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"MILLIY STATISTIKA TIZIMIDA YANGI BOSQICH: BARQAROR RIVOJLANISH MAQSADLARI, XALQARO STANDARTLAR VA ZAMONAVIY TENDENSIYALAR"

HOW FOOD PRICE INFLATION AFFECTS HOUSEHOLD WELFARE AND INEQUALITY IN UZBEKISTAN

NASIRULLAYEVA SEVINCH G`AYRAT QIZI
Bachelor's degree second-year student of the Tashkent state university of economics
nasirullayevasevinch09@gmail.com
SHAKHLO DAVIROVA SHUKURULLAEVNA
PhD, Associate Professor of the Department "Banking" of the Tashkent state university of economics
davirova_shaxlo@tsue.uz

Abstract
Food price inflation imposes disproportionate burdens on lower-income households, yet this distributional dimension is often overlooked in aggregate macroeconomic discussions. This study examines how persistent food price inflation in Uzbekistan between 2021 and 2024 affected household welfare, with particular attention to inequality across income groups. Using publicly available data from the National Statistics Committee, World Bank Household Budget Surveys, and State Committee on Statistics, we construct a Food Affordability Index comparing the food expenditure burden across low-income and high-income quintiles. Our analysis confirms that poor households in Uzbekistan spend a substantially larger share of their income on food and are therefore more exposed to inflationary shocks. While nominal incomes have grown across all groups, the benefits have been concentrated at the top of the distribution, widening the Gini coefficient from 31.2 in 2022 to 34.5 in 2023. These findings suggest that food price inflation is not merely a macroeconomic inconvenience but a force that actively deepens inequality. Policy implications include targeted cash transfers, food subsidy mechanisms, and inflation-indexed social protection thresholds.

Keywords: food inflation, household welfare, income inequality, Uzbekistan, food affordability index, poverty

1. Introduction
Food prices are not just an economic variable — they are a daily reality for millions of households. When the cost of bread, oil, or vegetables rises faster than wages, families must either spend more or eat less. In economies where low-income households allocate a majority of their budget to food, inflation in that category is particularly punishing. Uzbekistan has experienced persistent inflationary pressure over the past several years. The overall consumer price index rose by approximately 10.85% in 2021, 11.45% in 2022, and 9.96% in 2023, before moderating to around 9.6–9.8% in 2024. Food-specific price growth contributed significantly to this trend, with food prices rising by 9.7% in 2023

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alone, according to the Statistics Agency under the President of Uzbekistan. At the same time, Uzbekistan has achieved notable progress in poverty reduction. The national poverty rate fell from 17.0% in 2021 to 8.9% in 2024, a remarkable achievement driven largely by rising wages and social benefit expansion. However, this headline progress conceals a troubling pattern: income growth between 2021 and 2023 was heavily skewed toward wealthier households. The top 20% of the population saw income grow by 33% in 2022–2023, compared to only 11% for the bottom 20%. The Gini coefficient, a standard measure of income inequality, rose from 31.2 in 2022 to 34.5 in 2023.

This paper investigates the intersection of food price inflation and household welfare inequality.

2. Methods

This study employs a descriptive-analytical approach drawing on secondary data from several publicly available sources: (1) the National Statistics Committee of Uzbekistan Household Budget Surveys (HBS) for 2021–2024, covering approximately 16,000 households annually; (2) World Bank Poverty and Equity Briefs for Uzbekistan (2023, 2024, 2025); (3) the State Statistics Agency Consumer Price Index reports; and (4) Uzbekistan overview data published by the World Bank. To assess the differential impact of food inflation across income groups, we use two primary analytical tools. First, we examine the food expenditure share the proportion of household budget allocated to food across income quintiles. Households with a higher food expenditure share face greater welfare losses when food prices rise, because each percentage point of food inflation consumes a larger fraction of their total income. Second, we construct a Food Affordability Index (FAI) for each quintile. The FAI is defined as the ratio of food expenditure at current prices to per-capita monthly income. An FAI value closer to 1.0 indicates severe affordability stress (nearly all income absorbed by food costs), while a value approaching 0 indicates greater resilience. Changes in the FAI over time, driven by price movements, reveal how inflation erodes purchasing power differentially. Income quintiles are derived from HBS data. Because household-level microdata are not fully published, quintile-level income shares and poverty line benchmarks are used to derive approximate income ranges consistent with reported statistics. This introduces some estimation uncertainty, which is acknowledged in the analysis. All monetary values are expressed in Uzbek soums (UZS) unless otherwise stated.

3. Results

3.1 Food Price Inflation Trends, 2021–2024

Table 1 summarises headline and food-specific inflation in Uzbekistan over the study period.

Table 1. CPI and Food Price Inflation in Uzbekistan, 2021–2024

Year	Overall CPI (% change)	Food CPI (% change)
2021	10.85%	~12% (est.)
2022	11.45%	~11% (est.)
2023	9.96%	9.7%
2024	9.6–9.8%	2.4%*

Food CPI fell in 2024 partly due to seasonal effects; non-food and services inflation remained elevated. Source: State Statistics Agency of Uzbekistan; World Bank.

The pattern shows sustained double-digit or near-double-digit inflation across four years. While food price growth moderated to 2.4% in 2024 (year-on-year), the cumulative price level remained substantially elevated, and services inflation remained high at 26.7% in 2024, compressing household budgets from multiple directions.

3.2 Income Distribution and Food Expenditure Shares

Household Budget Survey data consistently show that low-income households in Uzbekistan allocate a much larger share of their spending to food than high-income households a pattern known in economics as Engel's Law. Based on available data and comparable country patterns for lower-middle-income economies, bottom-quintile households in Uzbekistan spend an estimated 55–65% of their monthly budget on food, while top-quintile households spend approximately 25–35%.

Table 2 presents estimated income, food expenditure, and Food Affordability Index values for the bottom and top quintiles in 2023, using the national poverty line of approximately 621,000 UZS/person/month as an anchor, and income growth differentials reported in HBS data.

Table 2. Food Affordability Index by Income Group, 2023 (approximate)

Indicator	Bottom Quintile (Q1)	Top Quintile (Q5)
Estimated monthly income (UZS/person)	~620,000–750,000	~3,500,000–4,500,000
Food expenditure share	~60%	~28%
Monthly food spend (UZS/person)	~370,000–450,000	~980,000–1,260,000
Food Affordability Index (FAI)	0.58–0.62	0.27–0.30
Income growth (2022–23)	+11%	+33%

Sources: World Bank Poverty and Equity Brief 2024; National Statistics Committee HBS 2023; author estimates based on reported quintile income differentials.

The FAI differential is stark. Bottom-quintile households absorb roughly 60 cents of every soum they earn on food alone. A 10% rise in food prices thus effectively reduces their non-food purchasing power by approximately 6 percentage points of total income. For top-quintile households facing the same food price shock, the equivalent loss is only about 3 percentage points half the impact in relative terms.

3.3 Welfare Impact Differential

To quantify the welfare loss from food inflation between 2021 and 2023, we apply the food expenditure share to cumulative food price increases. With food prices rising approximately 9.7% in 2023 alone, the implied real income loss attributable to food inflation differed substantially by income group. For a bottom-quintile household spending 60% of income on food, a 9.7% rise in food prices reduced real purchasing power by approximately 5.8 percentage points. For a top-quintile household spending 28% of income on food, the equivalent real purchasing power loss was approximately 2.7 percentage points. The low-income household therefore absorbed more than twice the welfare loss per unit of income from the same price shock. This is not offset by nominal wage growth. While wages rose across all groups in 2023, the bottom quintile's income grew by only 11%, compared to 33% for the top quintile. Even accounting for nominal gains, poorer households gained less, while paying relatively more for basic necessities.

3.4 Inequality Trends

The distributional consequences of this asymmetric price burden are reflected in official inequality statistics. The Gini coefficient increased from 31.2 in 2022 to 34.5 in 2023, according to World Bank-supported analysis of National Statistics Committee data. The World Bank estimates that had income growth been equally distributed, poverty would have fallen by an additional 2.4 percentage points meaning rising inequality actively undermined poverty reduction efforts during this period. In 2024, the pattern partially reversed: income growth became more pro-poor, with the bottom quintile especially in rural areas seeing stronger gains. The Gini fell to approximately 34.6 in 2024, and then more meaningfully to 32.7 in 2025 as food price growth moderated and agricultural income improved. This suggests that food price dynamics are not deterministic for inequality, but play a significant mediating role when wages and prices move in opposite directions across income groups.

4. Discussion

The findings confirm the central hypothesis: poor households in Uzbekistan are substantially more affected by food price inflation than wealthier ones. This conclusion is not surprising in absolute terms it is consistent with Engel's Law and

a broad body of evidence from comparable developing economies. What is significant in the Uzbekistan case is the magnitude of the divergence and the period in which it occurred. Between 2021 and 2023, Uzbekistan was simultaneously reducing poverty (measured by income thresholds) and increasing inequality (measured by income distribution). Food price inflation appears to be a key mechanism linking these two trends: nominal income growth allowed many households to cross the poverty line, but the simultaneous erosion of purchasing power through food prices meant that welfare gains were substantially diluted for those at the bottom. A household whose income grew 11% but whose food bill rose 9.7% and who spent 60% of income on food saw their effective real income gain reduced to roughly 5%. The Food Affordability Index framework developed here provides a practical tool for monitoring this divergence. An FAI above 0.50 represents a condition where more than half of all income is absorbed by food spending, leaving minimal margin for health, education, housing, and other necessities. Sustained food inflation under such conditions is not merely inflationary it is nutritionally and socially destabilising. A secondary dimension concerns spatial inequality. Rural households, who make up the majority of the bottom quintile, were both more vulnerable to food price shocks and, in 2024, benefited most from the reversal in income dynamics. This suggests that rural agricultural income is a buffer: when harvests are good and food prices fall seasonally (as occurred in mid-2024), rural household welfare improves significantly. Policy frameworks should account for this agricultural income-food price nexus. This analysis has several limitations. Household-level microdata from the HBS are not publicly available in disaggregated form, necessitating quintile-level estimates and approximations. Additionally, informal food production and consumption significant in rural Uzbekistan may partially offset the market price exposure of low-income households, meaning the welfare impact could be somewhat overstated. Future research using microdata would strengthen the quantitative precision of these findings.

5. Conclusion

Food price inflation in Uzbekistan between 2021 and 2024 exerted a disproportionate burden on low-income households, who allocate roughly 60% of their budgets to food, compared to approximately 28% for the highest-income quintile. The same 10% rise in food prices thus translates into more than twice the real purchasing power loss for the poor relative to the rich a structural vulnerability that is embedded in the economics of low income, not a temporary anomaly. Despite significant aggregate poverty reduction during this period, rising inequality as captured by the Gini coefficient increasing from 31.2 to 34.5 between 2022 and 2023 reveals that food inflation actively offset poverty reduction gains for those at the bottom of the income distribution. The Food Affordability Index constructed in

this study provides a tractable measure for tracking these dynamics on an ongoing basis. Three policy implications follow. First, social protection thresholds should be explicitly indexed to food price inflation, not aggregate CPI, to preserve the real value of transfers for the poorest households. The current minimum consumer expenditure framework, which lagged behind actual inflation by over 2 percentage points in 2024, illustrates this gap. Second, targeted food support mechanisms whether direct transfers, price stabilisation for staple goods, or expanded community food programmes should be designed to activate automatically when food CPI exceeds a defined threshold. Third, efforts to improve agricultural productivity and supply-chain efficiency can address food inflation at its source, reducing the price volatility that periodically destabilises household welfare. The 2024–2025 period offers some optimism: pro-poor income growth, seasonal food price declines, and improved remittance dynamics helped the poorest quintile recover lost ground. But this recovery was circumstantial rather than structural. Durable welfare improvements for low-income households in Uzbekistan will require policies that protect purchasing power not only when aggregate conditions are favourable, but precisely when food prices are not.

References:

1. National Statistics Committee of Uzbekistan. (2024). Household Budget Survey 2023. Tashkent: National Statistics Committee.
2. State Statistics Agency under the President of Uzbekistan. (2024, January 22). Poverty line increases in Uzbekistan: Minimum expenditure basket updated. Gazeta.uz.
3. Tashkent Times. (2025, August 25). Poverty in Uzbekistan — figures, trends, challenges. Retrieved from https://tashkenttimes.uz
4. World Bank. (2024a). Uzbekistan Poverty and Equity Brief, Spring 2024. Washington, DC: World Bank.
5. World Bank. (2025a). Uzbekistan Poverty and Equity Brief, Spring 2025. Washington, DC: World Bank.
6. World Bank. (2025b). Uzbekistan Country Overview. Retrieved from https://www.worldbank.org/en/country/uzbekistan/overview
7. World Bank. (2024b). Charting Uzbekistan's path to poverty reduction: Insights from international comparisons. World Bank Blogs, May 2024.
8. Macrotrends. (2024). Uzbekistan inflation rate historical data 2011–2024.