

How Much Faster Are Prices Rising Relative to the Population's Income? A Comparative Statistical Analysis of Income and Inflation

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High inflation has emerged as a serious problem in the post-pandemic global economy. In the last 40 years, the US and European economies, which have adapted to living in conditions of low inflation (1-2%), and even experienced the undesirable phenomenon of deflation in terms of its negative impact on economic activity, have [faced](#) inflation of 8-10%.

Inflation rates were recorded at about 12-13% in transition economies such as Brazil and India. Among the countries in the same region as Azerbaijan, the highest inflation is observed in Turkey. According to that country's Central Bank, annual inflation rate [was recorded at](#) 80,2% for the last month. Azerbaijan has had to experience double-digit inflation due to the high inflationary potential of the exchange rate as a result of the sharp devaluation of the national currency long before the pandemic – in 2015. As a whole, due to high dependence on imports and the economy's serious institutional and structural problems (especially strict monopolies, state intervention in prices, limited competitive markets, informal or economically unjustified official payments that increase prices, etc.), Azerbaijan constantly suffers from higher inflation potential.

Price hikes for the last two years in Azerbaijan

According to official statistics, the level of the consumer price index in Azerbaijan is much lower than in Turkey – the latest official data cover July, and annual inflation stands at about 14%. However, the Statistics Committee shows food inflation to be higher – 21% per annum. There has been an ongoing high food inflation over the last 2 years, which was recorded at 16% as of 2021. The cross-country comparison of the level of inflation does not allow for reliable results. Firstly, this is because countries use a different basket of products and services for their consumer price indices. For example, Azerbaijan observes the price of 532 products and services every month to calculate inflation, but in Turkey, this indicator is comprised of slightly more than 400. In order to obtain a reliable and objective inflation indicator, statistical authorities should include in the basket as few products and services that satisfy the most essential needs of households as possible. Governments that use inflation as a political indicator are interested in increasing the number of products and services, thus providing an opportunity for manipulation, which makes it possible to have an inflation indicator at a lower level in official statistics.

Additionally, depending on the level of politicization and professionalism of statistical authorities and their potential for transparency and accountability, there are large differences between geographical and price representativeness in terms of price observations, and these differences have a serious impact on the reliability of price measurements.

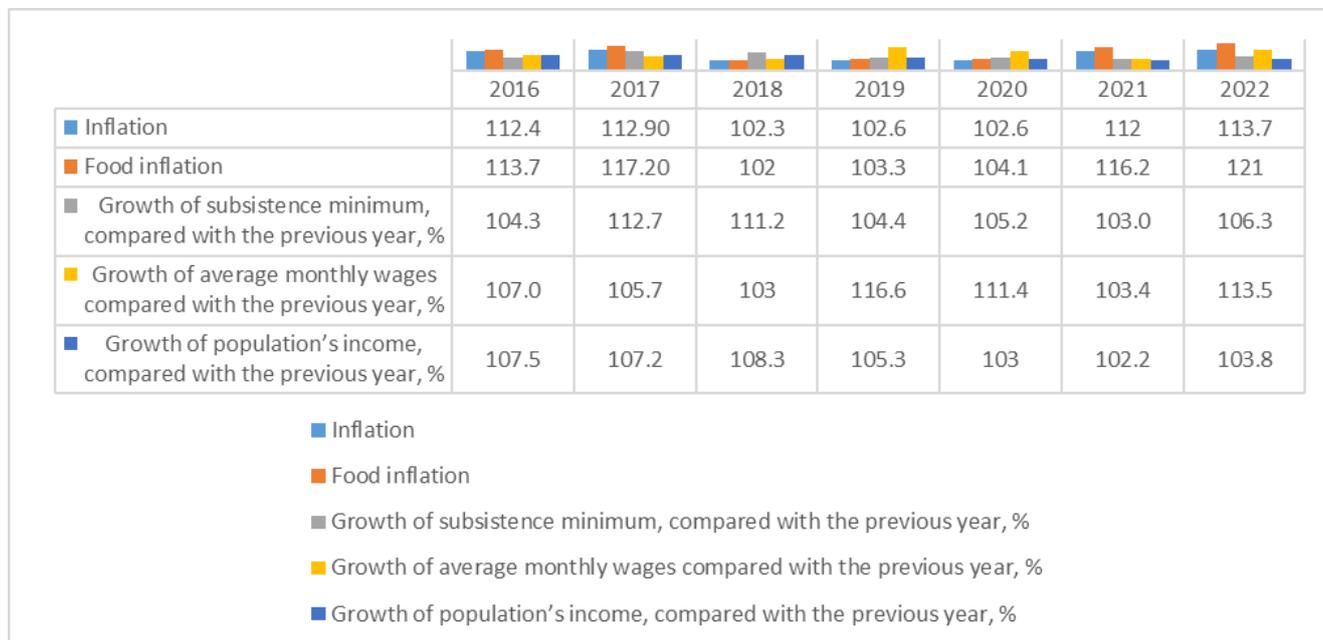
Despite all this, there is no alternative measurement of inflation in Azerbaijan, and the only reference source are the monthly, quarterly and annual price indicators published by the official statistical authority. From this point of view, below we quote official data to compare the differences between income and price movements across the nation. Even official inflation statistics, which independent researchers view skeptically, show that price increases far exceed incomes, as can be seen from the statistical analysis

presented below.

Indexation of income due to price increase in the country

Monitoring the trends in price and income movements should span a longer period (5-10 years). Because sometimes a higher inflation rate is recorded 2 or 3 years in a row, but the indexation of income occurs only in one year. Or, on the contrary, even if low inflation is registered in a certain year, the government ensures a high growth rate of income ahead of inflation by increasing salaries and social payments in the budget, as well as the minimum wage, and this fact is confirmed in the figure below. We chose 2016 as the base year to be reviewed because the sharp depreciation of the national currency in Azerbaijan since that period provides fertile conditions for import inflation due to the exchange rate.

Correlation between changes in income, cost of living and inflation in Azerbaijan in 2016-2022



Note: The 2022 data refer to July and are calculated relative to the same period of the previous year

As can be seen from official statistics, between 2016-2022 (the results of 8 months of 2022), the inflation rate (especially the food inflation rate) has largely exceeded the

rate of income growth. So, except for 2018-2019, it is clear that price increases exceeded the income of the population both at the beginning of the period under review and in the last three years. Only 2020 saw the growth rate of the average salary meeting the growth of the consumer price index, yet the population's per capita income grew less than food inflation. It is clear that the level of inflation has increased significantly, exceeding the growth rate of the population's per capita income by almost 5-6 times over the last two years (2021-2022).

The mechanisms used by the government to protect the population from inflation due to indexation of incomes are ineffective. These mechanisms include: 1) increasing the minimum wage; 2) increasing salaries, pensions, pensions and social benefits through the budget; 3) reviewing the cost of the subsistence minimum once a year.

Decisions on the minimum wage have a significant role in shaping the income of lower-income households. In the last 5 years (2017-2022), the minimum wage [has been increased](#) by approximately 2,6 times – from AZN 116 to AZN 300. However, as indicated in the figure above, such a sharp increase in the minimum wage level in the short term did not protect incomes from the rate of inflation. The main reason behind this is that the income of only about one in every three people in the country is formed from salaries. Since out of the [4,9 million](#) working people in the economy, only 1,7 million work officially for [wages](#), that is, who are offered employment contracts and receive a salary in accordance with labor law. Beyond that, according to Azerbaijan's [labor market statistics](#), at best one in five earns a salary/wage close to the minimum wage.

The increase of the minimum wage also affects the average wage in all sectors of economy. According to official statistics, the average monthly salary in nominal terms grew by 56% between 2017-2022. The current mechanism for determining the

cost of living is also not effective in terms of indexation of incomes according to the rate of inflation. Subsistence Minimum represents the cost of a basket of goods and services for each individual to satisfy his/her physiological and socio-cultural needs at a level not lower than the minimum permissible level. During most years under review, the cost of living increased at a slower pace than inflation. The official living wage for the working-age population was [146 manats](#) in 2016, and [220 manats](#) in 2022 – up 74 manats or 50%. However, based on the price monitoring of products and services for [2016](#) and [2022](#) official statistics, our calculation based on the prices of the 20 most essential foodstuffs and the rates of 3 types of utility services shows that the price increase over the last six years in the country was around 75%.

Price of 20 essential food items, 2016 (July) and 2022 (July), AZN

Product name	Unit of measurement	Price (2016)	Price (2022)
Long rice	1kg	2,46	4,33
Wheat flour	1kg	0,8	1,40
Wheat bread from high-grade flour	1kg	0,63	1,17
Vermicelli	1kg	1,74	2,41
Beef on the bone	1kg	7,25	12,33
Mutton on the bone	1kg	8,44	13,55
Poultry meat	1kg	3,39	5,63
Yoghurt	1 liter	1,62	2,42
Cheese	1kg	5,44	9,59
Cottage cheese	1kg	3,41	3,74
Curds	1kg	5,30	7,31
Poultry eggs	10 units	1,31	1,68
Butter	1kg	8,18	19,24

Corn oil	1 liter	3,48	6,82
Apples	1kg	1,48	2,20
White cabbage	1kg	0,42	0,71
Onions	1kg	0,56	0,96
Potatoes	1kg	0,60	1,05
Granulated sugar	1kg	1,21	1,76
Black and green tea	500 gr	7,48	11,14
	Total, AZN	65,2	109,5

As can be seen from the data presented in the table, the cost of the basket of 20 food items has increased by 68%. However, in that same timeframe, expenses for basic public utilities, such as electricity, natural gas, water supply and sewerage, increased by an average of 80%. Thus, while the cost of the basket of utilities for one person of the subsistence minimum was 10,5 manats in [2016](#), it currently amounts to 19 manats. Thus, if the cost of the basket of essential food and utilities is taken as a basis, the cost of living for the common public has surged by over 75%, but the average wage has grown only by almost 65% in the last six years. And the average income of the population grew at a slower pace. Between 2016 and 2021, per capita nominal income increased by only 21%, and if we take into account the expected increases of 13-14% in 2022, it is clear that prices are growing almost twice as fast as incomes.

Incidentally, one of the social groups for whom the government attempts to adequately raise pay as an instrument of political propaganda is educators, especially secondary school teachers who have undergone evaluation since 2015. But the [dynamics](#) of salary growth for this group show that pay increases for secondary school teachers (nearly 55%) have lagged behind actual inflation over the last six years. In addition, if the salary of teachers with the lowest salary (18 working hours and up to 3 years of teaching experience) in the new salary

scheme determined on the basis of assessment results was equal to 71% of the average salary in the country in that period, now it is estimated at about 66%. If the salary of teachers with the highest salary (18 working hours and more than 18 years of teaching experience) equaled the average salary in the country at that time, but now this indicator stands at 86%.

Thus, the soaring inflation, aggravated by the serious devaluation of the national currency over the past six years, followed by the global pandemic and the Russia-Ukraine war, as well as a lack of competition in the economy and the dominance of monopolies, rapidly reduces the population's earnings. This problem may further deepen poverty and exacerbate social inequality across the nation in the next 5 years.