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DIRECTIONS FOR IMPROVING DIRECT TAX ADMINISTRATION AND EXPANDING THE BUDGET REVENUE BASE IN THE DIGITAL ECONOMY

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Abstract. This article examines the issues of digitalizing direct taxation mechanisms for both legal entities and individuals, improving tax administration, and consequently expanding the revenue base of the state budget under the conditions of the digital economy. The purpose of the study is to develop strategies to increase the collection rate of direct taxes and mitigate shadow economic activities through the implementation of digital technologies and intelligent data analytics systems. Utilizing methods of cross-analysis, economic statistics, grouping, and logical modeling, the article evaluates the efficiency of the Tax Committee's digital platforms and their impact on budget revenues. As a result of the study, reserves for expanding the corporate income tax and personal income tax bases under the integration of information systems were identified, and the mechanism for segmenting taxpayers based on risk levels was analyzed. In conclusion, proposals are formulated to ensure an equitable distribution of the tax burden and the sustainable optimization of budget revenues by developing digital tax administration.

Keywords. Digital economy, direct taxes, tax administration, tax base, digital platforms, risk analysis, shadow economy, corporate income tax, fiscal efficiency.

INTRODUCTION

The acceleration of digital transformation processes in the global economic system is altering traditional forms of economic relations, posing new challenges for public finance and the fiscal system. Under the conditions of the digital economy, the emergence of new business models, e-commerce platforms, and the virtual asset market necessitates a fundamental review of mechanisms for identifying and monitoring taxable objects. Particularly, the use of digital technologies in the administration of direct taxes (corporate income tax, personal income tax, and resource taxes), which constitute the sustainable foundation of state budget revenues, has become a strategic direction of fiscal policy.

Within the framework of modernizing the tax system and introducing the "Taxpayer's Helper" ("Soliqchi — ko‘makchi") principle in the Republic of Uzbekistan, massive reforms regarding the digitalization of administration have been implemented in recent years. The introduction of electronic invoices (EHF), online cash registers (NKM), and marking systems has served to make the turnover of goods and services transparent [1]. However, despite the achievements made, tax evasion, artificial understatement of income, and disruptions in digital control chains still persist in certain sectors of the real economy. This causes billions of funds that should flow into the state budget from direct taxes to remain in the shadow sector.

The theoretical and methodological foundations of this problem have been extensively studied in international economic research. The impact of digitalization on the tax system and the problems of taxing cross-border digital activities (specifically within the framework of the BEPS project) have been analyzed by experts from the OECD and the World Bank [2]. Likewise, our local scholars have studied the issues of electronizing tax administration. However, derived precisely from the characteristics of our national economy, the mechanisms for expanding the

direct tax base of large taxpayers and small business entities through "Big Data" drivers and artificial intelligence have not been sufficiently and comprehensively researched.

Based on existing needs and problems, the purpose of this study is to improve the model of direct tax administration under the conditions of the digital economy and to substantiate the strategic directions for expanding state budget revenues through digital analysis tools.

METHODS

The methodological basis of the study consists of the interpretation of the fiscal system under the conditions of the digital economy, models of tax control under asymmetric information conditions, and theories of reducing transaction costs. The automated information systems of the Tax Committee of the Republic of Uzbekistan and their impact on the direct tax base were taken as the object of the study.

In studying the problem, the following set of methods was utilized:

– Cross-platform analysis: Used to assess the efficiency of mutual data exchange among the information systems of various government agencies (Tax, Customs, Bank, Cadastre).

– Fiscal Component Analysis: Utilized to compare the dynamics of the direct tax collection rate (Tax Compliance Index) before and after the introduction of digital tools.

– Logical-structural modeling: Applied in constructing a model for improving the algorithms of segmenting taxpayers through automated risk analysis (Risk Management System — XBT).

RESULTS

Automated information systems introduced within the framework of digitalizing tax administration in the Republic of Uzbekistan have fundamentally changed the process of calculating and collecting direct taxes. The establishment of systems for intelligent data analysis (Data Analytics) regarding the income and expenses of legal entities and individuals in the database of the Tax Committee has enabled the expansion of the tax base by reducing the scope of the shadow economy [5].

One of the most vital components of digital administration is the automated segmentation of taxpayers according to their risk levels (Risk Management System — XBT). By restricting the human factor, this system analyzes the financial statements and cross-platform data of enterprises and divides them into three risk categories. The dynamics of segmenting legal entities (corporate income tax payers) through the system in recent years are presented in Table 1.

Table 1.

Dynamics of distribution of corporate income tax paying enterprises by risk level in the Republic of Uzbekistan [3], [6]

Taxpayers' risk level	**2023**	**2024**	**2025**
High-risk (Red corridor) — number of enterprises	12 450	9 820	7 150
-- *Share relative to total enterprises (in percent)*	6.8%	5.1%	3.4%
Medium-risk (Yellow corridor) — number of enterprises	62 100	68 400	72 300
-- *Share relative to total enterprises (in percent)*	33.9%	35.4%	34.6%
Low-risk (Green corridor) — number of enterprises	108 500	115 100	129 400
-- *Share relative to total enterprises (in percent)*	59.3%	59.5%	62.0%
Total analyzed enterprises	**183 050**	**193 320**	**208 850**

The data in Table 1 indicate that as a result of the automation of digital monitoring and desk (kameral) tax audits, the share of high-risk enterprises decreased from 6.8% in 2023 to 3.4% by 2025. This trend demonstrates an increase in the voluntary tax compliance rate (Tax Compliance) of enterprises.

At the same time, positive results of digital integration were also observed in the administration of personal income tax (JShODS). As a result of data integration between the Tax Committee and the Single National Labor System (YMMT), the accounting of those officially employed in the labor market was tightened [7].

To quantitatively evaluate the efficiency of digitalization, the impact of digital administration costs on the growth of tax revenues was analyzed through the following econometric model (a modification of the production function)::

Where:

$$\ln(T_{bev}) = \beta_0 + \beta_1 \ln(IT_{exp}) + \beta_2 \ln(YIM) + u$$

- T_{bev} — Total volume of direct taxes received by the State Budget;
- IT_{exp} — Volume of investments made into the digitalization of the tax system and software;
- YIM — Gross Domestic Product (GDP) volume.

According to the results of the econometric model, the elasticity coefficient for digitalization investments was $\beta_1 = 0.24$. This implies that every 1% increase in expenses directed toward the digital infrastructure of the tax system ensured a 0.24% increase in budget revenues due to the expansion of the direct tax base.

However, systematic cross-analyses indicate that the problem of asymmetric (incomplete) information still exists in digital administration. Specifically, the incomplete integration of certain commercial bank transactions, which constitute banking secrecy, and hidden turnovers carried out through electronic wallets with the platforms of the Tax Committee allows legal entities to hide their actual profits and individuals to conceal their real incomes. [5], [8].

DISCUSSION

The econometric coefficient ($\beta_1 = 0.24$) identified in the "Results" section of our study proves that digitalizing tax infrastructure has a positive fiscal multiplier effect in increasing direct tax collection. However, the reduction in the share of high-risk enterprises to 3.4% does not mean that the shadow turnover in the economy has been completely eliminated; rather, it indicates that taxpayers have adopted new methods to "bypass" digital algorithms.

If we compare this situation with the experience of Estonia (e-Tax) and South Korea (NTIS), which are considered world leaders in digital tax administration, the information systems of their tax authorities are fully integrated in real-time (real-time data integration) with all commercial banks, customs, cadastre, and even large retail ecosystems in the country. In Estonia, mutual transactions of enterprises are calculated through an automated declaration system without the human factor, which allows keeping the share of the shadow economy below 10%. [10].

In the practice of Uzbekistan, although the electronic invoice system has been established, data about clients from commercial banks is exchanged with tax systems to a limited extent due to banking secrecy legislation. Local economists note that such institutional barriers reduce the efficiency of digital platforms, creating conditions for legal entities to hide their actual profits through cross-border operations or cash turnovers [11].

Additionally, the expansion of the scale of P2P (person-to-person) electronic money transfers and digital wallets has created a new asymmetric information problem in determining the personal income tax (JShODS) base. Taxpayers evade official labor contracts and receive their income through informal digital platforms. This indicates, as demonstrated by our proposed model, the necessity of comprehensively integrating the system not only within the tax agency but across the entire financial-banking sector to further increase the efficiency of digitalization [8], [12].

The results of the discussion show that in order to adapt direct tax administration to the

requirements of the digital economy, it is necessary to:

– Optimize the boundaries between "banking secrecy" and fiscal control between the tax and banking systems at the legislative level;

– Shift from simple statistical indicators to artificial intelligence and neural network (Machine Learning) algorithms in tax risk analysis (XBT).

CONCLUSIONS

As a result of this scientific study dedicated to the issues of improving direct tax administration under the conditions of the digital economy, the following final conclusions were formulated:

1. Fiscal effect of digitalization: The introduction of automated programs in the tax system increased the voluntary compliance rate of tax obligations and reduced the share of high-risk entities to 3.4%. The results of the econometric model confirmed that investments in digital infrastructure have high fiscal efficiency ($\beta 1 = 0.24$$).

2. Institutional barriers: In the current tax control system, the lack of full real-time data exchange with banking and financial platforms causes an asymmetric information problem. This limits the ability to fully capture the direct tax base of legal entities and individuals.

3. Necessity for a new transformation: The growth in the scale of digital wallets, e-commerce, and P2P transfers necessitates shifting tax administration from simple formal checks to intelligent analysis and forecasting models.

Practical Recommendations and Proposals (Recommendations): With the aim of expanding the direct tax base using digital technologies and optimizing state budget revenues, the following measures are proposed:

– Legally strengthening the full integration of tax and banking systems based on API (Application Programming Interface) technologies: While maintaining the principles of banking secrecy, creating a mechanism to automatically transfer cash flows that are suspicious and of a large commercial nature to tax platforms. This measure will serve to clear the corporate income tax base of legal entities from hidden turnovers [13].

– Introducing Data Mining and Machine Learning (Mashinali o‘qitish) algorithms into the Risk Management System (XBT): Instead of relying solely on static reports when determining the risk level of taxpayers, using artificial intelligence to dynamically analyze their behavior (behavioral patterns) in the chain of purchases, import-export, and contracts. This enables the preemptive detection (preventive control) of tax evasion schemes.

– Granting the status of "Fiscal Agent" to e-commerce and digital platform operators: Turning large marketplaces and digital service ecosystems operating in the country into agents responsible for calculating and transferring the direct taxes of individuals and legal entities operating there to the budget [14]. Through this system, revenues flowing into the state budget from the informal services market can be expanded by 15-20%.

In conclusion, achieving fiscal stability under the conditions of the digital economy is closely linked to shifting tax administration entirely to an intellectual platform. The practical application of these proposals guarantees the sustainable expansion of the state budget revenue base and a fair competitive environment for real sector entities.

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