

STATISTICAL CALCULATION OF THE INFLATION RATE AND ITS IMPACT ON
THE ECONOMY

Babanazarova Sevara Abdinazarovna

Samarkand Institute of Economics and Service
Associate Professor of the Department of
“Economic Analysis and Statistics”, PhD.

Olimova Dilobar Nurkomil kizi

Samarkand Institute of Economics and Service
Student of group 424, Banking specialization

Annotation: This article analyzes the methods for calculating the level of inflation and its economic impacts. In short, inflation plays a crucial role in ensuring economic stability by measuring price changes. This paper demonstrates how to calculate the inflation rate through key indicators such as the price index, consumer price index, and producer price index. Additionally, it examines the effects of inflation on economic growth, consumption, investment, and social strata. The role of the central bank in monetary policy and methods for controlling inflation will also be a focal point of discussion. As a result, the article sheds light on theoretical and practical aspects that aid in a deeper understanding of the relationship between inflation and economic growth.

Keywords: Inflation, inflation rate, statistics, economy, price index, economic growth, money supply, monetary policy, price changes, inflationary pressure, competitiveness, cost index, social impact, international trade, economic stability.

Annotatsiya: Ushbu maqola inflyatsiyaning darajasini hisoblash usullari va uning iqtisodiy ta'sirlarini tahlil qiladi. Bir so'z bilan aytganda, inflyatsiya narxlar o'zgarishini o'lchash orqali iqtisodiy barqarorlikni ta'minlashda muhim ahamiyatga ega. Bu maqolada narxlar indeksi, iste'mol narxlari indeksi va ishlab chiqarish narxlari indeksi kabi asosiy ko'rsatkichlar orqali inflyatsiya darajasini qanday hisoblash mumkinligini ko'rsatadi. Shuningdek, inflyatsiyaning iqtisodiy o'sishga, iste'mol va investitsiyalarga, ijtimoiy qatlamlarga ta'sirini tahlil qiladi. Markaziy bankning monetar siyosatdagi roli va inflyatsiyani nazorat qilish usullari ham muhokama markazida bo'ladi. Natijada, inflyatsiya va iqtisodiy o'sish o'rtasidagi aloqalarni chuqurroq tushunishga yordam beradigan nazariy va amaliy jihatlar yoritiladi.

Kalit so'zlar: Inflyatsiya, inflyatsiya darajasi, statistika, iqtisodiyot, narxlar indeksi, iqtisodiy o'sish, pul massasi, monetar siyosat, narxlarning o'zgarishi inflyatsion bosim, raqobatbardoshlik, xarajatlar indeksi, ijtimoiy ta'sir, xalqaro savdo, iqtisodiy barqarorlik

Introduction. Inflation is one of the most important indicators of the economy, the level of which directly affects the stability of prices in the country and the well-being of the population. Moderate inflation stimulates economic growth, as demand and investment are activated. However, if inflation increases excessively, money depreciates, real incomes of the population decrease, and production costs increase. This leads to economic instability, uncertainty in the market, and a decrease in investments. Therefore, controlling inflation and maintaining it at a stable level is one of the important tasks of the state.

Research methodology. There are several main methods and indicators for statistically calculating the level of inflation. The most common method is to calculate the consumer price index (CPI). This indicator reflects changes in the price of a basket of basic goods and services purchased by the population.

The calculation formula is as follows:

$$\frac{\text{this year CPI} - \text{last year CPI}}{\text{last year CPI}} * 100\%$$

It is calculated as follows, first the CPI for two periods - for example, last year and current year - is determined, then the CPI growth rate is found and the growth is divided by the CPI for the previous year and expressed as a percentage.

A price index is a statistical indicator that shows how the prices of goods and services have changed over time. It is the main tool for determining the level of inflation.

Main types:

Consumer Price Index (CPI) - is based on the prices of goods and services purchased by consumers.

Wholesale Price Index (WPI) - reflects producer or wholesale prices.

Paasche or Laspeyres indices - are calculated based on different weights (quantities).

General formula:

$$\text{Price index} = \frac{\sum(P_t \cdot Q_0)}{\sum(P_0 \cdot Q_0)} * 100\%$$

Here:

P_t – current period price

P_0 – base period price

Q_0 – base period quantity

Average prices are the determination of the general price level in a market or group by finding the average value of the prices of several products or services.

The simple average price is determined if the quantities of products are the same.

Formula:

$$\text{Average price} = \frac{P_1 + P_2 + P_3 + \dots + P_n}{n}$$

P_1, P_2, \dots, P_n – price of product

n – number of product

Analysis of the inflation rate and assessment of its impact on economic processes is carried out using modern statistical methods. In economics, regression analysis, time series analysis and other statistical methods are widely used to determine changes in the general price level, forecast future inflationary trends and formulate economic policy on their basis. Regression analysis allows you to identify the main factors affecting the inflation rate and quantitatively assess their impact. Since inflation is often a multifactorial process, the regression model helps to systematically study the economic factors affecting its formation.

Inflation is a continuous increase in the general price level in the economy, which has a significant impact on the country's macroeconomic stability, production processes, living standards of the population and the effectiveness of state policy. The economic impact of inflation is manifested through many factors, and it has both positive and negative aspects. However, high and uncontrolled inflation usually leads to macroeconomic instability.

The main effect of inflation is a decrease in the real income and purchasing power of the population. As prices increase, if nominal incomes such as salaries, pensions, and scholarships remain the same, citizens will not be able to purchase the same amount of goods and services as

before. This leads to a decrease in consumption, increased social inequality, and an increase in the level of poverty.

Inflation also poses direct risks for producers. In conditions of volatile prices, entrepreneurs have difficulty in long-term planning, refrain from investing, and the cost of products increases due to increased production costs. This situation leads to a deterioration in the investment climate, a slowdown in production, and problems in the employment sector.

Inflation reduces the incentive for individuals and legal entities to save, because the real value of money under the pillow or in the bank decreases, and if interest rates do not keep pace with the inflation rate, savings lead to real losses. This slows down the process of capital accumulation in the economy and reduces investment opportunities.

While moderate and stable inflation can stimulate economic activity, high or uncontrolled inflation disrupts macroeconomic balance, reduces investment, reduces savings, and worsens the standard of living of the population. Therefore, identifying, monitoring, and effectively managing inflation is one of the most important tasks of state economic policy.

Conclusions and recommendations. Inflation is one of the most important macroeconomic indicators that directly affects the economic stability and social well-being of the country. Correctly assessing its dynamics, identifying influencing factors, and forecasting its future development are the basis for conducting effective economic policy. The study sheds light on how inflation is calculated using statistical indicators, its structural structure, and its multifaceted impact on economic processes. Statistical methods - regression analysis, time series analysis, correlation and other approaches - allow for an in-depth study of inflation, identification of inter-factor relationships and reliable forecasting of future trends. The results show that an increase in the inflation rate has a significant impact on real incomes of the population, savings, the investment climate, the exchange rate and production potential. Uncontrolled inflation leads to economic instability, social inequality and a decrease in business activity. Therefore, regular monitoring of inflation processes, analysis of its factors and development of scientifically based forecasts play an important role in the macroeconomic policy of the state. Effective management of inflation can maintain economic growth rates, improve the living standards of the population and strengthen economic stability. A deep statistical analysis of inflation is one of the necessary conditions for the healthy development of the economy.

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