

TAXATION IN THE SYSTEM OF STATE STIMULATION FOR INNOVATION AND INVESTMENT ACTIVITIES

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Taxation as a component of the system of higher hierarchical management level is characterized. The place and role of taxation in the system of macroeconomic stimulation of innovation and investment activities are determined. Expediency and necessity of transition to managing taxation with the due account of the metrologically estimated inter-industry links are grounded.

Key words: taxes, tax management, state management, innovation and investment activities, regulating function of taxes, inter-industry balance.

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ОПОДАТКУВАННЯ В СИСТЕМІ ДЕРЖАВНОГО СТИМУЛЮВАННЯ ІННОВАЦІЙНО-ІНВЕСТИЦІЙНОЇ ДІЯЛЬНОСТІ

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Охарактеризовано оподаткування як складову системи вищого ієрархічного рівня управління. Визначено місце та роль оподаткування в системі макроекономічного стимулювання активізації інноваційно-інвестиційної діяльності. Обґрунтовано доцільність та необхідність переходу до управління оподаткуванням на основі врахування метрологічно оцінених міжгалузевих взаємозв'язків.

Ключові слова: оподаткування, управління оподаткуванням, державне управління, інноваційно-інвестиційна діяльність, регулювальна функція податків, міжгалузевий баланс.

Problem statement

The development of economy of Ukraine is impossible to imagine without the active innovation investment activities of the entities. That's why should be directed efforts of scholars and practitioners of state management to encourage innovation and investment activities. The entities of state management should effectively use all the possibilities to encourage innovation and investment activities. One of the most effective instruments of state influence on innovation and investment activities is taxation.

Taxation problems for a long time already are investigated of academics, but life practice (in accordance with the fundamental knowledge of the truth "practice - the criterion of truth") indicates the failure of effective use of taxation in order to stimulate innovation and investment activities. Therefore, urgent and actual question is the place and role of the taxation system macroeconomic management in general and state management of innovation and investment activities in particular.

Analysis of recent research and publications

The precise place and role of taxation in the state stimulating innovation and investment activities has long been actively researched domestic and foreign scholars. These problems have been addressed by representatives of all schools of economic theory. Among the latest research is worth noting labor Varnaliya Z.S. [1], V. Vishnevsky [2], Voronkov A. [3], Y.B. Ivanov [4], Krysovatoho A.I. [5], Mayburova I.A. [6], Melnik V.M. [7], Miller P.V. [8], A. Sokolovsky [9], Taranhul L.L. [10].

The results of the above studies scholars are scientifically valuable and practically significant. However, the dynamic changes in the environment that are caused by the development of market economy, globalization, and the changing logic of social behavior requires constant rethinking of the role and the place of taxation in the state management to improve the efficiency of tax incentives for innovation and investment activities.

Objectives

The purpose of paper is to investigate the role and place of taxation and administration in the state stimulation of innovation and investment activities. Achieving led to the formulation of the following aims:

- describe the taxation as part of a higher hierarchical level of management;
- offer metrological based approach to the management of taxation in the state stimulating innovation and investment activity entities.

Materials

Recognizing that effective tax management is not an end in itself, and is subordinated to achieving aim of the operation of control systems of higher hierarchical level, the actual question is a clear understanding of the place and role of tax administration in the state management of the economy. To this end, consider the nature of state control of the economy.

The majority of scholars interprets the concept of “state governance the economy” as a purposeful impact of administrators state management on economic processes in order to develop the economy. Thus the goal of “economic development” is not an end in itself but ultimately is subordinated to the satisfaction of human needs. Understanding the latter justifies the need for classification of human needs (in the context of opportunities creation to customization economy for their achievement) as a mandatory prerequisite to ensure effective state control of the economy in general and the management of taxation in particular. And such classification there is today. In the 90 years of the twentieth century, Russian scientists (such as the authors of “Internal Predictor of the USSR”) proposed the division of human needs to the “degradation-parasitic” (pleasure whose is not a genetic necessity and, moreover, stimulates degradation processes in society and destroys biocenosis and the biosphere of the planet Earth as a whole) and “biologically justified and biosphere allowable”. Last subjected to prediction and accordingly may be taken as a basis for assessing the efficiency of the economic system.

In turn, the economic system as an object of state management should be considered in the context of two approaches: micro in (as an activity separate entities) and macro in (as a single integrated system, resulting from businesses). In this macroeconomic system is not purely arithmetical aggregate of subjects of microeconomics, but a structure of hierarchically higher level of organization and management in relation to business entities.

Given that state control of the economy aimed at ensuring the effective implementation of economic processes resulting from interaction of microeconomics, it is useful to consider the relationship between the latter. In formalized form you can submit using inter-industry balance, which is mathematically described by the following system of linear equations:

$$\left\{ \begin{array}{l} X_1 = a_{11}X_1 + a_{12}X_2 + \dots + a_{1n}X_n + F_1 \\ X_2 = a_{21}X_1 + a_{22}X_2 + \dots + a_{2n}X_n + F_2 \\ \dots \\ X_n = a_{n1}X_1 + a_{n2}X_2 + \dots + a_{nn}X_n + F_n \end{array} \right. \quad (1)$$

Where X1, X2, ... n – gross output fields from the first to the n-tion; *a_{ij}* X_j – the amount supply of the industry and for the ensuring production in the industry j in amount X_j; F1, F2, ... F n – products end-use sectors from the first to the n-tion.

The following set of equations describes the relationship between economic sectors. Their study through the prism of performance criteria lets to determine the actual and desired (most effective) state, which is essentially a state vector and the vector of objectives in the context of the full management functionality. In turn, the concept of state management consists of a combination of directive addresses

(administrative methods) and market (economic methods that indirectly affect the economic process) measures the impact on the economy. The ratio between the administrative and economic methods of purposeful influences on economic relations and determine the model of state regulation of the economy.

To determine the place and role of tax administration in the state management of the economy it is advisable to focus on two main approaches:

- 1) raising the efficiency of the economy as a combination of entities microeconomics;
- 2) promote the sustainable development of the macroeconomic system.

The first approach is reflected in the writings of scholars of classical economic school, which essentially created the first tax theory. Their work took place at a time when the rapidly developed crowd-elite concept of management and, consequently, to practice appeared the actual necessity by scientific justified “feasibility” of its existence on the level of economic priorities at that time. It is from such positions scientists had studied the place and role of taxes in the state economic management. A classical school of economic thought that taxes should focus only on fiscal purposes (for defense and security of citizens and their property, education) and not hinder the creation and accumulation of capital. Their studies were “aimed at creating the most effective economic entities, despite the recovery of their share of revenues, operating conditions as independent structural units of the complex socio-economic system”. Similar approach was used in studies of representatives of economic neoliberalism (completely opposed government interference in economic relations, attributing the state only institutional function), the neoclassical theory (championed tax neutrality) monetarism (justified ineffectiveness of fiscal policy as a result of crowding-out effect), theorists of “economic proposals” (were convinced that through taxes can result not only in demand, but also on offer), theorists of “rational expectations” (full discarded regulating effect of taxes). Common to members of the above research schools was one-sided approach to determine the place and role of taxation in the state management of the economy, which relied entirely on the fiscal function of taxes, while denying its regulation function.

The second approach is emerging in the 30-ies years of the twentieth century. Its founder is essentially John Keynes (1883 – 1946), who demonstrated the feasibility of the process of state economic regulation instruments of fiscal policy: the taxes, loans and direct government spending. Scientists have proved an important place and the leading role of taxation in the process of state regulation of the economy, although the John Kane “not minify role of monetary policy” [1, p. 26]. A similar approach was inherent in research and representatives of institutionalism (believed that financial and budget policy is more effective instruments of state control of the economy than monetary policy) post-Keynesianism theory (saw the tax instruments to ensure equal distribution of income), the reformist theory (justifying that due taxes may eliminate property inequality). Scientists who conduct their research within the above scientific schools, in addition to purely fiscal aspects of tax allocated by the regulatory potential of taxation, significantly changing the place and role of taxes in the state management of the economy. They started using epistemological (intellectual and abstract) approach to understanding the cause-hereditary relationships on the macroeconomic level, in which logic was based on the predictability of social behavior and did not provide metrological validity.

Qualitative changes in the metrological validity of the impact of taxes on economic processes subordinated to promote the sustainable development of the macroeconomic system as a hierarchical structure of higher levels of organization and management in relation to the entities held with an awareness of the needs of the division of people into “degradation-parasitic” and “biologically conditioned and biosphere acceptable”. Understanding the nature of the degradation-parasitic needs (seen above) can be used in practice conclude an Italian scientist F. Nitti (1868 – 1953) on the acquisition of taxes “more important prohibition or restriction measures against those forms of production and exchange, are recognized as harmful and incentives - in relation to those industries that are considered useful” [11, p. 179].

In return predictability and the possibility of metrological evaluation of biologically conditioned and biosphere permissible purposes lets use them as a vector of objectives in the implementation of state economic management, which mathematically describes the inter-industry balance.

To determine the place and role of taxes in the state management of the economy from the standpoint of metrological terms of value, consider the validity of inter-industry balance:

$$(E - A^T) P = r \quad (2)$$

Where E – diagonal matrix, all of whose elements are zero, except $e_{11} = e_{22} = \dots = e_{nn} = 1$; A^T – transposed matrix of coefficients of direct material outlay; P – column vector of prices for products; r – column vector functional due to costs (excluding direct material outlay for purchase of inventory from suppliers)

Of particular importance for research purposes is a column vector functional due to costs (excluding direct material), which is essentially an added value. In turn, due to functional costs except direct material include: salaries of employees; Net taxes on production and imports; gross operating surplus, mixed income; balance of the loan balance and insurance [12, p. 76]. It was out with the costs you can make meaningful impact on the profitability of the entity. In what subjects such effects can be:

- 1) owners and managers – have an effect in determining the level of compensation of employees and gross income (mixed income);
- 2) the creditors and the state – impact through financing and insurance;
- 3) state and heads of corporations – specifically affected by taxes, grants and subsidies (national and internal corporate according).

Thus, the state is not the only subject of management of enterprises and at the same time, can make a significant impact on profitability and investment sectors of the economy through monetary and budget and fiscal policy. Moreover, the state through management of taxation, financing and insurance (as means setting market mechanism without direct administrative dictation) within metrological based approach can provide a socially acceptable, sustainable and socially secure mode of operation of the system as macroeconomic structure hierarchically higher level of organization and management in relation to the entities that ultimately will be subordinated to the satisfaction of biologically conditioned and biosphere acceptable human needs.

Proceeding from the above consider it necessary to mention that in the first place, while tax management (including legal recording of the results) should be based on the actual state of economic relationships in macroeconomics as a whole, which is described by inter-industry balance, and, Second, by the law must be given opportunities to governance executive operational impact on taxation, subsidies and grants for the purpose of operational adjustment inter-industry balance, the ratio of which may vary depending on the technology and productivity growth.

As for the actual use of inter-industry balance, in practice it is worth noting that the structure of the functional expenses caused Ministry of Economic Development and Trade of Ukraine does not allocate the rest of credit and insurance balance. This distorts the role and place of the tax administration in the state management of the economy by removal it one place and thus leading role. In addition, as stated on the official website of the Ministry of Economic Development and Trade of Ukraine “spreadsheets “input-output” lags behind the real economic process at least one year” [13]. That they do not used as a vector of objectives – description of the desired state of economic relations in the future, and not even correspond to the actual state, having a clear retrospective orientation. This situation is unacceptable from a position of complete control functions based on metrological approach and requires immediate resolution by the use of inter-industry balance subordinated providing biologically determined and acceptable biosphere needs of people to form a vector of goals, the current state vector and thus the vector error.

Conclusions

In general, it should be noted that the results of the genesis of understanding the place and role of taxes (according taxation and management of taxation) in the state economic management can formulate the following generalization:

1) Implementation of crowd-elitist conception of management in practice activities in most countries led scientists to focus attention on ensuring fiscal effect of tax (justice of distribution of tax revenues into budget had remained unnoticed by tax policy). At the same time the effects of the negative trends that are objectively formed as a result of crowd-elitist governance prompted scientists to rethink the place and role of taxes in the state management of the economy from the standpoint of social utility.

2) The development of scientific thought concerning taxation and management of it, which was based practice of state control of the economy, took place towards, the first, from the definition of taxes for purely fiscal role to outline regulatory and increase understanding of its importance, and secondly from improve the efficiency of economy as a combination of entities microeconomics to promote the sustainable

development of the macroeconomic system as a hierarchical structure of higher levels of organization and management in relation to business entities.

3) The place and role of taxes in the state management of the economy is largely dependent on the ideological (theoretical) approaches to economics. Therefore, in terms of targeting researchers and practitioners to self-regulation market taxes were seen as a fiscal tool. At terms the increasing role of the state in regulating economic relations, taxes began to be seen as a mechanism for regulating influence on economic processes. And only in a combination of both approaches outlined above objective necessity scientists closer to understanding the philosophical priority management. That is, in front of scientists openly arises a problem of implementing crowd-elitist conception of management and it critical increased actuality of need to find ways to move public benefit economy and its management

4) Analysis of developments scientists in determining the location of a role of taxes in the state management of the economy showed that the leading economic research school, taxes are considered in terms of epistemological (intellectual and abstract) approach to understanding the nature of cause and effect relations in economy that does not involve metrological validity. The latter becomes possible under the joint inter-industry balance (such as the mathematical description of the economic relationships) and the recognition of pleasure caused by biologically acceptable biosphere and human needs basic criterion of social utility economics.

5) Examined the management of taxation within the state economic management of metrology-based position was determined that at first, in the state economic management control taxation, financing and insurance occupy equal space (id. ext. improving tax administration is a necessary but not sufficient condition for improving the efficiency of State control of the economy), and secondly, the tax administration has played a leading role in national economic management (as an instrument of influence on the profitability of industries and enterprises) in terms of ensuring sustainable development of the macroeconomic system as a hierarchical structure of higher levels of organization and management in relation to business entities (id. ext. increase management efficiency tax is imperative improve state management of the economy).

6) To ensure the implementation of tax management based on full control functions using metrological based approach to state management of the economy is not just possible, but imperative. Otherwise, clear the relationship between management of taxation and achievement of social utility for a single person will not be achieved, which in turn will prevent the vector definition purposes, the current state vector and the vector of errors in the context of fair management concepts.

Prospects for further research

In further studies, it is advisable to focus on rethinking the priority functions of taxation and economic-mathematical calculation of tax based on the actual metrological estimated inter-industry linkages in the economy of Ukraine.

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УДК 338.45:621+338.246.87

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MODELING INNOVATION RESULTS WHEN DEVELOPING DIAGNOSTICS MECHANISM OF THE ENTERPRISE ECONOMIC SECURITY

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The article deals with the theoretical and methodological foundations of modeling the results of innovation processes when developing the enterprise economic security diagnostics mechanism in the spectrum of implementing and using methods of system-comprehensive as well as structural and functional diagnostics when controlling the generalized condition of the business protection in the context of ensuring security of innovative, financial and credit, and investment activity.

Key words: innovation process, innovations, enterprise, economic security diagnostics, system-comprehensive diagnostics, structural and functional diagnostics.

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МОДЕЛЮВАННЯ РЕЗУЛЬТАТІВ ІННОВАЦІЙНИХ ПРОЦЕСІВ ПРИ РОЗРОБЛЕННІ АПАРАТУ ДІАГНОСТИКИ ЕКОНОМІЧНОЇ ЗАХИЩЕНОСТІ ПІДПРИЄМСТВА

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Розглянуто теоретико-методологічні засади моделювання результатів інноваційних процесів під час розроблення апарату діагностики економічної захищеності на суб'єкті господарювання відповідно до спектра запровадження та використання методів системно-комплексної та структурно-функціональної діагностики при контролюванні узагальненого стану захисту підприємницької діяльності стосовно забезпечення захищеності інноваційної, фінансово-кредитної та інвестиційної діяльності.

Ключеві слова: інноваційний процес, нововведення, підприємство, діагностика економічної захищеності, системно-комплексна діагностика, структурно-функціональна діагностика.

Problem statement

Innovation processes are known to occur in the space of any modern enterprise and are always connected with qualitatively new changes in technologies, organization of production or promote some