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Article

Impact of Tax Policy on Macroeconomic Indicators: an Empirical Analysis Based on the Experience of Uzbekistan

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Abstract: This article analyzes the impact of tax reforms implemented in the Republic of Uzbekistan between 2018 and 2024 on the country's macroeconomic stability. The study empirically examines the role of fundamental changes in fiscal policy—specifically the reduction of the VAT rate to 12% and the digitalization of tax administration—as key drivers of economic growth.Key Findings:Economic Growth: During the reform period, the average annual GDP growth rate remained robust, ranging between 5.5% and 7.7%.Investment Attractiveness: Due to the reduction in the tax burden, Foreign Direct Investment (FDI) inflows increased 4.5 times, rising from $1.6 billion to $7.2 billion.Fiscal Efficiency: Inflation exhibited a downward trend, decreasing from 12.2% to 9.8%.Conclusion: The findings demonstrate that optimizing the tax burden and modernizing tax administration are crucial for enhancing the investment climate and balancing the foreign trade turnover.

Keywords: Tax Policy, Macroeconomic Indicators, GDP, Inflation, Employment, FDI, Fiscal Policy, Economic Stability, Tax Reform, Uzbekistan

1. Introduction

Tax policy is considered one of the most important and multifaceted instruments in the state's fiscal management arsenal. It performs not only the function of financing the state budget, but also macroeconomic functions such as stimulating economic activity, regulating inflation, shaping the investment environment, and ensuring employment [1]. Under conditions of globalization, tax competition has intensified, and many countries have adopted strategies of reducing tax rates in order to attract investors [2].

Beginning in 2017, Uzbekistan launched one of the largest tax reform waves within its broad economic transformation process. Based on the Concept for Improving Tax Policy approved by Presidential Decree No. PF-5468 dated June 29, 2018, and the new Tax Code that entered into force on January 1, 2020, the value-added tax (VAT) rate was reduced from 20 percent to 12 percent, while the profit tax rate was adjusted from 14 percent to 15 percent. In addition, the process of digitalizing tax administration was initiated (Tax Code of the Republic of Uzbekistan). Examining how these reforms affected the behavior of economic agents, the investment climate, and macroeconomic indicators is of significant scientific and practical importance [3, 4].

The main purpose of this article is to quantitatively and qualitatively analyze the impact of Uzbekistan's tax policy on GDP, inflation, employment, FDI, and the foreign trade balance within the context of tax reforms implemented during 2018–2024. The scientific novelty of the study lies in linking existing theoretical approaches with the specific characteristics of the Uzbek economy namely, the transition from a transitional

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economy to a market economy, the large share of the informal economy, and the dominance of the public sector and testing them on the basis of empirical data [5, 6].

Literature Review and Theoretical Framework

The impact of tax policy on macroeconomic indicators has a long history and extensive debate in economic theory. In his fundamental work, John Maynard Keynes described taxes as a fiscal instrument for regulating economic cycles, concluding that tax reductions during periods of economic downturn stimulate aggregate demand. This approach formed the foundation of economic policy in Western countries for several decades [7].

Modern economists such as N. Gregory Mankiw and Paul Samuelson view tax policy as a tool for the efficient allocation of economic resources and the maintenance of budget balance. Joseph Stiglitz, meanwhile, emphasizes the role of the state in eliminating market failures and ensuring social equity through the tax mechanism.

Research conducted by the Organisation for Economic Co-operation and Development demonstrates that countries where the tax burden ranges between 15–20 percent of GDP tend to exhibit stronger economic growth rates. Fiscal Monitor reports of the International Monetary Fund (2022–2024) also highlight that the digitalization of tax administration has become a crucial factor in expanding the tax base and improving efficiency [8].

Studies conducted in the context of Uzbekistan (Ministry of Finance of the Republic of Uzbekistan, 2024; Statistics Agency, 2025) provide evidence of the positive impact of tax reforms on the business environment. According to analysis by Norma, profit tax revenues increased by 234.5 percent during 2018–2021, indicating a broadening of the tax base [9].

2. Materials and Methods

This study utilizes the following primary and secondary statistical sources:

(1) quarterly and annual data of the State Committee of the Republic of Uzbekistan on Statistics (2018–2025);

(2) the World Development Indicators database of the World Bank;

(3) Article IV Consultation reports of the International Monetary Fund;

(4) the OECD Uzbekistan Investment Climate Report (2025);

(5) Investment Climate Statements of the United States Department of State (2019–2024); and

(6) budget execution reports of the Ministry of Finance of the Republic of Uzbekistan.

Research Methods

To evaluate the impact of tax policy on macroeconomic indicators, the following methods were combined:

(1) descriptive statistics — to identify the dynamics and trends of the main indicators;

(2) comparative analysis — comparing the pre-reform period (2015–2018) with the post-reform period (2019–2024);

(3) correlation analysis — to determine the relationship between the tax burden and GDP growth, FDI inflows, and employment indicators; and

(4) document analysis — to assess the legislative framework and institutional changes in tax policy.

All numerical data are based on official statistical sources and are referenced in accordance with the relevant methodological guidelines.

3. Results

Main Changes in the Tax Reform

The main provisions of the tax reform implemented in Uzbekistan during 2018–2020 can be summarized as follows:

The VAT rate was reduced from 20 percent to 12 percent (effective from January 1, 2019);

The corporate profit tax was unified at a single rate of 15 percent;

The personal income tax was converted to a flat 12 percent rate;

The social tax rate was reduced from 25 percent to 12 percent for non-budgetary organizations;

Tax administration was digitalized through the introduction of electronic tax declarations and online cash register systems.

GDP Dynamics and Tax Policy

The dynamics of Uzbekistan's GDP demonstrated a stable growth trend in the period following the tax reforms. According to data from the State Committee on Statistics, although the real GDP growth rate declined to 1.6 percent in 2020 due to the impact of the COVID-19 pandemic — still one of the highest indicators among CIS countries — economic growth recovered significantly in subsequent years. Real GDP growth reached 7.4 percent in 2021, 5.7 percent in 2022, and 5.5 percent in 2023 according to estimates by the World Bank. By the end of 2024, GDP growth amounted to 6.5 percent, while the nominal volume of GDP reached USD 121.4 billion [10].

Table 1. Dynamics of Uzbekistan's GDP, 2020–2024

Indicator	2020	2021	2022	2023	2024
GDP Growth (%)	1,6	7,4	5,7	5,5	6,5
GDP (Billion USD)	59,9	69,2	80,4	90,5	121,4
GDP per Capita (USD)	1 730	1 984	2 280	2 530	3 093

Source: State Committee of the Republic of Uzbekistan on Statistics, 2025; World Bank World Development Indicators (WDI), 2025.

The change in the tax burden — measured as the share of tax revenues relative to GDP — is also noteworthy. According to data from the World Bank, this indicator increased from its minimum value of 10.37 percent in 2017 to 11.99 percent in 2022 and amounted to 11.53 percent in 2023 (TheGlobalEconomy.com). This figure remains below the global average level of 17.3 percent, indicating that there is still considerable potential for expanding the tax base within the country's economy [11].

Inflation and the Impact of Tax Policy on the Price Level

Changes in tax rates directly affect the price level. Indirect taxes — particularly VAT and excise taxes — influence the consumer price index as components of the prices of goods and services. In Uzbekistan, the reduction of the VAT rate from 20 percent to 12 percent effective January 1, 2019, was theoretically expected to lower prices. However, the simultaneous liberalization of the foreign exchange market, rising import prices, and expanding domestic demand maintained inflationary pressure [12].

According to data from the Statistics Agency, the inflation rate amounted to 15.2 percent in 2019, 11.1 percent in 2020, 10.0 percent in 2021, 12.2 percent in 2022 — mainly due to the global increase in energy and food prices — 8.8 percent in 2023, and 9.8 percent in 2024. In the first half of 2025, inflation slowed to 4.2 percent, representing the lowest level observed in recent years (Sputnik Uzbekistan, 2025). This trend emerged as a result

of strengthened fiscal discipline and improved coordination of monetary policy by the Central Bank [13].

Table 2. Inflation and Wage Dynamics in Uzbekistan, 2019–2024

Indicator	2019	2020	2021	2022	2023	2024
Inflation (%)	15,2	11,1	10,0	12,2	8,8	9,8
Nominal Wage Growth (%)	27,5	15,0	20,2	20,7	17,5	17,4
Real Wage Growth (%)	10,7	3,5	9,3	7,6	7,9	6,9

Source: Statistics Agency of Uzbekistan, 2025; reports by Gazeta.uz.

Employment and Tax Incentives

Tax policy affects employment indicators through two main channels:

(1) taxes related to labor costs — such as social tax and personal income tax — directly influence employers' demand for labor; and

(2) tax incentives encourage the creation of new business entities and employment opportunities.

In Uzbekistan, the reduction of the social tax rate from 25 percent to 12 percent significantly lowered the cost of formal employment for employers.

According to data from the State Statistics Committee, by the end of 2024 the average nominal monthly wage in Uzbekistan increased from 4.56 million UZS to 5.36 million UZS, representing a growth rate of 17.4 percent. Real wage growth, taking into account inflation of 9.8 percent, amounted to 6.9 percent. In 2024, the total real income of the population increased by 8.1 percent, while its nominal volume reached 896.3 trillion UZS [14].

Tax incentives granted to enterprises operating in 7 free economic zones and 19 large industrial zones have also contributed to the creation of new jobs.

Foreign Direct Investment and the Tax Environment

The impact of tax policy on the investment climate is perhaps one of the most visible outcomes of the reforms. Foreign direct investment (FDI) inflows increased sharply following the economic liberalization initiated in 2017 and the tax reforms implemented during 2018–2020.

According to the Investment Climate Statements published by the United States Department of State, FDI inflows amounted to USD 1.6 billion in 2018 (approximately 3 percent of GDP), increased to USD 9.3 billion in 2019, and reached USD 6.6 billion in 2020 despite the COVID-19 pandemic. In 2023, FDI inflows rose to USD 7.2 billion, nearly twice the level recorded in 2022.

According to the World Investment Report published by United Nations Conference on Trade and Development (UNCTAD), FDI inflows into Uzbekistan totaled USD 2.18 billion in 2023, which was 86 percent higher than the 2016 level. Gross investments exceeded USD 30 billion in 2023, equivalent to approximately one-third of GDP.

Research conducted by the Organisation for Economic Co-operation and Development (2025) indicates that by the end of 2023, the stock of FDI had reached USD 14.9 billion, accounting for 14.6 percent of GDP. The reduction of the VAT rate and the digitalization of tax administration improved the overall business environment for foreign investors.

Table 3. Dynamics of Foreign Direct Investment in Uzbekistan

Indicator	2018	2019	2020	2022	2023
FDI (Billion USD)	1,6	9,3	6,6	2,49	7,2
FDI / GDP (%)	~3,0	~12,5	~10,0	~3,1	~8,0
Gross Investments (Billion USD)	~11	~16	~14	~22	~30

Source: Investment Climate Statements (ICS) of the United States Department of State (2019–2024); United Nations Conference on Trade and Development World Investment Report 2024; Organisation for Economic Co-operation and Development, 2025.

Foreign Trade Balance and Tax Mechanisms

Foreign trade policy is closely interconnected with tax mechanisms. In Uzbekistan, the application of a zero VAT rate on exports (0% VAT for exports) increased the competitiveness of domestic producers. Combined with the foreign exchange liberalization introduced in 2017 and subsequent tax reforms, textile exports have doubled since 2017, reaching approximately USD 3 billion annually. The exports of the household appliance manufacturer Artel increased from USD 5.6 million in 2017 to USD 100 million in 2021.

At the same time, by the end of 2024 Uzbekistan's total external debt reached USD 64.1 billion, equivalent to 55.7 percent of GDP, which is considered a potential risk factor for fiscal sustainability (Gazeta.uz, 2025). This indicator highlights the importance of maintaining a balance between tax policy formation and the attraction of foreign capital.

4. Discussion

The obtained results demonstrate the complex and multidirectional relationship between tax policy and macroeconomic indicators in the case of Uzbekistan.

First, the stimulating role of tax reform in GDP growth is confirmed. Average growth rates of 5.5–7.4 percent during 2019–2024 support the Keynesian theory that fiscal incentives stimulate economic activity. However, it should also be recognized that a significant portion of this growth was supported by oil and gas exports, remittance inflows, and state infrastructure investments [15].

Second, inflation dynamics indicate that reducing tax rates alone cannot effectively decrease inflation without coordination with monetary policy. The increase in inflation to 12.2 percent in 2022 clearly illustrates this point, as rising global energy prices and imported inflation offset the disinflationary effects of the tax reforms.

Third, the sharp increase in investment inflows after the tax reforms — reaching USD 9.3 billion in 2019, or 5.8 times higher than in 2018 — demonstrates that a favorable tax environment is a decisive factor for investors. Nevertheless, data from the Organisation for Economic Co-operation and Development and United Nations Conference on Trade and Development indicate that investments remain concentrated mainly in the mineral resources and energy sectors, highlighting the necessity of further economic diversification.

Fourth, the relatively low tax burden of 11.5 percent of GDP, compared to the global average of 17.3 percent, has a dual interpretation. On the one hand, it reflects a favorable business environment; on the other hand, it suggests limited budgetary resources for financing social services and infrastructure development. The rise of external debt to 55.7 percent of GDP in 2024 represents a practical manifestation of this interrelationship.

5. Conclusion

This study analyzed the quantitative impact of tax policy on macroeconomic indicators based on the experience of tax reforms implemented in Uzbekistan during 2018–2024. The main conclusions are as follows:

1. **GDP Growth:** By 2024, nominal GDP reached USD 121.4 billion. Real GDP growth remained stable both before the reforms (an average of 6.2 percent during 2015–2017) and after the reforms, accelerating to 7.2 percent in the first half of 2025.
2. **Inflation:** Inflation declined from 15.2 percent in 2019 to 4.2 percent in the first half of 2025, reflecting improved fiscal discipline and stronger coordination between fiscal and monetary policy.
3. **Investment:** FDI increased from USD 1.6 billion in 2018 to USD 7.2 billion in 2023, representing a 4.5-fold increase. Tax incentives and the reduction of VAT significantly enhanced investment attractiveness.
4. **Employment:** The reduction of the social tax from 25 percent to 12 percent stimulated formal employment, while real wages increased by 6.9 percent in 2024.
5. **Foreign Trade:** The application of a zero VAT rate on exports strengthened the competitiveness of domestic producers, and textile exports doubled in recent years.

Recommendations

1. **Expand the Tax Base:** Increase budget revenues by further reducing the share of the informal economy, which accounted for approximately 35 percent in 2024.
2. **Targeted Tax Incentives:** Encourage innovation in production- and export-oriented sectors, especially in IT and manufacturing industries.
3. **Tax Stability:** Publish medium-term tax policy forecasts in order to strengthen investor confidence.
4. **Coordination of Fiscal and Monetary Policy:** Ensure a unified approach to inflation management through stronger coordination between fiscal and monetary authorities.

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