



ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

ASSESSMENT OF THE IMPACT OF INFLATION ON THE SOCIAL WELFARE IN THE REPUBLIC OF AZERBAIJAN

AZERBAIJAN CUMHURİYETİ'NDE ENFLASYONUN SOSYAL REFAH ÜZERİNDEKİ ETKİSİNİN DEĞERLENDİRİLMESİ

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ABSTRACT

The foundation of every country's socio-economic policy is the improvement of the social welfare. Improving the social welfare is directly dependent on the state's intervention in the economy. The government promotes social welfare by regulating the economy both directly and indirectly. However, merely increasing wages, pensions, allowances, and so on is not enough to raise social welfare. This is because such increases may lose their value due to the effects of high inflation. Therefore, in addition to working to increase incomes, the government must also keep inflation under control. This article evaluates the changes that have occurred in recent years in Azerbaijan's population's social situation, as well as in the structure of household income and expenditure. The impact of inflation on the population's social situation, including money incomes (wages, pensions, allowances, etc.), is also analyzed. As a result of the analysis, it was determined that in recent years, a positive trend has been observed in the social situation of the population in Azerbaijan. Specifically, the income of the population, including wages, pensions, benefits, etc., has increased, and the levels of poverty and unemployment have decreased significantly. However, a large portion of the population's income has been directed towards consumption expenditures. In other words, the expenses directed towards savings have been minimal.

Keywords: Inflation, Income, Expenses, Unemployment, Social Welfare.

JEL Classification Codes: E21, E49, E59.

ÖZ

Her ülkenin sosyo-ekonomik politikasının temeli, nüfusunun sosyal refahının yükseltilmesidir. Nüfusun sosyal refahının yükseltilmesi doğrudan devletin ekonomiye müdahalesine bağlıdır. Hükümet, ekonomiyi hem doğrudan hem de dolaylı olarak düzenleyerek sosyal refahı teşvik eder. Ancak yalnızca ücretlerin, emekli maaşlarının, ödeneklerin vb. artırılması sosyal refahın artırılması için yeterli değildir. Çünkü bu tür artışlar yüksek enflasyonun etkisiyle değerini kaybedebilir. Bu nedenle hükümetin gelirleri artırmaya yönelik çalışmalarının yanı sıra enflasyonu da kontrol altında tutması gerekiyor. Bu makale, son yıllarda Azerbaycan nüfusunun sosyal refahında, hane geliri ve harcama yapısında meydana gelen değişiklikleri değerlendirmektedir. Enflasyonun, para gelirleri (ücretler, emekli maaşları, ödenekler vb.) dahil olmak üzere nüfusun sosyal refahı üzerindeki etkisi de analiz edilmektedir. Analiz sonucunda son yıllarda Azerbaycan'da nüfusun sosyal durumunda olumlu bir eğilim gözlemlendiği tespit edilmiştir. Özellikle, ücretler, emekli aylıkları, sosyal yardımlar vb. dahil olmak üzere nüfusun geliri yükselmiş ve yoksulluk ve işsizlik seviyeleri önemli ölçüde azalmıştır. Ancak nüfusun gelirinin büyük bir kısmı tüketim harcamalarına yönlendirilmiştir. Yani tasarrufa yönelik harcamalar minimum düzeyde olmuştur.

Anahtar Kelimeler: Enflasyon, Gelir, Giderler, İşsizlik, Sosyal Refah.

JEL Sınıflandırma Kodları: E21, E49, E59.

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GENİŞLETİLMİŞ ÖZET

Amaç ve Kapsam:

Sosyal refahın iyileştirilmesi her ülkede hükümetin sosyo-ekonomik politikalarının önceliklerinden biridir. Hükümetler, sosyal refahı iyileştirerek, nüfusun yaşam ve istihdam standardını yükselterek ve yoksulluğu azaltarak ülkede sosyal kalkınmayı sağlamağa çalışıyorlar. Bu eğilim son yıllarda dünyada, özellikle de gelişmiş ülkelerde giderek güçleniyor.

Azerbaycan'da son yıllarda bu yönde ciddi reformlar gerçekleştiriliyor. Bu kapsamda son yıllarda uygulanan sosyo-ekonomik politika, benimsenen programlar, stratejiler ve kavramlar, gelirin adil dağılımını, nüfusun sosyal güvenliğinin ve sağlığının güçlendirilmesini, istihdamın ve yaşam standartlarının yükseltilmesini, işsizliğin ve yoksulluğun azaltılmasını ve genel olarak iyileştirmeyi amaçlamaktadır. Bu amaçla Azerbaycan'da sağlık, eğitim, emeklilik sistemi, işgücü piyasasının iyileştirilmesine hizmet eden önemli belgeler (yasa, program, strateji vb.) kabul edilmiştir. Böylece sosyo-ekonomik kalkınmanın güçlendirilmesi yönünde sistematik önlemler hayata geçirilmektedir. "Ulusal Ekonomi ve Ekonominin Ana Sektörlerine Yönelik Stratejik Yol Haritaları"ndaki temel zorluk, küresel değer zincirine katılarak Azerbaycan ekonomisinin gücünü arttırmak olsa da nihai amaç, toplumsal refahın iyileştirilmesi, istihdam düzeyinin artırılması ve ülkede sosyal güvenliği sağlamaktır. Azerbaycan'da sürdürülebilir ekonomik kalkınma temelinde ekonominin rekabetçiliğinin, kapsayıcılığının ve sosyal refahının daha da güçlendirilmesinin artmasını sağlayacağı gösterilmektedir. Azerbaycan Cumhurbaşkanı'nın 02 Şubat 2021 tarihli Kararnamesi ile onaylanan "Azerbaycan 2030: Sosyo-ekonomik kalkınma için Ulusal Öncelikler"den biri (Öncelik 2.) dinamik, kapsayıcı ve sosyal temellere dayalı bir toplumun inşasıdır. adalet. 22 Temmuz 2022 tarihinde onaylanan Ulusal Öncelikler esas alınarak "2022-2026 Sosyo-Ekonomik Kalkınma Stratejisi"nde belirtilen önceliğe ilişkin hedefler belirlendi. Önümüzdeki yıllarda adil ve kapsamlı bir sosyal koruma sisteminin kurulması, engellilere yönelik sosyal yardımların artırılması ve engellilerin işgücü piyasasına entegrasyonunun yaygınlaştırılmasına yönelik tedbirlerin alınması planlanmaktadır.

Gerçekleştirilen reformlar sonucunda nüfusun sosyal durumunda, hanelerin gelir ve gider yapısında ciddi olumlu değişiklikler meydana gelmiştir. Böylece nüfusun gelirleri (ücretler, emekli maaşları, ödenekler, burslar vb.) önemli ölçüde artarken, tam tersine yoksulluk ve işsizlik düzeyi azalmıştır. Ancak bu olumlu değişimlerin yanı sıra ülkede enflasyon oranı da yükseliyor. Artan enflasyon, nüfusun artan geliri üzerinde olumsuz etki yaratıyor. Enflasyonun resmi kaynaklarda belirtilenden yüksek olması nüfusun sosyal durumunu olumsuz etkilemekte ve gelirlerini azaltmaktadır. Son 10 yılda (2014-2023) nüfusun geliri yaklaşık 2 kat, nihai tüketim harcamaları ise 2,4 kat artmıştır. Sonuç olarak, 2014 yılında nüfusun nihai tüketim harcamaları gelirlerinin %78'ini oluşturuyorsa, bu göstergeler analiz dönemi boyunca sürekli bir artış eğilimindeyken, 2023 yılında bu göstergeler %96,1 düzeyinde gerçekleşmiştir. 2021 yılıyla karşılaştırıldığında ülkede 2022 yılında ortalama aylık ücret artış oranı yüzde 14,7, ortalama aylık reel ücret artış oranı ise yüzde 0,7 oldu. Yani enflasyonun bir sonucu olarak ülkede aylık ortalama nominal ücretteki artış neredeyse hissedilmiyordu. Nüfusun nominal ve reel gelirleri açısından da aynı durum söz konusudur. 2022 yılında nüfusun elindeki nominal gelirlerin artış hızı %20,8 olurken, aynı yılda reel gelirlerin artış hızı ise %6,1 olmuştur.

Bilindiği üzere birçok sosyal ödeme enflasyon seviyesine göre endekslenmektedir. Bu da düşük gelirli nüfus gruplarının sosyal durumlarını olumsuz etkiliyor. Ayrıca özellikle kamu sektöründe ücret artış hızı enflasyon oranının gerisinde kalıyor. Bu faktörler, nüfusun sosyal durumunu olumsuz etkilemenin yanı sıra, halk arasında meşru hoşnutsuzluğa neden olmakta ve sosyal güvenliği tehdit etmektedir. Bu araştırmada Azerbaycan'da son yıllarda enflasyonun refah üzerindeki etkileri değerlendirilmektedir.

Yöntem:

Bu çalışmada matematiksel modelleme, analitik-istatistiksel ve ülkeler arası karşılaştırmalı analizler yapılmıştır. Azerbaycan'da sosyal refahı karakterize eden göstergeler (gelir, giderler, ortalama aylık nominal maaş, emekli maaşları, ödenekler vb.) dünyanın gelişmiş ve gelişmekte olan ülkeleriyle karşılaştırmalı olarak analiz edilmiştir. Matematiksel modelleme kullanılarak enflasyonun nüfusun geliri üzerindeki etkisi değerlendirilmiştir.

Bulgular:

Azerbaycan'da son yıllarda resmi enflasyon oranı yüksek olmasa da resmi kaynakların bildirdiğinden daha yüksek olan gerçek enflasyon düzeyi halkın sosyal durumunu olumsuz etkilemiş ve gelirlerini azaltmıştır. Özellikle kamu sektöründe ücret artış hızı enflasyon oranının gerisinde kalıyor. Bu faktörler, nüfusun sosyal durumunu olumsuz etkilemenin yanı sıra, halk arasında haklı memnuniyetsizliğe neden olmuş ve sosyal güvenliği tehdit etmiştir. Enflasyonun nüfusun nominal para gelirini nasıl etkilediğini Eviews programı kullanarak değerlendirmek amacıyla nüfusun geliri, GSYİH ve enflasyon arasında doğrusal bir regresyon denklemi kurulmuş ve ülkedeki enflasyonun nominal para gelirini olumsuz etkilediği tespit edilmiştir. Nüfusun nominal para gelirindeki %1'lik bir artış tüketiciler için fiyat endeksini %0,3 oranında artırabilmektedir.

Sonuç ve Tartışma:

Analiz sonucunda son yıllarda Azerbaycan'da nüfusun sosyal durumunda olumlu bir eğilim gözlemlendiği tespit edildi. Azerbaycan'da son yıllarda ücretler, emekli aylıkları, sosyal yardımlar vb. dahil olmak üzere nüfusun geliri yükselmiş ve yoksulluk ve işsizlik oranı önemli ölçüde azalmıştır. Son yıllarda, hane halkı gelirlerinde, ekonomik istikrar ve nüfusun refahındaki genel ilerlemeyi yansıtan bir artış eğilimi gözlemlenmiştir. Lakin Azerbaycan'da nüfus geliri yaklaşık iki katına çıkarken, nihai tüketim harcamaları 2,4 kat artmıştır. Bu sebepten de tasarrufa yönelik harcamalar minimum düzeyde olmuştur. Bu nedenle hükümetin enflasyon düzenlemesi yönünde ciddi reformlar yapması ve gerekli önlemler alması gereklidir.

1. INTRODUCTION

Inflation is a socio-economic phenomenon that seriously affects both economic and social conditions. The causes of inflation are diverse. Generally, inflation is attributed to an imbalance between the total money supply and the quantity of goods. “Inflation as the outcome of an excess of total demand in real terms over available supplies of goods and services when the potential workforce and existing stocks of capital goods were fully employed” (Harcourt, 2001). Economic theory and practice, observed over many years and across various countries, demonstrate that prolonged periods of inflation are largely due to what is known as an easy monetary policy (Mckinsey, 2024).

According to experts, the causes of inflation can be categorized into three main groups: Demand-Pull, Cost-Push, and Inflation Expectations (Reserve Bank, 2023). However, some experts classify inflationary causes into four categories: Demand-Pull Inflation, Cost-Push Inflation, Money Supply, and Inflation Expectations.

In general, inflation reflects an aggregate form of processes taking place in a country’s economy, and high inflation rates negatively impact not only the economy but also social welfare. As Grzegorz W. Kolodko (1989) states, “the differentiation in material status which occurs against a background of inflation leads directly to some negative social consequences”. Due to inflation, people’s incomes, including wages, pensions, various types of benefits, etc., lose purchasing power. Consequently, the social condition of the population worsens, which puts social security at risk.

The official inflation rate in Azerbaijan has not been high in recent years, the actual inflation level, which is higher than what is reported by official sources. Inflation in the country has a negative effect on the nominal income of the population and a positive effect on GDP growth. The cross country analyze proves, that the growth rate of wages in Azerbaijan, especially in the public sector, lags behind the rate of inflation. At the same time, the model gives grounds to say that a 1% increase in the nominal income of the population can increase the consumer price index by 0.3%.

These factors, in addition to negatively impacting the social situation of the population, have caused justified dissatisfaction among the people and threatened social security. That’s why the inflation must be regulated by government.

Literature Review

The term “inflation” driven from Latin “inflatio” with the meaning of swelling or expansion was first introduced by A. Delmar in 1864 in his work “A Word of Warning to the Public: The Paper Bubble” during the American Civil War (Zadornov, 2003). Inflation is commonly understood as the rise in the prices of goods and services. The most widely used indicator of inflation is the Consumer Price Index (CPI), which measures the percentage change in the price of a basket of goods and services consumed by households (Reserve Bank, 2023). Inflation particularly affects individuals when their income growth lags behind price increases, leading to a loss of purchasing power (Ghosh, 2023).

As is known, regulating the inflation process is of great importance for all countries in terms of controlling the macroeconomic situation. Inflation, as a complex socio-economic phenomenon, directly affects economic growth, social welfare, the currency exchange rate, and other indicators. Therefore, in many cases, central banks also implement currency regimes such as inflation targeting. In general, the inflation targeting regime is a regulatory mechanism in monetary management based on the principle of using a primary target (core inflation) and a primary tool (short-term interest rates) to achieve that target.

The socio-economic impacts of inflation are diverse and have been a frequent subject of research. Experts generally view inflation rates in the single digits as non-problematic and even beneficial for economic growth. For example, inflation rates that do not exceed 10% annually are referred to as moderate or creeping inflation. Certain economic theories, such as Keynesianism, regard moderate inflation as advantageous for economic development (Dornbusch, et al., 2015). Slight inflation is often harmless if widely anticipated, as seen in the U.S. Federal Reserve’s 2% annual inflation target (Frick, 2022). “Inflation increases the value of effective liquidity, thereby raising the community’s desire for it, but it makes the most generally accepted store of liquidity - money and financial assets denominated in money - unacceptable sources of protection” (Dorrance, 1963). Although inflation can increase liquidity value, it also reduces the attractiveness of money and financial assets as safe stores of value.

However, high inflation rates (double-digit or more) present serious threats to socio-economic development. British economist A.W. Phillips, through his analysis of the relationship between annual wage growth and unemployment in the UK from 1861 to 1957, discovered a functional correlation between these indicators, now known as the Phillips curve. In 1960, American economists P. Samuelson and R. Solow modified this curve, showing that nominal wage growth could be replaced by price growth rates for more accurate results. Monetarists later added the concept of expected inflation rates and explained stagflation, arguing that government intervention in labor markets to reduce unemployment below its natural rate is inefficient and potentially harmful (Hasanli and Hasanov, 2002).

Inflation often results in a real income transfer from employees to employers, particularly when selling prices adjust to inflation faster than wages, creating a regressive income distribution. As for salaries, the inflation tends to reduce them, with real income transfer from employees to employers, in case sale prices follow inflation more closely. Clearly, this process represents a regressive income distribution (Silva, 2022).

As is well known, the international approach used to assess the impact of inflation on the social conditions of the population is the analysis of household expenditures and income. "The exposure to inflation shocks depends on the level and the composition of three main household characteristics: consumption, income, and wealth" (Bobasu et al., 2023). High inflation negatively impacts people's incomes, including wages. It must be noted out high inflation levels are affecting low-income and high-income households differently (Charalampakis et al., 2022). Low-income households most stressed by inflation (Jayashankar and Murphy, 2023). High levels of income inequality may contribute to social and economic instability, as marginalized groups struggle to access resources and opportunities (Panizza, 2002). The government must regulate the inflation by different methods. The government should implement various strategies and policies, including redistribution policies, social safety nets, promoting inclusive economic growth, coordinating effective monetary and fiscal policies, implementing progressive taxation, and reforming the labor market (Ali and Asfaw, 2023).

3. METHOD

The impact of inflation on the social welfare has been studied by various scientists. Experts agree that inflation affects the social welfare of different socio-demographic groups in varying ways. Naturally, inflation has a more negative impact on the social situation of the poor. This is because low-income households allocate a large portion of their income to food, while wealthier households spend more on luxury goods. "This means that when prices rise, they have more of a buffer and can cut back spending on these items to preserve their spending on necessities. To the extent that higher-income families have more savings, this also makes it easier for them to weather such shocks" (UC DAVIS, 2022). Low-income households consume a larger share of their income, save less, and are more liquidity-constrained than high-income households; thus, they have less room to absorb sharp increases in their cost of living through savings (Charalampakis et al., 2022).

This illustrates that inflation exacerbates economic inequality, as wealthier households are better equipped to handle inflationary pressures due to their savings and flexible spending patterns, while poorer households are left more vulnerable due to their limited financial resources.

Azerbaijani researcher Y.H. Hasanli assessed the impact of inflation on social welfare in Azerbaijan. He examined household consumption expenses from 1990 to 1997 using regression analysis and found that approximately 70% of changes in household expenditures were due to the factors studied, with the remaining 30% attributed to unconsidered factors. Key factors included household annual consumption, household annual income, and the consumption deflator (Hasanli and Hasanov, 2002).

At times, governments deliberately underreport inflation levels to avoid increasing wages, social benefits, pensions, and other payments. However, "having accurate information on the current inflation rate is crucial for properly assessing living standards and determining the real characteristics of economic development" (Abdullayeva, 2007). Correctly determining inflation rates is essential for both economic and social progress.

In this study, various research methods (regression model, comparative analysis, etc.) have been used to evaluate the impacts of inflation on social welfare in Azerbaijan.

Ethical Statement and Permissions

Since secondary data from public platforms are used for this study, it does not require an ethics committee approval. There is no situation requiring permission for the study.

4. RESULTS AND DISCUSSION

Assessment of the Social Situation of the Population

Each socio-economic policy of state prioritizes the continuous improvement of social well-being of state. Regardless of the economic model it follows, every government considers the enhancement of social welfare a central objective within its socio-economic agenda.

In Azerbaijan, improving the social situation of the population is one of the main directions of the government's socio-economic policy. In recent years, due to the implemented socio-economic strategies, there has been a notable increase in welfare, a rise in living standards, and reductions in both poverty and unemployment rates. The social indicators characterizing the population's well-being have shown considerable improvement. For example, the poverty rate in the country is around 5%, and the unemployment rate is approximately 5.6%, indicating a trend of decreasing income and expenditure disparities among households. This positive trend can be attributed to the measures implemented to reduce poverty in the country.

In general, one of the indicators characterizing the social situation of the population is household income and expenditure. In recent years, an upward trend in household incomes has been observed (Figure 1), which reflects overall progress in the economic stability and welfare of the population.

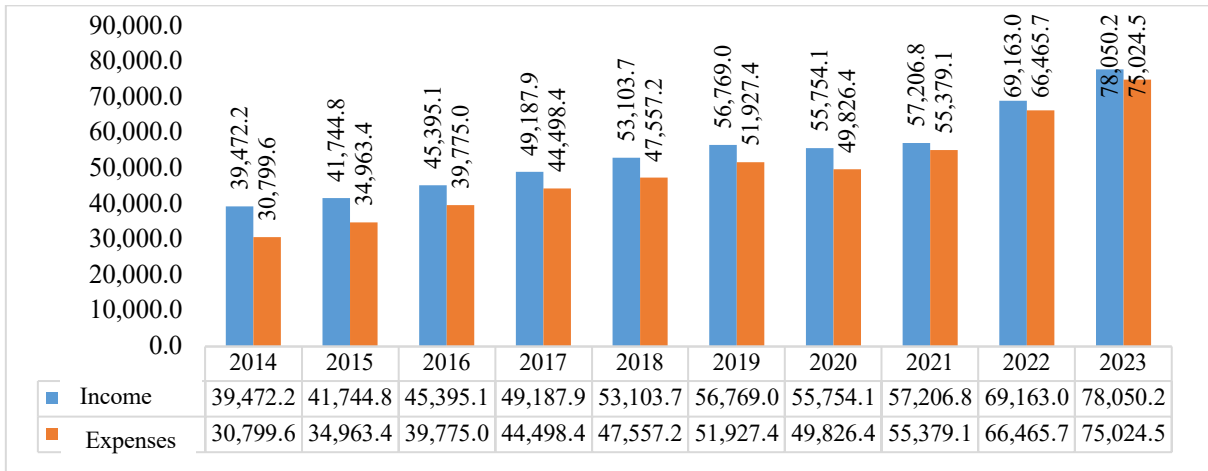


Figure 1. Population Income and Expenditure (Million Manats)

Source: (SSCAR, 2024b).

As illustrated in Graph 1, over the past 10 years (2014-2023), population income in Azerbaijan has roughly doubled, while final consumption expenditure has increased by 2.4 times. Consequently, whereas in 2014, household final consumption expenditure accounted for 78% of total income, this indicator has shown a steady upward trend, reaching 96.1% by 2023. This high proportion of income devoted to consumption indicates a low savings rate among the population, which in turn could lead to fewer investments in personal savings and deposits.

Another crucial factor in analyzing social conditions is the trend in the average monthly nominal wage. To examine this, we can look at the dynamics of average monthly nominal wages by economic activity for salaried employees (Table 1).

Table 1. Average Monthly Nominal Wages by Economic Activity for Salaried Employees (Manat)

Types of Economic Activities	2016	2017	2018	2019	2020	2021	2022	2023
Total by Economy	499.8	528.5	544.6	635.1	707.7	732.1	840.0	933.9
Agriculture, Forestry, and Fishing	253.8	261.5	281.1	371.4	433.5	456.9	514.8	558.7
Mining Industry	2807.2	3071.9	2964.2	3055.6	3278.6	3088.3	3240.3	3350.6
Manufacturing Industry	542.9	554.0	554.1	632.3	644.4	685.2	765.6	840.8
Production, Distribution, and Supply of Electricity, Gas and Steam	504.7	547.8	583.3	638.9	698.3	770.0	897.2	965.5
Water supply, wastewater treatment and processing	321.4	324.6	304.6	468.9	558.3	549.6	647.3	711.5
Construction	812.9	783.3	698.7	737.3	790.6	887.9	1005.5	1060.4
Trade; Repair of Motor Vehicles	382.3	385.6	390.3	480.3	521.4	536.8	573.3	632.1
Transport and Storage.	649.3	733.9	806.9	855.8	886.0	953.0	1124.3	1278.5
Accommodation for Tourists and Food Service	476.1	511.2	541.7	568.3	537.7	584.9	664.0	723.9
Information and Communication	782.0	870.6	881.3	1005.3	1082.6	1155.4	1342.4	1509.9
Financial and Insurance Activities	1229.2	1387.7	1459.3	1607.3	1726.4	1937.6	2066.8	2327.2
Real Estate Activities	337.0	354.6	422.5	558.2	610.5	660.0	789.0	910.9
Professional, Scientific, and Technical Activities	886.5	1032.7	1054.7	1180.3	1188.4	1208.9	1407.6	1573.2
Administrative and Support Services	543.6	547.8	548.3	386.1	426.2	431.6	486.8	568.4
Public Administration and Defense; Social Security	510.6	534.5	596.0	799.9	957.2	985.3	1213.3	1357.2
Education	307.0	322.2	365.3	438.9	515.7	526.1	630.2	712.6
Provision of Health and Social Services to the Population	214.8	222.5	239.4	352.4	524.7	568.2	695.0	804.4
Recreation, Entertainment, and Arts Activities	258.9	268.4	296.0	423.8	529.7	535.7	622.2	719.5
Provision of Services in Other Sectors	473.4	662.6	631.8	631.8	678.8	758.5	931.1	1102.8

Source: (SSCAR, 2024).

The analysis of the table data shows that the average monthly nominal wage of employees in all sectors increased by 2 times on average from 2016 to 2023. The highest increase was in the fields of public administration and defense; social security, which rose 2.7 times, healthcare and social services 3.7 times, and recreation, entertainment, and artistic activities 2.8 times. In terms of amount, the highest average wages during the analyzed period were in the mining industry 3107.1 AZN and financial and insurance activities 1718 AZN.

Assessment of the Impact of Inflation on Social Situations

As noted, one of the most important approaches to assess the impact of inflation on the social situations of the population is through the analysis of household consumption expenditures. In this regard, let's take a look at the per capita monthly household consumption expenditures from 2016 to 2023 (Table 2).

Table 2. Monthly Household Consumption Expenditures for the 2016-2023 (Per Capita, Manat)

	2016	2017	2018	2019	2020	2021	2022	2023
Total consumption expenditures	264.7	278.2	286.0	298.4	297.8	308.6	333.4	348.1
For food products	108.6	119.4	121.3	125.4	130.8	136.5	147.0	154.8
For alcoholic beverages	1.5	1.5	1.6	1.6	1.6	1.8	1.9	1.9
For tobacco products	3.6	3.9	4.1	4.3	4.4	4.4	5.6	6.2
For clothing and footwear	17.9	18.0	18.2	18.4	19.0	18.7	19.4	20.1
For water, electricity, gas, and other types of fuel	19.8	20.5	21.7	22.6	23.5	25.2	27.2	27.7
For household items, household appliances, and daily household maintenance	24.2	24.4	25.1	25.6	24.9	24.4	25.8	26.9
Expenditures on health services	12.9	13.1	13.8	14.4	14.8	16.4	17.4	17.8
Transportation services	16.7	16.9	17.6	19.0	19.6	20.0	21.8	22.9
Communication services	9.0	9.0	9.2	9.7	9.9	10.3	11.2	11.4
Recreation and culture services	11.5	11.7	12.0	12.7	10.5	11.4	13.0	13.6
Education expenses	5.0	5.1	5.2	5.5	4.9	4.9	5.3	5.6
Hotel, café, and restaurant services	23.0	23.4	24.5	26.8	21.5	20.8	22.7	23.7
Other goods and services	12.6	12.8	13.3	14.0	14.0	15.6	17.0	17.4

Source: (SSCAR, 2024).

The table data shows that the share of food expenditures in household consumption costs has not been below 40%. It should be noted that a high share of food expenditures in the structure of household expenses characterizes a low standard of living. In Azerbaijan, the cost of food products was approximately 45%. In the United States, the share of food products in personal consumption expenditures in 2023 was 12.9% (USDA, 2024).

When examining the dynamics of per capita household income in 2016-2023, it becomes evident that there is a trend of growth in household incomes and expenditures in the country. However, household expenditures still exceed their income.

Table 3. Monthly Household Income (Per Capita, In Manats)

	2016	2017	2018	2019	2020	2021	2022	2023
Income from Paid Employment	86.3	89.5	92.4	99.3	104.1	108.4	124.1	129.4
Income from Self-Employment	100.6	104.5	106.2	107.1	98.0	101.0	107.7	113.2
Income from agricultural production	33.9	35.9	36.0	36.4	34.6	34.1	35.0	36.8
Total income from property	2.3	2.4	2.5	2.5	1.7	1.1	1.2	1.2
Income from renting out property	1.8	1.8	1.9	1.9	1.2	0.8	0.8	0.8
Current transfers received	40.9	41.8	44.3	49.3	57.8	60.8	63.0	67.1
Pensions	34.7	35.9	37.7	41.4	48.3	51.7	53.0	56.5
Allowances, pensions, and other social payments	4.1	5.1	6.0	7.5	9.2	8.8	9.5	10.0
The monetary value of in-kind income	2.1	0.8	0.6	0.4	0.3	0.3	0.5	0.6
Other income	27.7	30.2	30.6	34.4	29.8	29.3	31.6	32.3
Funds received from other households within the country	21.1	23.1	23.5	27.1	24.0	24.1	26.0	26.6
Funds received from abroad	6.6	7.1	7.1	7.3	5.8	5.2	5.6	5.7
Total Income	257.8	268.4	276.0	292.6	291.4	300.6	327.6	343.2

Source: (SSCAR, 2024).

The reason for household expenditures exceeding income can be explained by unregistered income.

In general, in recent years, a positive trend has been observed in the social situation of the population in our country. According to statistical data, wages are the dominant source of income for the population. Both the average monthly nominal wage, the average monthly pension amount, and the average monthly social benefits have increased. However, nominal increases alone do not allow for a proper assessment of the social situation. As is known, when inflation is high, it negatively impacts household incomes. Therefore, in order to properly assess the social situation, it is necessary to consider the inflation rate in the country. Below is a graph showing the consumer price index in Azerbaijan over the last 9 years (Figure 2).

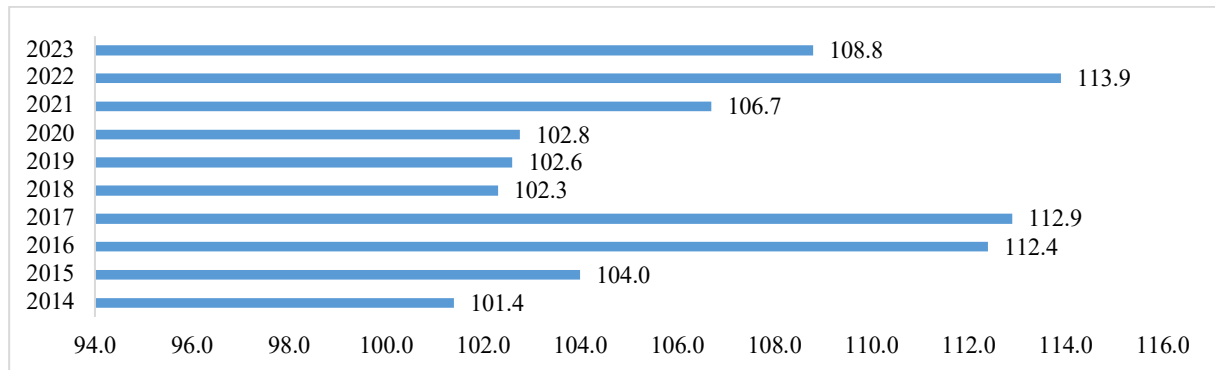


Figure 2. Consumer Price Index (Compared to The Previous Year, In Percentage)

Source: (SSCAR, 2024a).

As seen in the graph, inflation has been variable over the last 10 years. According to the State Statistical Committee of the Republic of Azerbaijan, inflation in the country was 1.4% in 2014 and 8.8% in 2023. As shown, inflation in the country increased by 7.4 percentage points over the last 10 years. In 2023, the annual inflation rate for food products, beverages, and tobacco products was 9.6% (Figure 3).

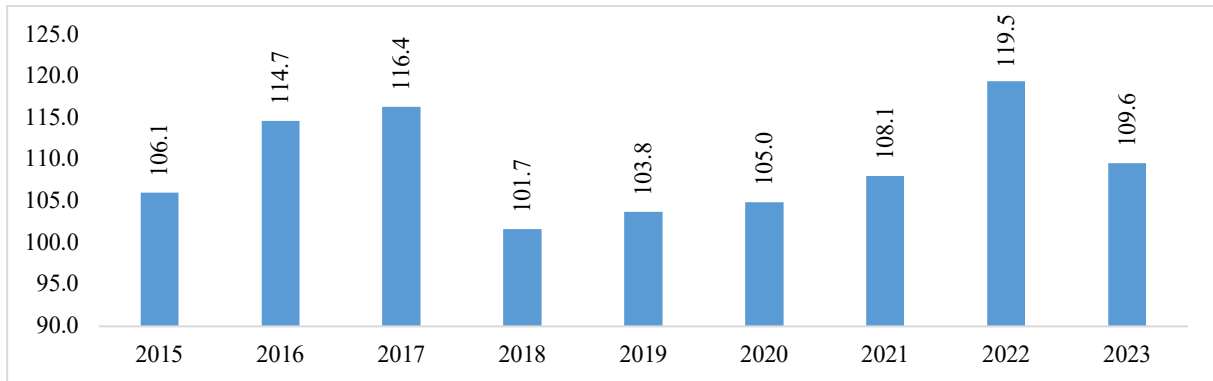


Figure 3. Price Index for Food, Beverages and Tobacco Products, (Year-On-Year, In Percent)

Source: (SSCAR, 2024a).

In 2023, annual inflation for non-food products was lower – 8.4% (Figure 4).

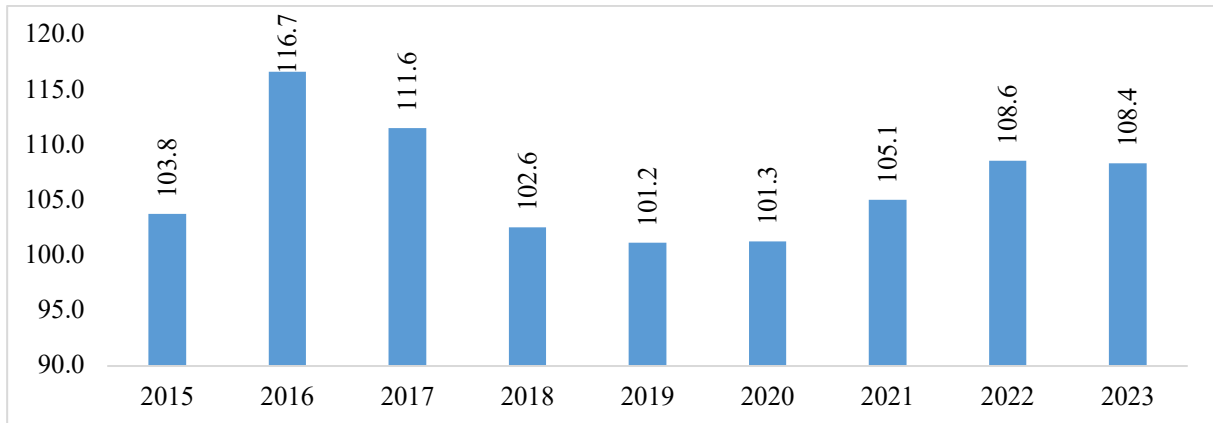


Figure 4. Price Index of Non-Food Products (Compared to the Previous Year, In Percentage)

Source: (SSCAR, 2024a).

One of the factors determining inflation in the country is the price index of paid services. In 2023, the annual inflation for paid services was lower than the inflation for food and non-food products, at 8.2% (Figure 5).

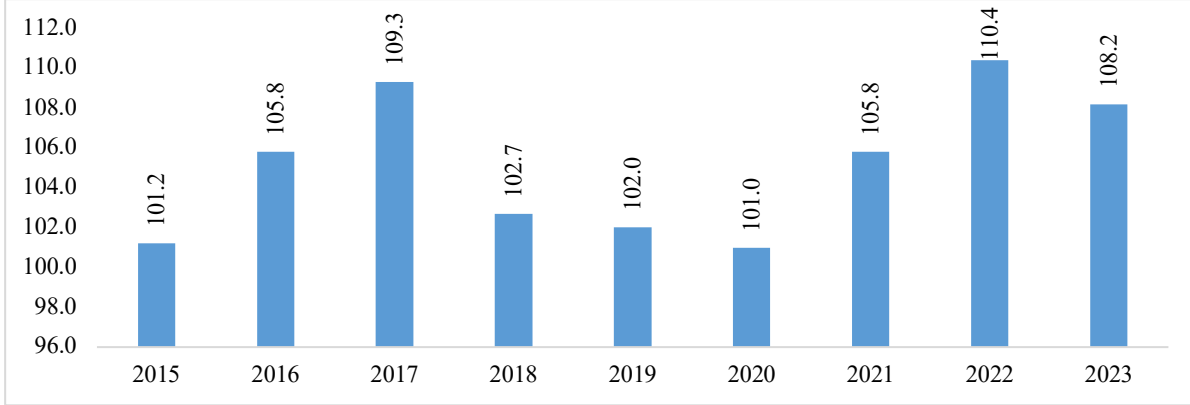


Figure 5. Price Index for Paid Services (Compared to the Previous Year, In Percentage)

Source: (SSCAR, 2024a).

Now, let's analyze the impact of inflation on the population's income. As is known, the main source of income for the population is wages. In the following chart, the growth rate of average monthly nominal and real wages is shown (Figure 6).

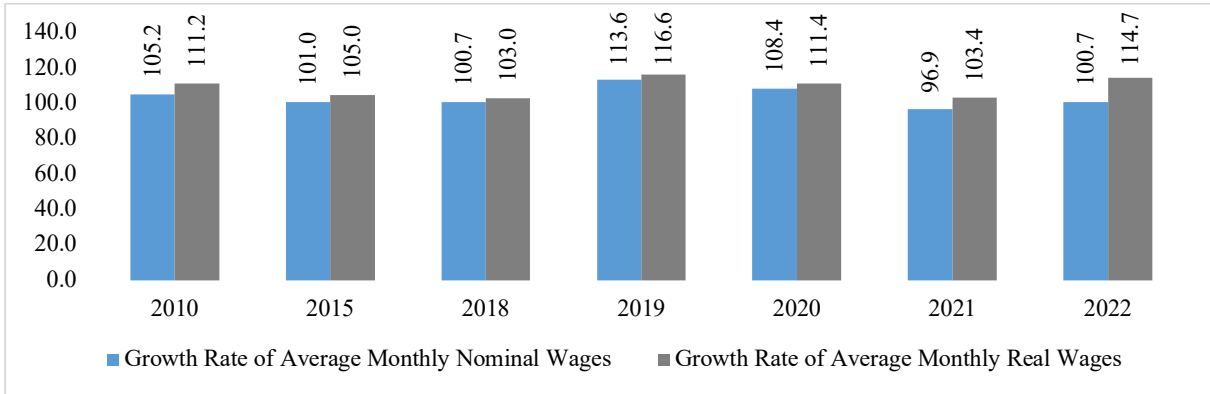


Figure 6. Growth Rate of Average Monthly Nominal and Real Wages (Compared to the Previous Year, In Percentage)

Source: (SSCAR, 2024a).

As can be seen from the chart, compared to 2021, the growth rate of average monthly wages in 2022 was 14.7%, while the growth rate of average monthly real wages was 0.7%. In other words, due to inflation, the increase in the country's average monthly nominal wages was almost negligible. The same situation exists regarding the nominal and real income remaining at the disposal of the population (Figure 7).

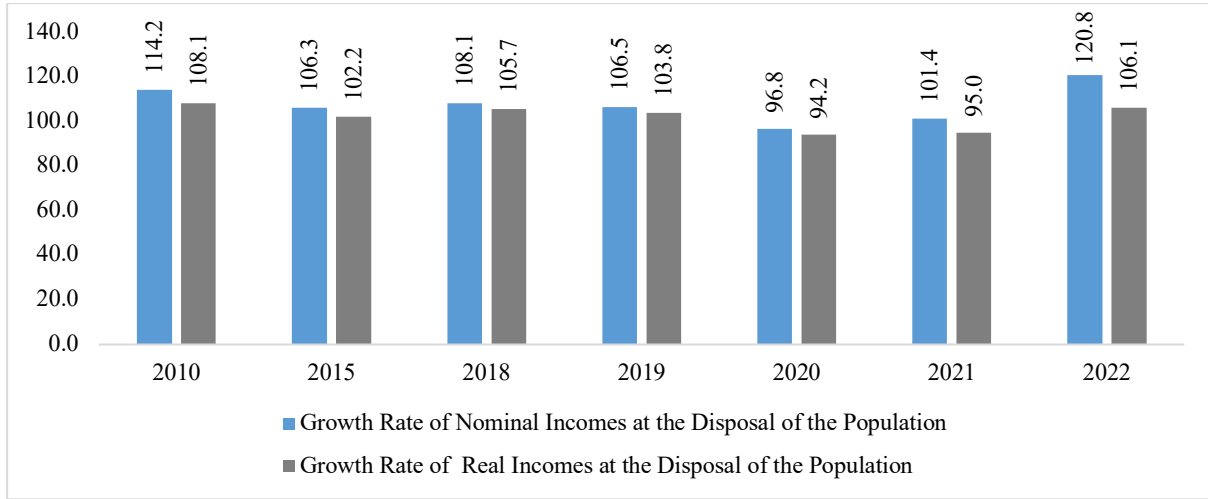


Figure 7. Growth Rate of Nominal and Real Incomes at the Disposal of the Population (Compared to the Previous Year, In Percentage)

Source: (SSCAR, 2024a).

In 2022, the growth rate of nominal incomes at the disposal of the population was 20.8%, while the growth rate of real incomes was 6.1%.

According to the monthly statistical data provided by ARSSC, during the first six months of 2024 (January-July), the consumer price index was 1%. However, both experts and the population believe that the level of inflation in the country is higher than what is reported by official sources. 'Alternative research shows that the current annual inflation rate in the country is around 25%, and it reaches 35-40% for food products. In addition, inflation is on an upward trajectory (Farhadoglu, 2022). According to the results of surveys conducted in December 2023, 69% of households expected inflation to increase (CBAR, 2023).

The fact that inflation is higher than what is stated in official sources negatively impacts the social situation of the population and reduces their incomes. As is known, several social payments are indexed according to the level of inflation. This, in turn, negatively affects the social situation of low-income population groups. In addition, the growth rate of wages, especially in the public sector, lags behind the rate of inflation. These factors, in addition to negatively affecting the social situation of the population, cause legitimate discontent among the people and threaten social security.

As is known, one of the factors conditioning inflation is the large amount of money in circulation. In this regard, let's look at the volume of money supply according to monetary aggregates from 2014 to 2023.

Table 4. Monthly Household Income (Per Capita, In Manats)

	Share of M2 Monetary Aggregate in GDP (%)	Share of M3 Monetary Aggregate in GDP (%)
2014	29.6	36.6
2015	16.0	39.1
2016	19.1	34.6
2017	17.8	32.5
2018	18.3	30.0
2019	22.3	35.2
2020	28.0	40.2
2021	25.7	37.3
2022	22.1	32.0
2023	28.8	36.6

Source: (CBAR, 2024).

The table data shows that the share of the M2 monetary aggregate in GDP was low in 2015-2016. This was due to the devaluation that occurred in those years and the inflation measures taken in response. However, the share of the M3 monetary aggregate in GDP, which includes foreign currencies, increased during that period. This indicates that there was an intervention in the currency market with foreign currencies to prevent the manat from depreciating further. In addition, it is also worth noting that the analysis of the growth rates of monetary aggregates is of interest.

Table 5. Growth rates of monetary aggregates (compared to the previous year, %)

	Growth Rate of M2	Growth Rate of M3
2014	6.1	11.8
2015	-50.2	-1.3
2016	33.0	-1.9
2017	8.0	9.0
2018	17.5	5.7
2019	24.5	20.0
2020	11.3	1.1
2021	17.6	18.7
2022	23.8	23.6
2023	19.6	5.3

Source: (CBAR, 2024).

As seen, the increase in the money supply in broad terms (M2) was more significant in the years 2017-2023, which also indicates that monetary tools played a role in the rise of inflation.

One of the factors conditioning inflation in the country is import inflation. In this regard, let's look at the dynamics of price index changes for the main 32 consumer goods imported to our country, based on the Paasche and Laspeyres Price Indices.

Table 6. Import inflation

	Price Index According to the Paasche Formula	Price Index According to the Laspeyres Formula
2014	1.04	1.0
2015	1.03	1.02
2016	1.6	1.4
2017	1.04	1.03
2018	1.06	1.02
2019	1.13	1.08
2020	1.05	1.03
2021	1.18	1.17
2022	1.22	1.18
2023	0.84	0.81

Source: The Table Has Been Calculated by the Author Based on the Materials of SSCAR.

As seen, both the Paasche and Laspeyres formulas show that the dynamics of major imported consumer goods indicate the presence of import inflation in the years selected for analysis. However, despite this, the country's Central Bank continually strengthens the inflation-reducing effects of monetary policy through both the quantity and value of money. Specifically, the strengthening of the nominal effective exchange rate of the manat emerges as one of the key factors limiting import inflation.

It should be noted that, using the EViews program, we will set up a linear regression equation between the nominal income of population, GDP, and inflation to assess how inflation has affected the income of population.

Table 7. GDP, Population Incomes, and Inflation (Million Manats and %)

	Income of the population	GDP	Inflation
2014	39,472.2	59014,1	1.4
2015	41,744.8	54380	4
2016	45,395.1	60425.2	12.4
2017	49,187.9	70337.8	12.9
2018	53,103.7	80092	2.3
2019	56,769.0	81896.2	2.6
2020	55,754.1	72578.1	2.8
2021	57,206.8	93203.2	6.7
2022	69,163.0	133972.7	13.9
2023	78,050.2	123005.5	8.8

The mentioned indicators helped to obtain the following result:

$$\text{LOG}(\text{INCOME})=0.97*\text{LOG}(\text{UDM})-0.03*\text{LOG}(\text{INFLI})$$

Std. Error (0.007) (0.04)

R²=0.74 DW=1.42

It shows that the model is 74% adequate, inflation in the country has a negative effect on the nominal income of the population and a positive effect on GDP growth. At the same time, the model gives grounds to say that a 1% increase in the nominal income of the population can increase the consumer price index by 0.3%. All this indicates the adequacy of the above and the model as a whole.

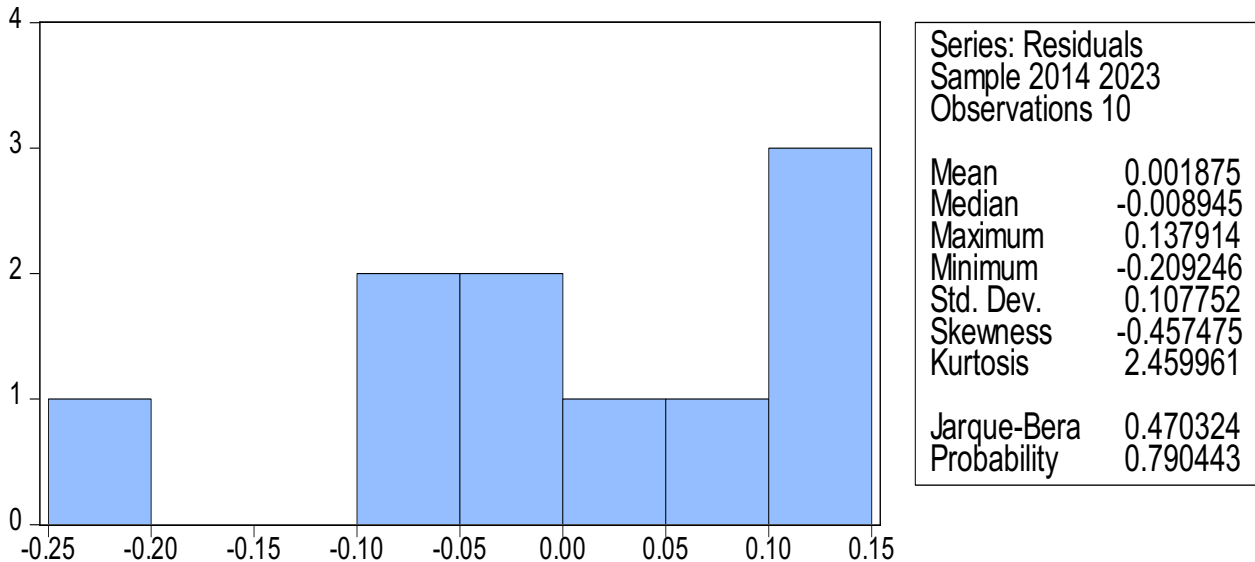


Figure 8. Jarque-Bera Normality Test

The analysis conducted on the Jarque-Bera normality test shows that the median and the numerical mean both have zero values. This situation gives grounds to say that the parameters of the model obey the law of normal distribution. The skewness coefficient being less than zero indicates that the distribution is skewed to the right, and the kurtosis coefficient being less than 3 gives grounds to say that the height of the distribution is a blunt distribution.

In general, the coefficient obtained as a result of the Jarque-Bera test being close to zero indicates that the given data is in accordance with the normal distribution. Sometimes, it would be useful to perform the “Breusch-Pagan-Godfrey” test to check for heteroskedasticity during the analysis. For this, it is useful to look at the results of the heteroskedasticity test.

Table 8. Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.041398	Prob. F (2,7)	0.2002
Obs* R-squared	3.683905	Prob. Chi-Square (2)	0.1585
Scaled explained SS	1.681969	Prob. Chi-Square (2)	0.4313

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 01/07/25 Time: 14:31

Sample: 2014 2023

Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.005854	0.012774	-0.458291	0.6606
UDM	8.31E-08	1.63E-07	0.509596	0.6260
IN	0.001389	0.000898	1.546324	0.1659
R-squared	0.368390	Mean dependent var		0.010453
Adjusted R-squared	0.187931	S.D. dependent var		0.013161
S.E. of regression	0.011860	Akaike info criterion		-5.787912
Sum squared resid	0.000985	Schwarz criterion		-5.697136
Log likelihood	31.93956	Hannan-Quinn criter.		-5.887492
F-statistic	2.041398	Durbin-Watson stat		2.621439
Prob(F-statistic)	0.200249			

The probability value of the F-statistic is greater than the 0.05 significance level. This situation gives grounds to say that the impact of the coefficients established in the models that affect the income of the population in Azerbaijan, namely inflation and GDP, has a 95% reliability.

5. CONCLUSION

As a result of the analysis, it was determined that in recent years, a positive trend has been observed in the social situation of the population in Azerbaijan. Specifically, the income of the population, including wages, pensions, benefits, etc., has increased, and the levels of poverty and unemployment have decreased significantly. However, a large portion of the population's income has been directed towards consumption expenditures. In other words, the expenses directed towards savings have been minimal.

Although the official inflation rate in Azerbaijan has not been high in recent years, the actual inflation level, which is higher than what is reported by official sources, has negatively affected the social situation of the population and reduced their incomes. The growth rate of wages in the country, especially in the public sector, lags behind the rate of inflation. These factors, in addition to negatively impacting the social situation of the population, have caused justified dissatisfaction among the people and threatened social security.

DECLARATION OF THE AUTHORS

Declaration of Contribution Rate: The contribution rate for both of authors is %50.

Declaration of Support and Thanksgiving: No support is taken from any institution or organization.

Declaration of Conflict: There is no potential conflict of interest in the study.

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