleys in tax revenues' share amounted to only 4.7%. According to the Federal Tax Service data, the tax burden in agriculture reached 3.4%, manufacturing industry - an average of 7.2%, minerals extraction - 42.6%. Thus, analysis of the regional agrarian and industrial complex will allow assessing the impact of the tax burden amount on the decision-making regarding the tax avoidance and withdraw in the shadow economy.

As can be seen from Table 1, the wholesale and retail trade accounts for more than a third of all conducted field tax audits in Stavropol Krai, and its share in the structure of tax debt is from 8.5% in 2013 to 16.8% in 2014.

Table 1. Dynamics of indicators showing the effectiveness of control activities in Stavropol Krai (wholesale and retail trade/agriculture),%

Indicator	2011	2012	2013	2014
Share in GRP	20.0 / 13.2	21.1 / 10.4	21.9 / 11.4	22.4 / 12.3
Share in tax revenues	11.3 / 4.0	14.4 / 4.4	15.0 / 4.1	15.0 / 4.7
Share in debt	10.3 / 1.9	11.8 / 2.2	8.5 / 2.5	16.8 / 2.4
Share in field audits	35.4 / 15.6	39.7 / 18.1	37.0 / 13.8	33.4 / 14.1
Share in the additionally charged amounts as a result of field audits	0.9 / 2.1	25.4 / 3.8	35.1 / 7.4	37.8 / 5.8
Deviation from the average additional charges per 1 audit	2.6 / 13.2	64.1 / 21.1	95.0 / 53.8	113.2 / 41.4

As a result of these audits, the total additionally charged amount of unpaid taxes and fees increased by 2014 to 37.8% with a simultaneous growth of average additional charges up to 113.2% of the average level. Anomalous values of 2011 are associated with significant claims brought by tax authorities to the food industry enterprises, namely, the production of alcoholic beverages. The tax debt share of the Stavropol Krai agro-industrial complex hovers around 2.0-2.5%, which is on the average 2 times less than the share of tax revenues. A low level of additional charges per 1 field audit led to a minor share in the total volume of additionally charged amounts (maximum value of 7.4% in 2013).

Thus, one of the main drawbacks of the Russia's economic policy in relation to minimizing the negative impact of the shadow economy is that the informal activity's territorial and industry specifics are not accounted. This results in an overflow of shadow financial flows in the constituent subjects of the Russian Federation more favorable for the purposes of conducting shadow activity, which leads to a cumulative increase in the extent of the shadow economy. Asymmetric reaction to manifestations of the informal activity in the form of tax avoidance in the constituent entities of the North Caucasus Federal District is a result of missing unified methodological basis for diagnosing the shadow economy by the major territorial-sectoral complexes, as well as insufficient attention to the problematic industries paid by the tax authorities.

6. TAX AVOIDANCE DIAGNOSIS MODEL

The existing practice of countering tax avoidance involves implementation of relatively homogeneous in their content taxpayer's good conscience control methods, regardless of the diversity of administered taxes. The main targeted priority is focused on the search for those economic agents, diagnosis of which activities can provide the highest additional charges [2]. In this case, it is important to ensure that the enterprises, which have made their tax payments on time and in full in the previous periods, will have to undergo minimum field audits.

Concentration of the resources the tax authorities have to exercise control over activities of the largest taxpayers generating the main share of revenues can not be considered reasonable. The disadvantage in this case consists in the deteriorated tax discipline among small enterprises [5]. Additional charges in the segment of large taxpayers can exceed the loss because of the deterioration of tax discipline among the other categories of economic agents only at the stage of forming the small and medium-sized businesses. In the future, a need inevitably arises for diversification of control activities for correct calculations and timely tax payments.

In our opinion, the honeycomb method realized by the tax authorities features a low degree of adequacy and accuracy; such method implies structurization of all taxpayers into classes according to their industry and subsequently according to their gross profit. Based on the econometric analysis, separate groups of economic agents are determined, in which the highest specific amounts of additional charges have been obtained for the previous period. Increased attention is paid to their tax discipline control.

Special consideration should be given to the use of economico-mathematical methods in organizing the control of tax authorities. In particular, the use of elements of a game theory allows testing intuitive ideas about the nature of changes in various processes for the logical consistency, selecting a vector of basic preferences and determining, which of them should be taken as a basis for the formation of individual conclusions.

The antagonistic game models have a sufficient degree of the adequacy in organizing the integrated control over a level of taxpayers' discipline. The main prerequisite for their use is the assertion that the best solutions of the game participants depend on the available views on the choice of rational actions of their partners. Then two basic preconditions will be dominant: every economic agent maximizes its benefits; they all have full information about the existing formal game rules and participants' benchmarks. These assumptions completely correspond to the existing relationships between the taxpayers and tax authorities.

As noted by several authors, the tax avoidance "accompanies reproduction processes in all spheres of the economic complex" [6]. Then assume that there exists a certain critical number of violations k in the sample of n taxpayers, which will characterize a critical quality assessment of the existing tax administration system.

If the number of tax legislation violations l identified by the results of desk audits exceeds a certain number k , a conclusion is made about the need for a field tax audit in a particular territorial-sectoral complex. Number k should be calculated depending on the specifics of functioning of individual industries and adjusted for each constituent entity of the Russian Federation.

To be able to use the parametric methods of econometric modeling, we assume that the available aggregate sample has a spread in accordance with the normal distribution law. Then, in the framework of the considered territorial-sectoral complexes the average value of the taxpayers' level of discipline is at an acceptable level, therefore, a share of the law violators W has a beta distribution $B(p,q)$:

$$B(p, q) = \int_0^1 W^{p-1} (1 - W)^{q-1} dW \quad (1)$$

where p and q are distribution function parameters of the tax discipline violators, which are set depending on the taxpayers' control measure coverage.

If $p = 1$ and $q = 3$, then there will be an inverse negative relationship: increase in the number of tax audits reduces the potential violations. Then the critical taxpayers' level of discipline in a particular territorial-sectoral complex will be determined using the following inequality:

$$\frac{C_1}{C_2} (p + q + n) - p - 1 \leq k \leq \frac{C_1}{C_2} (p + q + n) - p \quad (2)$$

where:

C_1 is an average cost of conducting an audit activity; C_2 is an averaged value of the penalties that a taxpayer pays for each violation in taxation.

The economico-mathematical modeling results were obtained on the basis of the data provided by the Federal Tax Service Inspectorate of the Russia Federation for Lenin district of the city of Stavropol for 2014, and they are presented in Table 2.

Table 2. Results of modeling conducted with respect to assessment of the tax discipline across industries

Indicator	Production and distribution of gas and water	Construction industry	Wholesale and retail trade	Transport and communications
Number of administered taxpayers	208	3,030	14,563	2,361
Average cost of conducting an audit activity, thous. RUB	2.28	1.88	0.93	1.05
Average amount of additional charges per an audit activity, thous. RUB	35.17	14.57	3.75	3.02
Number of taxpayers in a sample, unit	50	60	70	40
Actual number of tax legislation violations, unit	1	10	22	7
Critical number of tax legislation violations, unit	2	7	17	14

Level of taxpayers' discipline	Adequate	Inadequate	Inadequate	Adequate
Need to optimize the control activities	No need	Exists	Exists	No need

Dimensional parameters of taxpayers in the area of power, gas and water production led to higher average costs of conducting a control measure, and they exceed the similar values in the construction industry, wholesale and retail trade, transport and communications. Simultaneously, this leads to the highest possible amount of additional charges per a tax audit.

The proposed economico-mathematical model implies the need for an analytical calculation of threshold values k of the tax legislation violations in each territorial-sectoral complex and their subsequent comparison with the actual level of tax violations L in a selected sample of taxpayers. As shown by the results of modeling, in the construction industry and wholesale and retail trade the tax discipline is inadequate, which predetermines the need that the tax authorities optimize their control procedures to these complexes. It should be taken into account here that these spheres have a particularly high share of small and medium-sized businesses, so it would be impossible to improve their tax discipline by simply increasing the number of tax audits. In this connection, a further improvement of the analytical tax control procedures is necessary.

7. CONCLUSIONS

A comprehensive solution to the problem of tax avoidance lies not only in optimizing or tightening the fiscal control procedures. A transparent institutional environment is needed, which will consider all factors of forming a harmonized tax policy: optimization of tax administration system, acceptable level of tax burden, consistent regulatory framework, increased autonomy of levels of the budget system, tax harmonization across industries, decline of informal activity, stimulation of law-abiding taxpayers, tax culture growth, etc.

These lines of development of the tax system should have appropriate instruments, especially for the meso-level systems; it will eliminate existing contradictions between the state and business and reduce, in the long run, the shadow economy's extent.

In creating a favorable institutional structure in the economy, the effects of tax avoidance will transform; when the taxpayer's external disinterest turns into the inner need for the full tax payment. For this purpose, it is expedient to coordinate the efforts of all fiscal components so that the imputed costs of the use of shadow schemes were significantly higher than the costs of absolute adherence to the rules of tax laws.

An effective instrument to realize this promising trend is the optimization of analytical procedures of tax control, which allows increasing the tax law violators' transaction costs.

CONFLICT OF INTERESTS

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

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