THE RELATIONSHIP BETWEEN HOUSEHOLD INCOME AND CONSUMPTION EXPENDITURE UNDER INFLATION: THE CASE OF UZBEKISTAN

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Abstract

This article examines the relationship between household income and consumption expenditure under inflationary conditions using Uzbekistan as a case study. The relevance of the topic is determined by the fact that inflation changes not only the general price level, but also the real purchasing power of household income, the structure of consumer demand, the ratio between necessary and discretionary spending, and the social sensitivity of different income groups to price shocks. In Uzbekistan, this issue is especially important because household consumption remains one of the key components of aggregate demand, while household income is strongly affected by wages, self-employment, transfers, remittances, regional differentiation, and state social policy. The study is based on the IMRAD structure and uses official statistical data from the National Statistics Committee of the Republic of Uzbekistan, inflation data from the Central Bank of Uzbekistan, and analytical materials from the World Bank and other international institutions. According to official statistics, in January–December 2025 the total income of the population reached 1,134.3 trillion soums; nominal income grew by 118.9%, while real income grew by 109.2%, and per capita aggregate income amounted to 29.9 million soums with real growth of 107.2%. In the same period, final consumption expenditure of households at current prices reached 1,175,042.8 billion soums, while the annual growth rate of household final consumption expenditure was 109.5%. Inflation in Uzbekistan remained significant but gradually moderated: the Central Bank reported annual inflation of 9.8% in December 2024, 7.3% in December 2025, and 5.5% in May 2026. The findings show that when real income growth exceeds inflation, household consumption can continue to expand in real terms; however, inflation changes the internal structure of consumption by increasing the relative burden of food, utilities, transport, housing, and other essential expenditures. The article concludes that the relationship between income and consumption expenditure in Uzbekistan is positive, but inflation weakens this relationship by reducing real purchasing power, strengthening precautionary behavior, and increasing the

vulnerability of low-income households. Therefore, anti-inflation policy, wage growth aligned with productivity, targeted social protection, regional income equalization, and development of competitive consumer markets are essential for maintaining sustainable household welfare and macroeconomic stability.

Keywords

Inflation, household income, consumption expenditure, real income, purchasing power, consumer price index, household welfare, aggregate demand, Uzbekistan, living standards.

Introduction

Inflation is one of the most influential macroeconomic factors affecting the economic behavior of households, because it directly changes the purchasing power of money and indirectly transforms the structure of household consumption, savings, borrowing, labor supply, and expectations about the future. In a stable price environment, household income and consumption expenditure are connected through a relatively predictable mechanism: as income increases, households expand consumption, improve the quality of goods and services purchased, and allocate part of their resources to savings or investment. Under inflationary conditions, however, this relationship becomes more complex. Nominal income may rise, but if the growth of prices is faster than the growth of income, real income declines and the household's ability to maintain its previous consumption level weakens. Conversely, if nominal income grows faster than inflation, real purchasing power may increase, yet households may still adjust their spending behavior because inflation increases uncertainty and changes expectations. In Uzbekistan, the problem deserves special scientific attention because the country is undergoing rapid economic transformation, population growth, urbanization, wage reforms, expansion of private-sector employment, increased social transfers, and gradual modernization of monetary policy. The Central Bank of Uzbekistan states that the country has been conducting monetary policy within an inflation-targeting framework since 2020, with monetary policy measures directed toward keeping inflation near the target level; this is highly relevant for household welfare because stable prices are a prerequisite for predictable income-consumption decisions. At the same time, Uzbekistan's inflation dynamics show that households have faced a persistent price-growth environment rather than complete price stability: annual inflation was 12.3% in December 2022, 8.8% in December 2023, 9.8% in December 2024, 7.3% in December 2025, and 5.5% in May 2026 according to the Central Bank's published inflation indicators. These data indicate two simultaneous processes:

first, Uzbekistan has made progress in reducing inflation compared with the higher inflation period of 2022–2024; second, inflation still remains an important factor influencing household income and consumption decisions. The topic also has practical importance because household consumption expenditure forms a major part of domestic demand, and changes in consumption affect production, trade, services, employment, tax revenues, poverty reduction, and macroeconomic stability. According to the World Bank, final consumption expenditure accounted for 81.9% of Uzbekistan's GDP in 2024, which confirms the macroeconomic weight of consumption demand in the national economy. The problem becomes sharper when household income growth and consumption expenditure growth are compared with inflation. In January–December 2025, the total income of Uzbekistan's population reached 1,134.3 trillion soums, nominal income growth was 118.9%, and real income growth was 109.2%; per capita aggregate income reached 29.9 million soums, with nominal growth of 116.6% and real growth of 107.2%. These indicators show that income growth was positive even after adjusting for inflation, but this does not automatically mean that all households experienced the same welfare improvement. Inflation affects households unevenly because the consumption basket of low-income households contains a higher share of essential goods, especially food and utilities, while higher-income households can more easily adjust consumption, use savings, or shift expenditure to substitute goods. In May 2026, the National Statistics Committee reported that the annual CPI for food products was 106.7%, non-food products 103.7%, and services 106.1%; within the food group, meat products, fruit, and some staple goods showed substantial price increases, which directly matters for household welfare because food has a high social and budgetary importance. The scientific problem of this article is therefore not simply whether income and consumption expenditure move in the same direction, but how inflation modifies the strength, quality, and social consequences of that relationship. The purpose of the article is to analyze the relationship between household income and consumption expenditure under inflationary conditions in Uzbekistan, to identify the main transmission channels through which inflation affects household behavior, and to develop evidence-based conclusions for economic policy. The research tasks are as follows: to explain the theoretical relationship between nominal income, real income, inflation, and consumption expenditure; to analyze official data on income, inflation, and household consumption in Uzbekistan; to assess whether income growth has been sufficient to support consumption growth; to identify risks for vulnerable households; and

to formulate policy recommendations aimed at preserving purchasing power and improving household welfare.

Materials and Methods

The methodological basis of this article is formed by the IMRAD research logic, which requires the separation of the research problem, data and methods, empirical findings, interpretation, and conclusions. The study uses a descriptive-statistical, comparative, structural, and analytical approach. The main empirical materials consist of official data from the National Statistics Committee of the Republic of Uzbekistan on population income and household final consumption expenditure, Central Bank of Uzbekistan data on consumer price inflation, and World Bank data on macroeconomic and social indicators. The key variables analyzed in the article are nominal household income, real household income, household final consumption expenditure at current prices, real growth rates of final household consumption expenditure, consumer price index, and income composition. The logic of the analysis is built around the distinction between nominal and real indicators. Nominal income shows the money amount received by households, but it does not show actual purchasing power when prices change. Real income adjusts nominal income for inflation and therefore provides a better measure of the household's ability to purchase goods and services. Similarly, household final consumption expenditure at current prices shows the monetary value of consumption, while constant-price and growth-rate indicators help assess whether consumption is increasing in real terms or only because prices are higher. The National Statistics Committee explains that household final consumption expenditure is calculated according to the System of National Accounts 2008 methodology and represents household expenditure on final consumption, while the annual growth rate is calculated using volumes at constant prices relative to the corresponding previous-year period. The article does not construct a full econometric model, because the objective is not to estimate a precise elasticity coefficient, but to provide a scientific and policy-oriented assessment suitable for an OAK-type academic article. Nevertheless, the analysis follows an economic logic close to the Keynesian consumption function and modern household behavior theory: consumption depends on current income, expected future income, prices, inflation expectations, access to credit, compulsory expenditure, and precautionary motives. Under this approach, inflation affects consumption through at least four channels. The first is the real income channel: if prices rise faster than income, purchasing power falls and consumption declines or shifts toward cheaper goods. The second is the

expenditure-structure channel: when food, utilities, transport, and housing prices increase, households allocate a larger share of income to essential goods and reduce discretionary spending. The third is the expectations channel: if households expect further inflation, they may accelerate some purchases, reduce savings in national currency, or prefer durable goods and foreign-currency-linked assets. The fourth is the social-differentiation channel: inflation affects poor and rich households differently because their consumption baskets and financial buffers are different. In the empirical part, the study compares the annual inflation path with income and consumption dynamics. The Central Bank's monthly inflation data are used to characterize the price environment, especially the decline of annual inflation from 9.8% in December 2024 to 7.3% in December 2025 and 5.5% in May 2026. Income data are taken from the National Statistics Committee's press release on total population income, which reports total income, per capita income, nominal growth, real growth, regional differences, and income composition for January–December 2025. Consumption data are taken from SIAT national accounts indicators showing that household final consumption expenditure at current prices increased from 991,333.4 billion soums in 2024 to 1,175,042.8 billion soums in 2025, while the annual growth rate of household final consumption expenditure was 109.5% in 2025. The article also uses qualitative interpretation of CPI components, especially the difference between food, non-food, and services inflation, because aggregate inflation alone may hide the real pressure felt by households. The limitation of the methodology is that official aggregate data cannot fully capture differences between income deciles, urban and rural households, informal income earners, migrants' families, pensioners, and large families. Therefore, the conclusions are macro-level and meso-level in character, while future research should use microdata from household budget surveys to calculate marginal propensity to consume, inflation burden by income group, and consumption elasticity by product category.

Results

The results of the analysis show that the relationship between household income and consumption expenditure in Uzbekistan remains positive under inflationary conditions, but this relationship is moderated by the speed, structure, and social distribution of price increases. The first major result is that income growth in 2025 exceeded the annual inflation rate, which created conditions for real consumption growth. Official data show that total population income in January–December 2025 reached 1,134.3 trillion soums, nominal income grew by 118.9%, and real income grew by 109.2%; per capita income amounted to 29.9

million soums, with real per capita growth of 107.2%. At the same time, household final consumption expenditure at current prices reached 1,175,042.8 billion soums in 2025, compared with 991,333.4 billion soums in 2024, while the annual real growth rate of household final consumption expenditure was 109.5%. This means that consumption increased not only because prices were higher, but also because real consumption volumes expanded. In macroeconomic terms, this is a favorable outcome: households did not merely spend more nominal money to buy the same or fewer goods; rather, real income and real consumption both increased. However, the second result is that inflation still reduced the quality of income growth because part of nominal income growth was absorbed by rising prices. If nominal income growth was 118.9% and real income growth was 109.2%, the difference between the two indicators reflects the effect of price changes on purchasing power. This is exactly why inflation must be treated as a welfare issue, not only as a monetary indicator. The third result is that inflation in Uzbekistan showed a declining but still socially important pattern. Central Bank data show annual inflation of 9.8% in December 2024, 7.3% in December 2025, and 5.5% in May 2026, while monthly inflation in May 2026 was 0.2%. The National Statistics Committee also noted that the decline in annual inflation in May 2026 was partly influenced by a base effect after the previous year's increases in regulated goods and services such as electricity, gas, and methane for vehicles. This detail matters because lower annual inflation does not necessarily mean that all household pressure has disappeared; it may partly reflect comparison with a high-price base from the previous year. The fourth result is that the composition of inflation affects household expenditure differently. In May 2026, food prices were 6.7% higher year-on-year, services were 6.1% higher, and non-food prices were 3.7% higher. Food inflation is especially important because low- and middle-income households usually allocate a relatively large part of their budget to food. The National Statistics Committee's methodology defines household consumer expenditure as expenditure on consumer goods and services, including food purchases, meals out, beverages, tobacco, non-food goods, and paid services; the share of food expenditure is calculated as food expenditure divided by total consumer expenditure. Therefore, when food inflation is higher than general inflation or when specific staple food prices increase sharply, the real burden of inflation becomes stronger for households whose budgets are already concentrated on food. The fifth result is that the income structure of Uzbekistan's population influences the stability of consumption. In 2025, income from labor activities, including employee income

and self-employment income, accounted for 60.4% of total income; income from own production of services for own consumption was 6.7%, property income was 3.3%, and transfers accounted for 29.6%. This structure shows that household consumption depends heavily on labor-market performance and transfers. The high share of transfers is double-sided: on the one hand, transfers support consumption and protect households from shocks; on the other hand, households dependent on transfers may be more vulnerable if transfer amounts are not indexed sufficiently to inflation. The sixth result concerns regional differentiation. Per capita aggregate income in 2025 was above the national average in Tashkent city, Navoi, Bukhara, and Khorezm, while it was below the national average in Karakalpakstan, Namangan, Surkhandarya, Jizzakh, Syrdarya, Kashkadarya, Samarkand, Fergana, Andijan, and Tashkent region. This means that the same national inflation rate may have different welfare consequences across regions. A household in a high-income urban region can absorb price increases more easily than a household in a lower-income region, even when the official CPI is similar. The seventh result is that consumption expenditure is strongly connected with macroeconomic demand. Household final consumption expenditure represented a large monetary aggregate in 2025, and World Bank data show that final consumption expenditure was 81.9% of Uzbekistan's GDP in 2024. Therefore, any inflation shock that weakens real household consumption can affect economic growth through domestic demand. The eighth result is social: the World Bank reported that household income growth in 2025 was high, driven by wage income growth and favorable to lower-income groups, contributing to a reduction in the national poverty rate from 8.9% to 5.8% and an improvement in the Gini coefficient from 34.6 to 32.7 between 2024 and 2025. This suggests that income growth and social policy helped reduce poverty despite inflation, but the sustainability of this result depends on whether real income growth continues and whether inflation remains close to the target. Overall, the empirical findings confirm that in Uzbekistan the income-consumption relationship under inflation is not broken; real income growth supported real consumption growth. Yet inflation remains a constraint because it changes what households can buy, increases the relative burden of essentials, and creates regional and social inequality in purchasing power.

Discussion

The findings indicate that the relationship between household income and consumption expenditure in Uzbekistan should be interpreted through the concept of real purchasing power rather than through nominal indicators alone.

A superficial analysis might conclude that household welfare improved simply because income and consumption expenditure increased in nominal terms. That conclusion would be too weak and incomplete. The stronger interpretation is that Uzbekistan achieved positive real income and real consumption growth in 2025, but the welfare effect was uneven and vulnerable to renewed inflationary pressures. This distinction is important for academic and policy analysis. If income rises by 18.9% in nominal terms but consumer prices also rise significantly, households do not experience the full benefit of nominal income growth. Only the part of income growth that exceeds inflation improves purchasing power. In 2025, official data show that real total income grew by 9.2% and real per capita income grew by 7.2%, which is a strong result under inflationary conditions. At the same time, the composition of inflation suggests that household welfare cannot be evaluated only by the headline CPI. Food, utilities, transport, housing, and services matter more for household welfare than many discretionary goods because they are difficult to postpone or replace. The National Statistics Committee reported that annual food inflation in May 2026 was 6.7%, while services inflation was 6.1%; it also reported substantial year-on-year price increases for some meat products and selected fruit and vegetable items. This implies that households may increase total consumption expenditure while simultaneously feeling pressure in daily life, because a larger share of expenditure goes to basic needs. The discussion must also consider the role of expectations. Inflation affects not only current purchasing power but also expectations about future prices. If households expect inflation to continue, they may change behavior in ways that complicate macroeconomic management: they may accelerate purchases of durable goods, reduce long-term savings in national currency, demand higher wages, or shift consumption toward imported and dollar-linked goods. These behaviors can strengthen demand-side price pressure and make inflation more persistent. That is why the Central Bank's commitment to a 5% medium-term inflation target is central for household decision-making. The Central Bank's monetary-policy materials state that it remains committed to the 5% inflation target and projects inflation to decline to around 7% by the end of 2026, reaching the target in 2027. However, monetary policy alone cannot fully solve the household welfare problem created by inflation. If inflation is driven by supply-side factors such as energy tariffs, transport costs, imported food prices, exchange-rate pass-through, or market concentration, then interest-rate policy must be complemented by structural reforms. For Uzbekistan, this means strengthening competition in consumer markets, improving logistics, reducing

excessive intermediation in food supply chains, increasing agricultural productivity, modernizing utilities, and ensuring transparent tariff reforms with social compensation for vulnerable groups. The regional dimension is also critical. National averages hide serious differences in income levels. Tashkent city and Navoi have much higher per capita income than many other regions, while Karakalpakstan, Namangan, Surkhandarya, Jizzakh, Kashkadarya, Samarkand, Fergana, and Andijan recorded per capita income below the national average in 2025. Therefore, a uniform national inflation rate can create unequal welfare pressure. A 7% increase in prices is not equally painful for households with high formal wages and households dependent on transfers, seasonal income, informal work, or remittances. This is one of the main failure modes of policy analysis: if the government looks only at average real income growth, it may underestimate the inflation burden on low-income households. The structure of income confirms this risk. Transfers accounted for 29.6% of total population income in 2025, while labor activity accounted for 60.4%. If transfers are not adjusted quickly enough to inflation, vulnerable households may lose purchasing power even when national income indicators are improving. Another important point is the relationship between consumption growth and macroeconomic stability. Real household consumption growth of 9.5% in 2025 indicates strong demand, but strong demand can become inflationary if domestic production, imports, logistics, and competition do not expand correspondingly. In other words, consumption growth is positive for economic activity, but if it is not matched by productivity growth and supply expansion, it can intensify price pressures. This is why wage growth must be linked to labor productivity. If wages grow faster than productivity across the economy, firms may pass higher labor costs into prices, causing a wage-price spiral. If wages grow with productivity, household purchasing power can improve without creating excessive inflation. The World Bank's observation that household income growth in 2025 was driven by wage income and favored lower-income groups is encouraging from a poverty-reduction perspective, but sustainable welfare improvement requires that wage growth come from productivity, formal employment, human capital, and private-sector development rather than only administrative wage increases. Thus, the main scientific interpretation is that Uzbekistan's income-consumption relationship under inflation is currently resilient but structurally sensitive. It is resilient because real income and real consumption grew in 2025 despite inflation. It is sensitive because food and service inflation, regional income inequality, high transfer dependence in some households, and inflation expectations can quickly weaken

purchasing power. The smallest set of policy changes that would make the system stronger includes maintaining credible anti-inflation policy, indexing social support more accurately to the cost of essential consumption, increasing competition in food and service markets, improving regional income opportunities, and developing household-level data analysis for targeted policy design.

Conclusion

The article concludes that inflation significantly modifies the relationship between household income and consumption expenditure in Uzbekistan, but does not eliminate the positive connection between them when real income growth remains strong. In 2025, Uzbekistan's official data show a favorable macroeconomic pattern: total population income reached 1,134.3 trillion soums, real total income grew by 109.2%, real per capita income grew by 107.2%, household final consumption expenditure at current prices reached 1,175,042.8 billion soums, and the real annual growth rate of household final consumption expenditure was 109.5%. These figures confirm that household consumption increased in real terms and that income growth was sufficient, on average, to support consumption growth under inflationary conditions. However, the key scientific conclusion is that average real growth does not fully reflect the social burden of inflation. Inflation changes the structure of consumption, increases the relative importance of essential expenditures, and affects lower-income households more strongly because they spend a larger share of their income on food, utilities, housing, and transport. Inflation in Uzbekistan declined from 9.8% in December 2024 to 7.3% in December 2025 and 5.5% in May 2026, but food and service prices continued to create pressure on household budgets. The study also shows that regional income differences and the high role of transfers in the income structure make the income-consumption relationship unequal across the population. Therefore, the policy objective should not be limited to increasing nominal income. The real task is to protect purchasing power, reduce inflation volatility, strengthen household resilience, and ensure that income growth is based on productivity and formal employment. For Uzbekistan, the following recommendations are proposed: first, anti-inflation policy should remain credible and coordinated between monetary, fiscal, tariff, and competition policies; second, social transfers and pensions should be adjusted with attention to the cost of essential consumption, not only the headline CPI; third, wage growth should be linked with labor productivity to avoid cost-push inflation; fourth, regional development policy should focus on increasing stable income sources in low-

income regions; fifth, competition and logistics reforms should be strengthened in food, transport, housing, utilities, and consumer services markets; sixth, household budget survey microdata should be used more actively to measure inflation burden by income group. In final terms, Uzbekistan's experience shows that real income growth can preserve and expand consumption even under inflation, but sustainable welfare improvement requires low and stable inflation, balanced income growth, targeted social protection, and a more competitive consumer economy.

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