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Selected Issues of Application of Excise Tax in The Conditions of Uzbekistan's Accession to The WTO

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Abstract: Excise taxation plays a vital role in regulating consumption behavior and generating public revenue, particularly in economies undergoing structural transformation. As Uzbekistan progresses toward World Trade Organization (WTO) accession, it faces the need to align its excise tax system with international norms, especially concerning imported and domestically produced excisable goods. Despite ongoing reforms, inconsistencies remain between domestic and imported excise tax rates, and there is limited empirical analysis of their fiscal implications under WTO-aligned scenarios. This study aims to forecast excise tax revenues in Uzbekistan for 2025–2026 and assess the implications of harmonizing tax structures using historical data and policy scenarios. Using the Holt-Winters exponential smoothing method, three scenarios moderate, optimistic, and pessimistic were modeled. Under the moderate scenario, total excise revenues are projected to reach 5.82 trillion soums in 2026. The research provides a scenario-based projection tailored to Uzbekistan's WTO accession phase, incorporating both domestic and imported product segments and introducing differentiated taxation models for sugar-sweetened beverages. The findings support evidence-based policy adjustments for optimizing excise taxation and reducing informal consumption, while aligning with public health goals and WTO obligations. The proposed differentiated tax on sugary beverages and policy harmonization could strengthen revenue sustainability and promote healthier consumption behavior.

Citation: qizi U. A. K. Selected Issues of Application of Excise Tax In The Conditions of Uzbekistan's Accession To The Wto. American Journal of Economics and Business Management 2025, 8(5), 2574-2581.

Received: 03th Feb 2025

Revised: 11th Mar 2025

Accepted: 24th Apr 2025

Published: 28th May 2025



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Keywords: excise tax, basics of excise taxation, Tax Code, tax incentives, human health, WTO, excisable goods, tax revenue

1. Introduction

In the world, excise tax is widely used for the purposes of a reliable, stimulating or restrictive economic instrument. Improving excise taxation and adapting it to the requirements of the World Trade Organization (WTO) is considered a key task when Uzbekistan is planning to join this international trade structure. President of Uzbekistan Shavkat Mirziyoyev spoke at a meeting with entrepreneurs in Nukus about the need for the country to join the WTO as early as 2026. "Joining this organization is a thoughtful and far-sighted choice, moreover, it is an integral part of our reforms. But some are skeptical about this, others fear that "enterprises will break down and imports will flood in." It is important to understand one thing: import duties will be in effect. Therefore, we are negotiating with members of the organization," the head of state noted [1].

It should be noted that Uzbekistan is gradually moving to the World Trade Organization, which requires the country to comply with the provisions of this international organization. In this regard, tax rates applied in the country should be gradually equalized for domestic and imported products. Excise tax rates on domestic and

imported products, including natural gas and alcoholic beverages, should comply with international standards [2].

On June 3, 2024, the President of Uzbekistan signed Decree No. UP-85 "On measures to accelerate market reforms and harmonize national legislation with the agreements of the World Trade Organization (WTO)". This regulatory act introduced measures in the republic aimed at adapting the current rates of customs duties, taxes and fees in the country to the terms and requirements of the General Agreement on Tariffs and Trade of the WTO [3].

In particular, the Decree of the head of state gave the order to unify the excise tax rates on tobacco products imported and produced in Uzbekistan by January 1, 2026, and on alcoholic beverages and sugar by January 1, 2027. It should be noted that the excise tax rates on tobacco products for imported and produced in the republic are fully equalized. Revenues from the excise tax on tobacco products will be directed to promoting a healthy lifestyle of the population, restoring health and financing the health care system [4].

In the modern world, the development of excise taxation is aimed, as a rule, at creating equal competitive conditions for domestic and foreign producers of excisable goods. At the same time, it is important for the government of any country to ensure the possibility of reimbursing excise taxes on the export of excisable goods in order to support the competitiveness of domestic producers in the world market. The solution to this problem creates conditions not only for improving the consumption of consumer goods by the population, but also, at the same time, additional opportunities are created to increase budget funds and ensure the stability of their receipt [5].

Early systems of public finance focused on taxing income, consumption, and wealth. The most commonly identified principles of a good tax system are fairness, efficiency, adequacy, and stability of revenue, and tax administration and compliance costs in line with economic reality [6].

The immediate implication for governments (such as states and provinces) is that probably the most appropriate source of revenue should be a "simple, single-step (preferably retail) sales tax (RST) collected directly from final (resident) consumers." consumers, and possibly some excise taxes" [7].

The practical consequence of these tax concepts is that the analysis of the tax distribution system should cover the revenues of both the central government and local authorities (in Uzbekistan – the State Budget and local budgets). Tax researchers Bird R. and Gendron P. in their book "VAT in Developing and Transition Economies" and economist, known for his research in the field of tax policy and distributional analysis, Creedy J, in his article "Excise Taxation in New Zealand", expressed a common opinion that the purpose of excise tax is, including increasing revenue, corrective taxation to eliminate externalities, limiting the consumption of harmful goods [8].

In recent years, the economy of the Republic of Uzbekistan has continued to implement measures aimed at forming a full-fledged market economy. The taxation of legal entities is being modernized, which has a positive effect on the dynamics of the main macroeconomic indicators. Thus, statistical data show that Uzbekistan's GDP in 2024, compared with 2023, increased in real terms by 6.5%, and the GDP deflator index, in relation to 2023 prices, amounted to 113.3%. In 2024, GDP per capita growth in real terms, compared with 2023, amounted to 4.4%. The share of industry in GDP amounted to 26.4% in 2024, and the share of services increased from 46.2% to 47.4%, which indicates positive dynamics [9].

At the same time, in recent years, negative trends have been observed in the economy of Uzbekistan. Thus, in 2023, the inflation rate in Uzbekistan was - 8.77%, and in 2024 - 9.8%. According to the results of 2024, the gross added value (GVA) of the informal and shadow economy of the Republic of Uzbekistan amounted to 505,650.1 billion soums, and its share in GDP was 34.8% [10].

In order to assess the excise tax, it is useful to consider the trends in the receipt of funds from this tax to the State Budget (Table 2.3.1). Revenues to the State Budget (excluding the State Fund) from excise taxes increased from 10,314.7 billion soums in 2019 to 15,834.4 billion soums in 2023, or 1.53 times. The share of revenues to the State Budget from excise taxes in the process of tax reform decreased from 9.2% to 6.8%. (Table 1).

Table 1. Structure of budget funds for indirect taxes, (billion soums)

	2019	2020	2021	2022	2023
Income (excluding GCF) – total	112 165,4	132 900.7	164,680.3	201 863,8	231 721,3
Indirect taxes	46,427.2	46,428.4	56 2901	71 390,2	83 325,8
VAT	33 809,8	31 177,4	38 439	52 189,4	57,885.3
Excise tax	10 314,7	11,721.2	13 100,8	13,455.0	15,834.4
Customs duty	2 302,8	3 553,7	4 764,9	5 745,7	9 606,1

The decrease in the share of excise tax revenues to the State Budget is due to the elimination of the excise tax on the import of transports, which was implemented on August 1, 2020, as well as the elimination of 73 types of commodity items [11].

The number of cases of diabetes, obesity, heart diseases and oncological diseases is growing in the republic. The state of the atmospheric air is deteriorating due to emissions of pollutants. The increase in the above-mentioned negative factors indicates that the current economic instruments, including excise taxes, are not yet bringing significant positive results in solving the above problems [12].

The head of state, Sh. Mirziyoyev, speaking at a meeting to discuss expected economic results on October 17, 2024, noted that foreign experts predict a deterioration in the situation in foreign export markets in 2025 due to increasing competition and instability in raw material prices. This could be a test for production volumes and export-oriented industries. In the context of maintaining the main tax rates, the only way to increase budget revenues is to improve tax administration. Therefore, structural changes should not occur through interference in the activities of entrepreneurs, but through digitalization, the introduction of artificial intelligence technologies and the legalization of the shadow economy [13].

In the sphere of excise taxation in the republic, there are still differences between the rates for domestic and imported products, there are no tax incentives to protect the quality of atmospheric air, healthy nutrition and lifestyle are not sufficiently supported, especially among young people. In this regard, the Parliament and the Government of the republic are taking additional measures to solve the above-mentioned social problems [14].

Thus, according to the Decree of the President of February 7, 2025, the State Program for 2025 was approved in the republic. It plans to implement practical measures for 2025 in 5 priority areas. It pays special attention to issues of improving public health and creating conditions for the formation of a healthy lifestyle.

The solution to this problem can be achieved by increasing the influence of excise taxation on the production and economic activities of entrepreneurs, legal entities and individuals, as well as on the consumption of food products by the population and the formation of a healthy lifestyle. To achieve these goals, it is advisable to update the existing excise taxation instruments and introduce new, more effective tax mechanisms.

The republic attaches great importance to improving the business environment and creates additional incentives for entrepreneurs. The "Development Strategy of the New Uzbekistan for 2022-2026", approved by the Decree of the President of the Republic of Uzbekistan dated January 29, 2022 No. UP-60, pays special attention to improving the

efficiency of taxation, instruments for regulating business activities in the context of the transformation of the business environment[9]. This is directly related to the improvement of excise taxation in the context of Uzbekistan's accession to the WTO [15].

The Development Strategy "Uzbekistan-2030", which specifies and clarifies the objectives of the "Development Strategy of the New Uzbekistan for 2022-2026", attaches great importance to the problem of increasing the average life expectancy of the population, reducing 2.5 times indicators of early mortality from oncological, cardiovascular and other diseases[10]. Also p.20 The Development Strategy " Uzbekistan-2030 " states that in order to form proper nutrition and a healthy lifestyle among the population, the incidence of overweight and obese adults should be reduced to 32% and 23%, respectively. The proportion of children under 5 years of age with obesity should be reduced by an average of 2 times.

In this regard, from April 1, 2024 , an excise tax on sugar-containing carbonated drinks was introduced in the republic at a rate of 500 soums per 1 liter. An excise tax on energy and tonic drinks was also introduced at a rate of 2,000 soums per 1 liter. From April 1, 2025, an excise tax on non-carbonated drinks, cold teas, fruit juices, industrial compotes and other non-carbonated sweet drinks began to operate in the republic at a rate of 500 soums per 1 liter.

In our opinion, in addition to the above measures, the republic needs to introduce a mechanism of differentiated excise tax rates on non-alcoholic carbonated drinks containing sugar and sweeteners, produced in the republic and imported.

Drinks containing sugar or sweeteners contribute to increased sugar and calorie intake without providing significant nutritional value. Results from overseas studies show that with increased sugar consumption in various products, the risk of negative health effects such as tooth decay, overweight, obesity and diabetes increases, so it is important to take steps to reduce these diseases.

The experience of a number of countries shows that excise taxes are an effective tool for reducing the consumption of dangerous drinks (if consumed in excess), in particular carbonated and non-carbonated sweet drinks. For example, in Italy, sales of sugar-sweetened drinks fell by an average of 7.7% in the first 4 months after the introduction of this tax , and in Chile, the purchase of sugary drinks fell by 22%.

In recent years, the incidence rate from excessive consumption of sugar-containing drinks, as well as other types of products, has been increasing in the Republic of Uzbekistan (Figure 1).

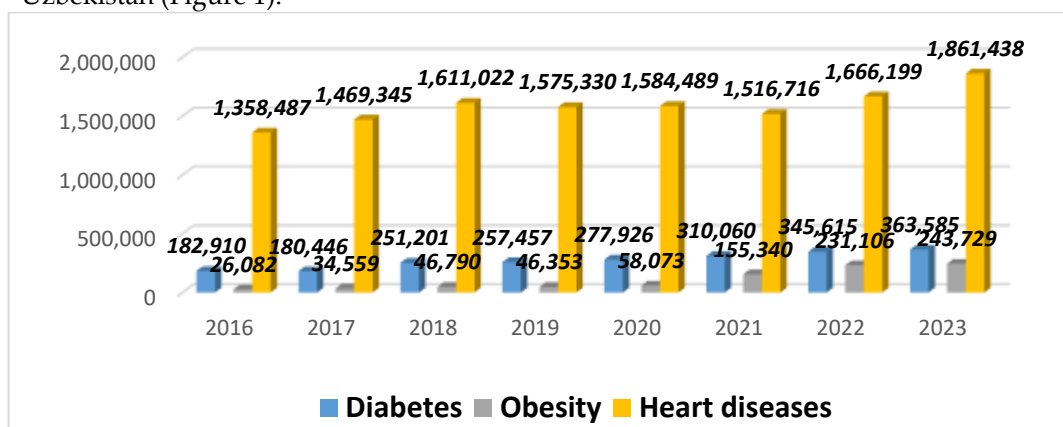


Fig 1. The number of citizens suffering from diseases in Uzbekistan

In our opinion, it is necessary to introduce a two-level excise tax on beverages containing more than 5 g of sugar or other sweeteners per 100 milliliters in the republic. It is proposed to establish 5% of the cost of the beverage, but not less than 500 soums per liter for beverages containing from 5 to 8 g of sugar or sweeteners per 100 ml; and 10%, but not

less than 1,000 soums per liter for beverages containing 8 g of sugar or sweeteners per 100 ml.

The introduction of an excise tax on drinks with high sugar content will help increase budget revenues and reduce government spending on treating citizens who consume such drinks.

2. Materials and Methods

This report presents excise tax revenue forecasts for Uzbekistan for the years **2025–2026**, covering both **domestic and imported excise tax revenues** across different product categories. The forecasting approach is based on historical data and time series modeling techniques to provide accurate and reliable projections.

The forecast is based on historical excise tax revenue data from **2016 to 2024** for both domestically produced and imported products. The dataset includes revenue from **Beer, Wine, Vodka/Cognac, and Cigarettes**, covering:

- **Domestic excise tax revenue:** Taxes collected from local producers.
- **Imported excise tax revenue:** Taxes collected from imported goods, including customs duties.

Data Cleaning and Structuring

The datasets were cleaned and structured to ensure consistency in the forecasting model:

- **Unnecessary rows and columns** were removed.
- **Data types were converted** to numeric formats.
- **Missing values were handled** by interpolation where necessary.
- **Separate datasets for domestic and imported excise tax revenues** were structured for analysis.

Why Holt-Winters Method?

To forecast excise tax revenues, we used the **Holt-Winters Exponential Smoothing Model**, a widely used time series forecasting technique. This method is effective for modeling:

- **Trends:** Changes in revenue over time.
- **Seasonality:** Variations due to economic cycles.
- **Smoothing fluctuations:** Reducing volatility in past data for more stable predictions.

How the Holt-Winters Model Works

The **Holt-Winters method** extends **Simple Exponential Smoothing** by adding components for trend and seasonality:

$$S_t = \alpha Y_t + (1 - \alpha)(S_{t-1} + T_{t-1})$$

$$T_t = \beta(S_t - S_{t-1}) + (1 - \beta)T_{t-1}$$

Where:

- S_t = Level (smoothed value of the series at time t)
- Y_t = Observed value at time t
- T_t = Trend (growth rate estimate)
- α = Smoothing factor for the level ($0 < \alpha < 1$)
- β = Smoothing factor for the trend ($0 < \beta < 1$)

This model **updates** the trend and level for each year based on past trends, making it highly effective for financial and tax revenue forecasting.

Implementation Process

1. **Model Fitting:** The model was trained on historical data from 2016–2024.
2. **Trend Identification:** It detected the underlying growth trend in excise tax revenues.
3. **Forecasting for 2025–2027:** Using the trained model, we projected future excise tax revenues under different scenarios.

We will use **three forecasting scenarios** based on different economic and tax policy assumptions. These scenarios are designed to account for uncertainties such as economic growth, policy changes, inflation, and consumer behavior.

1. Moderate Scenario (Baseline Forecast)

- This scenario assumes **business as usual**, with excise tax revenues following historical trends.
- We apply **Exponential Smoothing** (Holt-Winters method) based on past trends without extreme external shocks.
- It reflects a stable economy, with **average annual growth rates** in excise tax revenues continuing as observed in the past.

2. Optimistic Scenario (High Growth)

- This scenario assumes **higher economic activity, stronger enforcement of tax collection, and increased consumption**.
- Growth rates are assumed to be **10% higher than the moderate scenario** due to:
 - Higher alcohol/tobacco consumption.
 - Improved tax collection efficiency.
 - Favorable trade policies for imported goods.
- Forecasted values from the moderate scenario are **multiplied by 1.10 (10% increase)**.

3. Pessimistic Scenario (Low Growth)

- This scenario assumes **economic slowdown, reduced consumption, and potential regulatory constraints**.
- Growth rates are assumed to be **10% lower than the moderate scenario** due to:
- Economic downturn reducing consumer spending.
- Stricter regulations on alcohol/tobacco sales.
- Increased smuggling or tax evasion.
- Forecasted values from the moderate scenario are **multiplied by 0.90 (10% decrease)**.

3. Results and Discussion

In the course of the research, we developed a forecast for excise tax revenues in the context of Uzbekistan's accession to the WTO during 2025-2026. years. The Holt- Winters exponential smoothing model , which is a widely used method for time series analysis, was used to forecast excise tax revenues . Three forecasting scenarios were used in the analysis , based on different economic and fiscal policy assumptions: *moderate, optimistic and pessimistic*.

In the moderate scenario, in 2025, total excise tax revenues will amount to 5,417.0 billion soums, and in 2026 - 5,820.0 billion soums (Table 2).

Year	Beer	Wine	Strong drinks	Cigarettes	Total
2025	498.58	31.10	2 016,65	2 768,64	5 417,04
2026	552.97	31.48	2 144,48	3,000.65	5 820,04

Table 2. Total Revenue - Moderate Scenario

In scenario No. 2 (optimistic, growth by 10%), total excise tax revenues will amount to 5,958.7 billion soums in 2025 and 6,402.0 billion soums in 2026 (Table 3).

Year	Beer	Wine	Strong drinks	Cigarettes	Total
2025	548.43	34.21	2 218,31	3,045.50	5 958,74
2026	608.27	34.63	2 358,92	3 300,71	6 402,04

Table 3. Total Revenue - Best Case Scenario

In scenario No. 3 (pessimistic), total excise tax revenues will amount to 4,875.3 billion soums in 2025 and 5,238.0 billion soums in 2026 (--Table 4).

Year	Beer	Wine	Strong drinks	Cigarettes	Total
2025	448.72	27.99	1 814,98	2,491.77	4 875,33
2026	497.68	28.33	1 930,02	2 700,58	5 238,03

Table 4. Total Revenue - Pessimistic Scenario

The graph illustrates the dynamics of excise tax revenues in Uzbekistan from 2016 to 2026, distinguishing between local production, imports, and total income. It highlights a steady upward trend in domestic excise contributions, fluctuating import revenues, and

projected growth through 2026, supported by forecast intervals for analytical and planning purposes (Figure 2).



Figure 2. Dynamics of Excise Tax Revenues in Uzbekistan (2016–2026): Forecast and Breakdown by Source

To empirically validate the projected increase in excise tax revenues from alcohol and tobacco products in Uzbekistan, we conducted multiple regression analyses using macroeconomic and policy-related explanatory variables over the 2016–2023 period. The dependent variable in the primary specification was total excise tax revenue, disaggregated data also allowed testing of domestic and import components.

The best-performing regression model, based on adjusted R^2 and theoretical plausibility, includes **GDP (nominal)**, **unrecorded consumption index**, and **excise tax rates on beer and vodka** as predictors. This model explains nearly 99.8% of the variance in total excise revenue (Adjusted $R^2 = 0.998$), indicating a very strong fit.

Among the explanatory variables, the **unrecorded consumption index** emerged as a robust negative determinant, suggesting that improvements in enforcement and reductions in shadow market activity could directly increase official tax collections. The **excise tax rate on vodka** showed a consistent positive association with total revenue, aligning with Ramsey-type taxation theory, which supports targeting products with relatively inelastic demand. Additionally, **population growth** was found to be a statistically significant positive factor in alternative model specifications, reflecting the expanding consumer base for excisable goods [16].

Although **GDP** appeared as a negative coefficient in all models, this may be attributed to multicollinearity or shifting consumption patterns (e.g., toward informal channels) as incomes rise. Nevertheless, the combined empirical evidence supports the view that Uzbekistan's excise tax revenues will continue to increase if current demographic trends persist, unrecorded consumption continues to decline, and excise tax rates are carefully calibrated, particularly on high-yield products like vodka [17].

These findings align with the theoretical justifications outlined earlier and provide a solid empirical foundation for the moderate and optimistic revenue projections presented in this study.

4. Conclusion

The forecast for excise tax revenues depends on changes in both internal and external factors that affect economic growth (such as world prices, the introduction of customs duties on imported products, the depreciation of the national currency, and changes in interest rates). In the optimistic scenario No. 2, excise tax revenues are expected to grow to 5.9 trillion soums in 2025 and to 6.4 trillion soums in 2026.

However, the main function of excise tax is not only to form budget funds, but also to reduce the level of morbidity of the population, improve the state of atmospheric air, reduce inequality among citizens and expand access to quality public services. The approach and economic instruments we propose will help solve the above problems.

Considering that Uzbekistan is gradually moving to the WTO, the country must comply with the provisions of this international organization. Thus, excise tax rates on domestic and imported products, including natural gas, alcoholic beverages, must comply with international requirements. Since the excise tax rate on natural gas produced in the republic is 12% of its sales value, while imported gas is not subject to excise taxes. This violates the WTO requirements on the need to ensure equal taxation of manufactured and imported products.

It is also proposed to introduce a mechanism for tax offsetting of excise tax paid for enterprises that have a registration certificate or pay advance excise tax. In particular, when selling excisable goods, it is necessary to apply a system for offsetting excise tax paid on input materials and raw materials, including customer-supplied materials for which excise tax was paid by the owner earlier (for example, for business entities operating in the pharmaceutical sector).

In order to reduce the negative health consequences of people involved in gambling, as well as to increase budget revenues, we propose to introduce a tax on gambling. The gambling business is a specific area of activity that has certain negative consequences for human health. In this regard, we consider it appropriate to introduce the corresponding tax from January 1, 2026.

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