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The Subject and Methods of Tax Science and its Place in the System of Economic Sciences

Turayev Alijon Akmal o'g'li*[1]

[1]Acting Associate Professor, Department of "Taxes and Taxation", PhD.
Samarkand Institute of Economics and Service,
third-year student Marjona Xasanova Eshbekovna

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*Correspondence: alijon@gmail.com

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Abstract

This article examines the subject matter and methods of tax science and its position within the system of economic sciences. It argues that tax science is an interdisciplinary field formed at the intersection of economic theory, public finance, law and quantitative disciplines. The subject of tax science is defined as the set of economic relations arising between the state and taxpayers in the course of establishing, collecting, distributing and monitoring taxes. The paper discusses the capabilities of historical-logical, comparative, systemic, statistical, econometric and experimental methods. It also clarifies the links between tax science and microeconomics, macroeconomics, public sector economics, accounting and auditing, and proposes directions for its further development as a distinct yet integrated branch of economic knowledge.

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Introduction

The Taxes emerged simultaneously with the formation of the state and remain one of the central elements of any economic system today. In modern states, taxes are not only the main source of budget revenues but also serve as an important instrument for stimulating economic growth, redistributing income, protecting the domestic market, shaping the investment climate and ensuring social stability. For this reason, the system of knowledge that studies taxes, that is, tax science, is of particular theoretical and practical importance [1].

The development of tax science is closely connected with the history of economic thought. A. Smith put forward the principles of taxation consisting of equity, certainty, convenience and economy while D. Ricardo theoretically substantiated the distribution of taxes among the factors of production and the scope of their incidence. In the twentieth century, A. Pigou developed ideas on the role of taxes in regulating externalities F. Ramsey created the initial mathematical foundations of optimal taxation and R. Musgrave proposed the concept of the three principal functions of public finance, namely the allocation of resources, the redistribution of income and the stabilization of the economy. The development of the theory of optimal income taxation by J. Mirrlees, in turn, brought tax research to a new methodological stage [2].

Nevertheless, views on the subject of tax science, its boundaries and its place in the system of economic sciences have still not converged on a single position. One group of scholars regards taxes merely as a section of the science of public finance, while others consider tax science an independent discipline closely connected with tax law. The aim of this article is to clarify the subject of tax science, to systematize its research methods and to substantiate its place in the system of economic sciences [3].

The objectives of the study are as follows: to reveal the concept and subject of tax science; to analyze the principles and functions of tax science; to classify research methods; to determine the interrelationship of tax science with other economic sciences; and to identify the prospects for the development of the discipline.

Foreign literature on tax theory can conventionally be divided into four strands. The first strand comprises the works of representatives of the classical and neoclassical schools. They focused on the economic essence of taxes, the distribution of the tax burden and the efficiency of taxation [4]. The second strand is the normative theory of public finance, in which the tax system is assessed from the standpoint of maximizing social welfare. In this strand, the Ramsey rule, optimal income taxation and the foundations of public economics developed by Atkinson and Stiglitz occupy an important place. The third strand is devoted to the problems of taxpayer behavior, tax evasion and tax compliance [5]. The tax evasion model proposed by Allingham and Sandmo is of fundamental importance in this field. The studies of Slemrod and Yitzhaki, in turn, have comprehensively analyzed issues of tax evasion and tax administration. The fourth strand relates to applied tax policy and tax administration, and emphasizes the integration of theory and practice.

The reforms in the tax sphere in Uzbekistan, in particular the new edition of the Tax Code that entered into force on 1 January 2020 have heightened the need for a deeper study of the theoretical foundations of tax science [6]. However, the methodological foundations of tax science and the question of its place in the system of sciences have been covered relatively little in domestic research. It is precisely this gap that determines the relevance of this article.

Research Methodology

The study employed the methods of scientific abstraction, historical-logical analysis, comparative analysis, the systemic approach, classification and generalization. International scientific publications on classical and modern economic theory, tax legislation documents and monographic literature on tax theory were selected as sources. In the course of the analysis, an analytical scheme was used that distinguishes the subject, object, functions, methods and interdisciplinary links of the discipline.

Results

The Concept and Subject of Tax Science

Tax science is understood as the system of knowledge that studies the emergence, essence, functions and types of taxes, the principles of taxation, and the regularities of forming and managing the tax system. The object of the discipline is the tax system and the subjects participating in it, namely the state, taxpayers and tax authorities. Its subject is the economic relations that arise among these subjects in the process of establishing, calculating, collecting, distributing and monitoring taxes, as well as the regularities of their development [7].

It is methodologically important to define the difference between the object and the subject clearly. The object represents the sphere of real phenomena toward which the research is directed, while the subject represents the particular aspects, connections and regularities that the discipline studies within that sphere. In the case of tax science, the object is broad, that is, all socio-economic processes associated with the tax system, whereas the subject is narrower: the economic content of tax relations and their quantitative and qualitative regularities [8].

The subject of tax science consists of the following main blocks:

- **Theoretical block:** the essence and origin of taxes, their functions, the principles of taxation and the theory of the tax burden.
- **Systemic block:** the structure of the tax system, the classification of types of taxes, the ratio of central and local taxes, tax rates and the mechanism of tax incentives.
- **Impact block:** the impact of taxes on economic growth, investment, employment, consumption, savings and income distribution.
- **Management block:** tax policy, tax administration, tax control and mechanisms of interaction with taxpayers.
- **Behavioral block:** tax compliance, tax evasion, tax avoidance and issues of tax culture.
- **International block:** problems of tax competition, avoidance of double taxation, transfer pricing and tax base erosion.

Functions and Principles of Tax Science

As a discipline, tax theory performs four main functions: the cognitive, explanatory, predictive and applied-normative functions. The cognitive function involves describing and classifying tax phenomena; the explanatory function, identifying cause-and-effect relationships; the predictive function, assessing the future economic consequences of tax changes; and the applied-normative function, developing recommendations on tax policy [9].

The classical principles of taxation were formulated by A. Smith and have not lost their relevance to this day. In modern theory, these principles have been extended and enriched with the requirements of neutrality, efficiency, stability, simplicity, transparency and administrative convenience. At the same time, the conflict between “efficiency” and “equity” remains one of the most important problems of tax theory. Mankiw, Weinzierl and Yagan analyzed the application of optimal tax theory to practical policy and showed that this conflict can be resolved through explicit quantitative models.

Research Methods of Tax Science

The methodological arsenal of tax science is diverse, and it is appropriate to divide it into two large groups: general scientific and special methods.

General scientific methods. These include scientific abstraction, analysis and synthesis, induction and deduction, the principle of the unity of the historical and the logical, the systemic approach and comparative analysis. The historical-logical method makes it possible to understand the evolution of tax institutions, for

example, the transition from taxes in kind to monetary taxes and from indirect to direct taxes [10]. The comparative method is used to compare the tax systems of different countries and to identify best practices. The systemic approach considers the tax system as an integral mechanism consisting of interrelated elements.

Special methods. These include the following:

- **Statistical and economic analysis methods:** grouping, calculation of average and relative values, time series, and tax burden indicators (the ratio of the tax burden to GDP, effective rates).
- **Econometric modeling:** tools of causal inference such as regression analysis, panel data, the "difference-in-differences" method and the regression discontinuity design. They are used to assess the impact of tax changes on labor supply, investment and income.
- **Mathematical and optimization models:** optimal taxation models, computable general equilibrium (CGE) models and microsimulation models. They serve for the ex ante assessment of the budgetary and welfare effects of tax reforms.
- **Experimental and behavioral methods:** laboratory and field experiments and tools of behavioral economics. They are used in studying taxpayers' decisions and tax compliance.
- **Normative-legal analysis:** analysis of the content of tax legislation and its economic consequences.
- **Expert assessment and scenario analysis:** comparison of alternative variants of tax policy.

In modern tax research, large-scale databases (administrative tax data, electronic invoices and online cash register data) and advanced methods of processing them play an increasingly important role. These digital data increase the accuracy of tax analysis and open up new possibilities for tax administration [11].

In the choice of method, the nature of the research question is of decisive importance. Normative questions ("which tax system is preferable?") rely on theoretical models, positive questions ("what will changing the tax rate lead to?") on empirical methods, and institutional questions on comparative and historical approaches. Therefore, it is not setting the methods against one another but combining them that yields effective results.

The Place of Tax Science in the System of Economic Sciences

The system of economic sciences can conventionally be divided into four groups: (1) fundamental sciences (economic theory, micro- and macroeconomics, the history of economic thought); (2) sectoral and functional sciences (finance, money and credit, marketing, management, labor economics); (3) accounting-analytical sciences (accounting, auditing, statistics, economic analysis); (4) quantitative sciences (econometrics, economic-mathematical modeling). Tax science is directly related to most of these groups and is located at their point of intersection [12].

Relationship with economic theory and microeconomics. The impact of taxes on demand and supply, on prices and market equilibrium, the distribution of the tax burden between consumers and producers (tax incidence), and deadweight loss are studied by means of the tools of microeconomic analysis. Tax science applies these theoretical foundations from the standpoint of state policy.

Relationship with macroeconomics. As the main instrument of fiscal policy, taxes affect aggregate demand, economic growth, inflation and employment indicators. Fiscal multipliers, the optimal level of the tax burden and the sustainability of public debt constitute the common research field of tax science and macroeconomics.

Relationship with public finance (public sector economics). The closest relationship is observed precisely with this discipline. Along with taxes, public finance studies public expenditures, the budget system, public debt and intergovernmental relations. Tax science, in turn, emerges as a branch specialized in the revenue side of this broad field, investigating in depth the essence of taxes and their mechanisms of impact. In this sense, although tax science is a constituent part of public finance, it possesses relative independence

through its own theoretical apparatus, methods and applied directions.

Relationship with accounting and auditing. Determining the tax base, tax accounting and the preparation of tax reports rely on accounting data. Tax auditing, in turn, is connected with the discipline of auditing as a means of verifying the correct calculation of tax liabilities. Therefore, tax science is closely linked in practice with the accounting-analytical sciences.

Relationship with jurisprudence (tax law). Tax relations simultaneously have economic and legal content. Tax law defines the legal forms of tax relations and the rights and obligations of the taxpayer and the state. Tax science, in turn, studies the economic foundations and consequences of these norms. This difference between the two disciplines shows that tax science is an interdisciplinary yet independent field of knowledge with an economic orientation.

Discussion

Relationship with econometrics and the economic-mathematical sciences. Assessing the impact of tax policy, forecasting and conducting scenario analysis are impossible without quantitative methods. Modern tax science is becoming increasingly empirical and computational in character.

Summarizing these relationships, the place of tax science can be defined as follows: in the system of economic sciences, it serves as a bridge between **fundamental theory** (economic theory, micro- and macroeconomics) and **applied-functional disciplines** (finance, accounting, auditing), and it transforms theoretical knowledge into practical instruments of the state's economic policy [13].

Contemporary Problems and Development Prospects of Tax Science

Tax science today faces a number of new historical and theoretical challenges. First, the digitalization of the economy and new objects such as digital platforms, trade in services and crypto-assets require a reconsideration of the traditional concept of the tax base. Second, under conditions of globalization, issues of tax competition, tax base erosion and the shifting of profits to other jurisdictions are increasing the importance of international tax coordination. Third, environmental taxes associated with climate change and "green" fiscal policy are forming a new research direction. Fourth, income and wealth inequality has again brought the redistributive role of taxes to the center of scientific debate. Fifth, tools of behavioral economics and artificial intelligence are fundamentally changing tax administration and interaction with the taxpayer [14].

In the context of Uzbekistan, the development of tax science is directly connected, in particular, with the tax reforms implemented since 2020, the simplification of the tax system, the improvement of the VAT and corporate income tax mechanisms, and the introduction of digital tax administration. This process heightens the need to conduct empirical research based on local data, to adapt international experience and to formulate tax policy on a scientifically grounded basis [15].

The main directions of development can be systematized as follows:

- further clarifying the theoretical and methodological foundations of tax science, including the subject of the discipline and its conceptual apparatus;
- expanding the possibilities of using administrative tax data for empirical research;
- making wider use of microsimulation and general equilibrium models in the ex ante assessment of tax reforms;
- strengthening the interdisciplinary approach, that is, the integration of economics, law, psychology and information technology;
- ensuring a balance of theory, methodology and practice in tax education programs.

Conclusion

The conducted analysis makes it possible to formulate the following conclusions.

First, the subject of tax science is the economic relations that arise between the state and taxpayers in the

process of establishing, collecting, distributing and monitoring taxes, together with their regularities. The object of the discipline is the tax system and the set of subjects participating in it.

Second, tax science uses a broad set of general scientific and special methods. At the modern stage, the importance of econometric modeling, microsimulation, and experimental and big-data-based analytical methods is growing. The choice of methods is determined by the normative, positive or institutional character of the research question.

Third, in the system of economic sciences, tax science serves as a link between fundamental economic theory and applied-functional disciplines. Although it is a constituent part of public finance, it is an interdisciplinary field of knowledge possessing relative independence through its own theoretical apparatus, methods and applied directions.

Fourth, factors such as digitalization, globalization, environmental problems and inequality are defining new directions in the development of tax science. This, in turn, requires the continuous renewal of the methodological foundations of the discipline.

In future research, it is appropriate to carry out empirical assessment based on administrative data of Uzbekistan's tax system, to conduct quantitative analysis of the economic impact of tax reforms and to deepen international comparative studies.

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