

American Journal of Economics and Business Management

Vol. 9 Issue 9 | **pp.** 111-118 | **ISSN:** 2576-5973
Available online @ https://www.globalresearchnetwork.us/index.php/ajebm

Article

Determining the Tax-Free Income Threshold for Personal Income Tax Based on Relative Poverty: Evidence from Uzbekistan

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Abstract: This study develops an empirical approach for determining a tax-free minimum income in Uzbekistan by linking the personal income tax base to the relative economic position of households. The study is based on the premise that income required to maintain a minimum socially acceptable standard of living should not be subject to personal income taxation. Household data from the World Bank's Listening to the Citizens of Uzbekistan (L2CU) surveys for 2018–2025 were used to analyse post-tax disposable income, relative poverty, and income distribution. Descriptive and comparative statistical methods, together with income-distribution analysis, were applied.The findings show that the reduction of absolute poverty has not eliminated differences in the distribution of household income. In particular, the lowest-income population groups continue to receive a disproportionately small share of total income, while the relative poverty rate remained within the range of 11.0–14.6% during the study period. The estimated relative poverty threshold increased substantially and reached UZS 1,913,210 in 2025. This result provides an empirical basis for reconsidering the current approach to determining the tax-free component of personal income. The study proposes using the relative poverty threshold as a benchmark for establishing the tax-free minimum income. For 2025, the proposed threshold is equivalent to approximately 1.41 times the minimum wage. Unlike a fixed nominal exemption, this approach links the tax-free minimum to changes in household welfare and income distribution. The proposed mechanism can strengthen the social and redistributive functions of personal income taxation, protect low-income households from excessive tax burdens, and contribute to greater vertical equity in Uzbekistan's tax system.

Keywords: tax-free minimum income, personal income tax, relative poverty; disposable income; income distribution; Uzbekistan, income inequality.

Citation: Masharipovich N. I. Determining the Tax-Free Income Threshold for Personal Income Tax Based on Relative Poverty: Evidence from Uzbekistan. Companies: Problems and Solutions. American Journal of Economics and Business Management 2026, 9(9), 112-118.

Received: 10th Jun 2026
Revised: 11th Jul 2026
Accepted: 11th Aug 2026
Published: 05st Sep 2026

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1. Introduction

Poverty reduction is one of the priority areas of social policy in Uzbekistan. The revised Constitution of the Republic of Uzbekistan establishes the State's responsibility to ensure employment, protect citizens from unemployment, and take measures to reduce poverty. Uzbekistan's status as a social state further requires the creation of conditions necessary for a decent standard of living and the support of economically vulnerable population groups [1].

As emphasized by the President of the Republic of Uzbekistan, Shavkat Mirziyoyev, one of the main responsibilities of a social state is to create equal opportunities for individuals to realize their potential, provide the conditions necessary for a decent life, and reduce poverty. Recent reforms have produced significant progress in this area. In

particular, in his Address to the Oliy Majlis and the people of Uzbekistan, President Shavkat Mirziyoyev noted that the poverty rate had declined to 5.8% in 2025 [2].

However, poverty reduction cannot be limited solely to social assistance and increases in household income. Fiscal policy, particularly the taxation of personal income, directly affects the amount of income remaining at the disposal of households. Therefore, providing a scientific and economic basis for determining the tax-free minimum income represents an important component of poverty reduction policy [3].

In particular, the determination of the tax-free minimum should take into account households' actual income and their economic position within society. From this perspective, household disposable income after taxes and mandatory payments, together with the relative poverty threshold, may serve as an important economic benchmark for determining the appropriate level of the tax-free minimum income [4].

The objective of this study is to determine the relative poverty threshold in Uzbekistan based on household disposable income and to assess its potential use as a benchmark for establishing the tax-free minimum income [5].

2. Materials and Methods

This study used data from the World Bank's Listening to the Citizens of Uzbekistan (L2CU) survey, which has been conducted regularly since 2018 to monitor the socio-economic conditions of households in Uzbekistan.

The baseline survey conducted in 2018 covered 4,000 households selected from 200 mahallas across all 14 regions of Uzbekistan. The survey employed a two-stage stratified sampling design. Households were stratified according to their place of residence into urban and rural groups, while Tashkent City was treated as a separate urban stratum. As a result, 27 strata were formed. In the second stage, 20 households were randomly selected from each mahalla. Following the baseline survey, approximately 1,500 households from the original sample were randomly selected each month for regular short telephone interviews [4].

Household income was constructed following the methodological framework used by the Organisation for Economic Co-operation and Development (OECD). Factor income included wages and salaries, income from self-employment, and property income. After adding old-age pensions, social assistance, private transfers, and other sources of income, gross household income was obtained. Personal income taxes and employees' social insurance contributions were subsequently deducted to determine household disposable income.

Since the number of household members differs across households, disposable household income was equivalised using the OECD square-root equivalence scale. The equivalised income was calculated by dividing total household disposable income by the square root of the number of household members:

$$EI = Y/\sqrt{N} \quad (1)$$

where EI represents equivalised household income, Y denotes total household disposable income, and N represents the number of household members.

The equivalised household incomes were then ranked from the lowest to the highest value, and the median income was determined as the central value of the income distribution. The median was calculated as:

$$Me = \frac{X_{\frac{n}{2}} + X_{\frac{n}{2}+1}}{2} \quad (2)$$

The median equivalised income was used as the basis for determining the relative poverty threshold and analysing the potential relationship between the tax-free minimum income and relative poverty.

Descriptive and comparative statistical analysis methods were employed in the study. The distribution of equivalised household income was analysed to determine the median income and, based on this indicator, the relative poverty threshold.

3. Result and Discussion

Although poverty and income inequality are conceptually different economic phenomena, they are closely interconnected. Poverty reduction depends not only on increasing household incomes but also on ensuring a more equitable distribution of income across different social groups. Therefore, an assessment of income distribution and poverty dynamics is important for establishing an appropriate tax-free minimum income threshold [6].

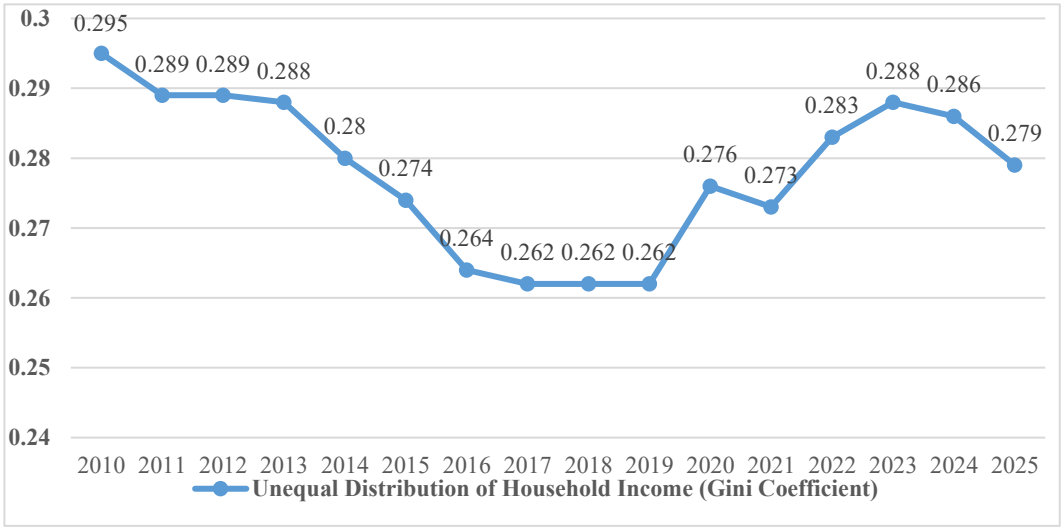


Figure 1. Dynamics of the Gini Coefficient in Uzbekistan, 2010–2025

The Gini coefficient, which measures income inequality in Uzbekistan, declined from 0.295 in 2010 to 0.264 in 2016. During 2017–2019, the indicator remained relatively stable at approximately 0.262, representing a comparatively low level of income inequality. However, the Gini coefficient began to increase again after 2020 and reached 0.288 in 2023. A subsequent decline was observed, with the coefficient falling to 0.279 in 2025. Overall, although the Gini coefficient in Uzbekistan remains relatively low by international standards, the results indicate that income is not distributed equally across different population groups [7].

The distribution of income across decile groups provides a clearer picture of these disparities. For analytical purposes, the population was grouped into the lowest-income 30% (1st–3rd deciles), the middle-income 40% (4th–7th deciles), and the highest-income 30% (8th–10th deciles). No substantial changes in the distribution of income among these groups were observed between 2021 and 2025. The share of total income received by the lowest-income 30% declined slightly from 14.6% to 14.4%, whereas the share received by the highest-income 30% increased from 50.2% to 50.7% [8].

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Figure 2. Distribution of Household Income by Decile Groups in Uzbekistan, 2021–2025

These findings show that more than half of total income is concentrated among the highest-income 30% of the population, while the lowest-income 30% receives only around 14–15% of total income. Thus, despite the relatively low level of inequality indicated by the Gini coefficient, substantial differences in income distribution across population groups persist. Under such conditions, tax policy, particularly the establishment of a tax-free minimum income, may serve as an important instrument for supporting low-income households [10].

The absolute poverty rate in Uzbekistan has declined substantially in recent years, falling from 17.7% in 2010 to 5.8% in 2025. However, while absolute poverty measures whether individuals can meet their minimum consumption needs, it does not fully capture disparities in income distribution or the effects of the tax burden on different income groups [11].

For this reason, the subsequent analysis in this study examines poverty not through the lens of absolute poverty, but rather through relative poverty based on post-tax disposable income. This approach makes it possible to assess more directly the impact of personal income taxation on household welfare and to link the determination of the tax-free minimum income to the actual economic position of the population (Look at figure 3).

The study results were based on data collected from respondents selected across all regions of Uzbekistan, including both urban and rural populations. This provides a basis for drawing general conclusions at the national level. Unlike absolute poverty, which is primarily assessed based on minimum consumption needs, relative poverty is evaluated using the income available to households after taxes and mandatory payments have been deducted [12].

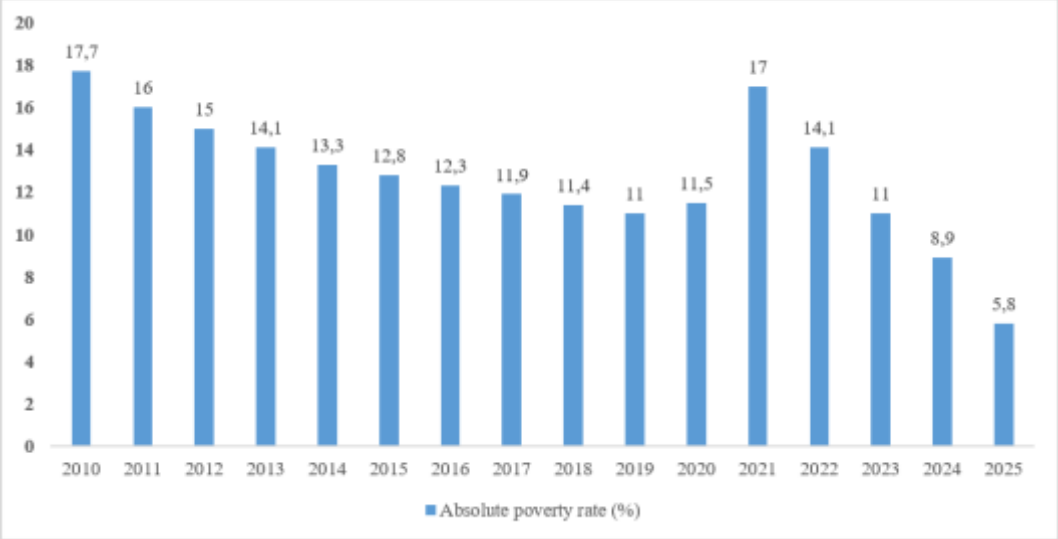


Figure 3. Dynamics of the Absolute Poverty Rate in Uzbekistan, 2010–2025

An important feature of this approach is that the effects of taxation on household income may not be fully reflected in absolute poverty indicators, whereas the assessment of relative poverty incorporates the impact of tax policy on income distribution. In this study, relative poverty was measured based on equivalised disposable income; therefore, this indicator also reflects the effects of personal income tax and other mandatory payments on household welfare [13].

From this perspective, personal income tax should be considered not only as an instrument for generating government revenue and redistributing income but also as an important fiscal mechanism influencing the level of relative poverty through its effect on post-tax household income. This highlights the scientific and practical importance of using disposable income and relative poverty indicators when assessing tax policies aimed at reducing poverty.

Table 1. Relative Poverty Indicators for Determining the Tax-Free Minimum Income

Year	Number of observations	Relative poverty rate (%)	Relative poverty threshold (UZS)
2018*	1515	13,75	653 410
2019	1521	14,52	807 179
2020	1517	14,64	909 469
2021	1510	12,87	1 084 054
2022	1501	13,43	1 412 772
2023	1454	11,68	1 643 675
2024	1382	11,04	1 822 249
2025*	1482	12,17	1 913 210

**The 2018 survey covers the period from August to December, while the 2025 survey covers the period from January to May.*

According to the results of the analysis, the relative poverty rate in Uzbekistan during 2018–2025 ranged, on average, from 11.0% to 14.6%. As these indicators were calculated based on household disposable income remaining after the deduction of personal income tax and mandatory payments, they reflect the actual distribution of income after the fiscal burden. At the same time, the relative poverty threshold over the study period ranged from UZS 653,410 to UZS 1,913,210. This threshold reflects the extent to which the incomes of certain population groups lag behind the median income in society, thereby indicating the level of relative poverty [14].

Based on these findings, it is considered appropriate to define an income amount equivalent to the relative poverty threshold as the tax-free minimum income in order to

protect low-income populations from the tax burden. Previous analyses established that the relative poverty threshold in Uzbekistan amounted to UZS 1,913,210 in 2025. Accordingly, it is necessary to introduce a mechanism under which an amount equivalent to 1.41 times the minimum wage is deducted from the personal income tax base. Such an approach would make it possible to directly link the tax-free minimum income to the level of relative poverty in the country [15].

4. Conclusion

This study aimed to assess the potential of using the relative poverty threshold as an economic basis for determining the tax-free minimum income in Uzbekistan. The findings show that, although absolute poverty has declined considerably in recent years, disparities in household income distribution remain. Therefore, absolute poverty indicators alone do not provide a sufficient basis for determining the amount of income that should be exempt from personal income taxation. The analysis of post-tax household disposable income demonstrates that the relative poverty threshold provides a more appropriate benchmark for establishing a socially justified tax-free minimum. Based on the 2025 estimates, the relative poverty threshold of UZS 1,913,210, equivalent to approximately 1.41 times the minimum wage, can serve as a reference value for determining the tax-free minimum income. Accordingly, linking the tax-free minimum to the relative poverty threshold could strengthen the social and redistributive functions of Uzbekistan's personal income tax system. Such an approach would help protect low-income households from additional tax burdens, improve vertical equity, and ensure that income required to maintain a minimum acceptable standard of living is not subject to taxation.

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