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DOI <https://doi.org/10.26661/2414-0287-2021-3-51-10>**ECONOMIC AND STATISTICAL ANALYSIS OF INFLATION
AND ITS IMPACT ON THE ECONOMY OF UKRAINE****Somchenko V.V., Sayenko O.R., Gorb D.O., Dakiy A.S.***Zaporizhzhia National University**Ukraine, 69600, Zaporizhzhia, st. Zhukovsky, 66*

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Key words:inflation, money circulation,
capital, state regulation, money
supply, consumer price index,
anti-inflation policy

Inflation as an important economic phenomenon has long attracted the attention of researchers from different countries. However, even now it is a complex and heterogeneous socio-economic phenomenon that is not fully understood. Problems and specifics of inflation in Ukraine are considered. Since the problem of inflation plays one of the main roles in economics, a description of inflation. It is determined that the causes of the inflation process are extremely diverse. Inflation is not considered as a purely monetary phenomenon, but also as a multifactorial socio-economic process, so the reasons for its emergence and development may reflect both changes in aggregate demand and aggregate supply. It is determined that the mechanism of action of inflationary factors depends on the ratio of many economic processes – internal and external. In a state of inflationary instability, focusing only on regulation on the demand-supply side can lead to protracted crises with a slow period of stabilization and recovery of the economy. Despite the effect of market laws, the state does not refuse to influence prices, significantly increasing it in times of crisis for the national economy. It is established that inflation is the main destabilizing factor of a market economy. The dynamics of inflation in Ukraine for 2010–2020 is analyzed. The change of industrial production indices by types of activity for 2016–2020 is analyzed. The most frequently used indicator of inflation is the consumer price index, the dynamics of which is analyzed. It is established that there can be no consensus in the interpretation as external features of a particular inflation process, as well as its internal structure and qualitative characteristics. In addition, the changes that are taking place both in the economy and in the world economy as a whole, they cause the emergence of certain factors, forms and consequences of inflation. Inflation is one of the biggest manifestations of macroeconomic instability. For a country's economy and for the whole world, inflation is a very negative phenomenon. It reduces the results of labor and savings, restrains the inflow of investment and investment in modern technological developments in the country, creates social inequality through the redistribution of capital from poor to rich. Measures to improve the financial situation in Ukraine are considered.

**ЕКОНОМІКО-СТАТИСТИЧНИЙ АНАЛІЗ ІНФЛЯЦІЇ
ТА ЇЇ ВПЛИВ НА ЕКОНОМІКУ УКРАЇНИ****Сьомченко В.В., Сасенко О.Р., Горб Д.О., Дакій А.С.***Запорізький національний університет**Україна, 69600, м. Запоріжжя, вул. Жуковського, 66***Ключові слова:**інфляція, грошовий обіг,
капітал, державне регулювання,
грошова маса, індекс споживчих
цін, антиінфляційна політика

Інфляція як важливий економічний феномен уже тривалий час звертає увагу дослідників з різних країн. Однак навіть в даний час вона становить складне й неоднорідне соціально-економічне явище, яке є не до кінця вивчено. Розглянуто проблеми та специфіка інфляції в Україні. Оскільки проблема інфляції відіграє одну з головних ролей в економічній науці, проведено характеристику інфляції. Визначено, що причини виникнення інфляційного процесу надзвичайно різноманітні. Інфляція розглядається не як суто грошове явище, а також як багатофакторний соціально-економічний процес, тому причини її виникнення та розвитку можуть відображати як зміну сукупного попиту, так і сукупної пропозиції. Визначено, що механізм дії інфляційних факторів залежить від співвідношення багатьох економічних процесів –

внутрішніх і зовнішніх. У стані інфляційної нестабільності орієнтація лише на регулювання з боку співвідношення «попит-пропозиція» може призвести до затяжних криз з повільним періодом стабілізації і оздоровлення економіки. Незважаючи на дію ринкових законів, держава не відмовляється від впливу на ціни, суттєво посилюючи його в кризові для національної економіки періоди. Встановлено, що інфляція є основним дестабілізуючим чинником ринкової економіки. Проаналізовано динаміку інфляції в Україні за 2010–2020 рр. Проаналізована зміна індексів промислової продукції за видами діяльності за 2016–2020 рр. Найбільш часто використовуваним показником інфляції є індекс споживчих цін, динаміку якого проаналізовано. Встановлено, що не може бути єдиної думки у трактуванні як зовнішніх рис певного інфляційного процесу, також і його внутрішньої структури і якісних характеристик. Окрім того, зміни, які відбуваються, як у економіці країн, так і у світовій економіці в цілому, вони обумовлюють появу певних факторів, форм та наслідків інфляції. Інфляція є одним з найбільших проявів макроекономічної нестабільності. Для економіки певної країни і для всього світу інфляція є досить негативним явищем. Вона призводить до зниження результатів праці і заощаджень населення, стримує приплив інвестицій та інвестицій у сучасні технологічні розробки в країні, створює соціальну нерівність через перерозподіл капіталу від бідних до багатих. Розглянуто заходи щодо оздоровлення фінансової ситуації в Україні.

Statement of the problem

In Ukraine, the long-term depreciation of the national currency is the main problem on the way to the stability of the national economy, which since the time of independence our country has not yet been able to cope with. Global processes in the economy over the past decade have led to the emergence of certain reasons that contribute to the development of inflation.

It is important to note that today Ukraine is suffering from a debilitating war that has been going on for six years. It is the longest military conflict in Europe since World War II. Against the background of hostilities in the east of the country, the decline in industrial production and construction work accelerated. Constant changes in government and laws, various reforms have a significant impact on the economic development of the state. The economy of such a country is in a state of crisis, instability, uncertainty. Another problem has been added related to the coronavirus pandemic, due to which people are forced to close their businesses. It also can not affect the Ukrainian economy.

Analysis of recent studies and publication

The issue of the development of inflationary processes was paid attention to by A.V. Bezkravnyy [1], A.A. Revenko, who, on the basis of the analysis, identify the reasons that contribute to the emergence of inflationary processes in Ukraine [2]. The works of S.M. Oliinyk are devoted to the study of the problem of the essence of inflation, its regulation, the study of the main factors and factors affecting the current inflation [3]. Hrytsenko A.A., Krychevska T.A., Petryk A.I. having analyzed the advantages and disadvantages of the inflation targeting regime, they came to the conclusion that such a regime has all the necessary advantages to replace the existing exchange rate targeting regime in the domestic economy [4]. Tiveriadska L.V., Yakymenko A.M. in their works investigate the socio-economic consequences of inflation in Ukraine [5].

Objectives of the article

The purpose of the article is to analyze inflationary processes and determine their impact on the economic situation in Ukraine, taking into account the conditions of the present.

The main material of the research

As an economic phenomenon, inflation has existed for a long time. It is believed that its appearance is associated with the emergence of paper money, with the functioning of which it is inextricably linked. The term inflation (from the Latin. Inflatio – inflation) was first used in North America during the Civil War of 1861–1865. And it marked the process of swelling of paper money circulation. In the 19th century, the term was also used in England and France. The concept of inflation became widespread in the economic literature in the twentieth century immediately after the First World War.

Inflation is the most effective means of redistributing national wealth – from the lower social class to the wealthy class, thereby increasing its social division. Inflation can manifest itself in various forms: depreciation of the monetary unit, depreciation of the national currency, etc. Schematically, the forms of manifestation of inflation can be traced in fig. 1.

The general consequences of inflation are due to complex and different directions of socio-economic and political causes. For some economic agents, inflation can be very profitable, while for others it can be unprofitable. Therefore, those for whom inflation turned out to be profitable are looking for objective causes of inflation, and those for whom inflation has brought losses accuse the former of deliberately promoting it. In general, the causes of inflation can be external and internal [1, pp. 68–70].

External causes of inflation are as follows: rising prices in world markets; reduction in cash receipts from foreign trade; negative foreign trade balance. The internal causes of inflation are as follows: the introduction of paper

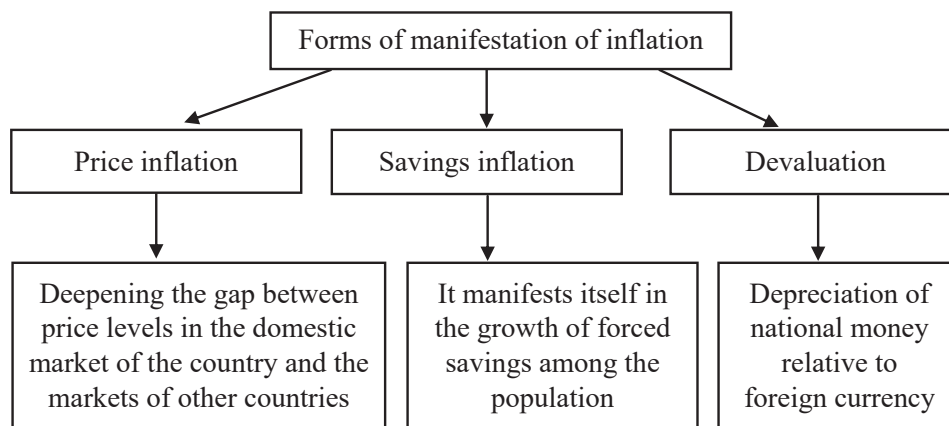


Fig. 1 – Forms of manifestation of inflation

(defective) money that cannot be exchanged for gold; imbalance in the state economy; monopoly of the state on the issue of money; the monopoly position of large producers and the establishment by them of monopoly high prices in the market; imposition of prohibitively high taxes and interest rates on loans.

Inflation can also be caused by an excess of demand over supply and a lag between demand and supply. The result of the excess of demand over supply is demand inflation, and the lag between demand and supply causes cost or supply inflation. In order to have a certain idea of inflationary processes in Ukraine, one should start with the reasons contributing to its occurrence. The following are the main reasons for the emergence of inflation in Ukraine: imbalance between domestic and world prices; high monopolization of the economy; external debt pressure on the state budget. The latter leads to the emergence of an unfavorable investment climate and gives impetus to speculative business [2, pp. 7–9].

The inflation problem for Ukraine is not so much theoretical as it is of purely practical importance. Each year for Ukraine has its own consumer price index, different

from the previous one, this index can grow or, on the contrary, decrease. Its dynamics can be seen in fig. 2.

Each period since 1991 has been characterized by different levels and rates of inflation and usually has its own socio-economic consequences. But, in order to clearly understand the processes taking place now, let us consider the dynamics and development of inflation in Ukraine over the past 10 years [3, pp. 13–15].

In 2010, for the first time in Ukraine, GDP growth simultaneously exceeded budget forecasts, and inflation was lower than expected, the real indicator was the best by 4% (while the forecast was 13.1%, inflation was 9.1%). For the first time since 2003, annual inflation fell to one-digit level. This was due to a decrease in the growth rate of the consumer price index due to price correction in certain food markets and the application of the administrative impact of limiting further price increases. The reason for the decline in the producer price index was the decline in prices for the production of electricity, water and gas. Local authorities refrained from another increase in utility tariffs, which was expected by the public, which led to a slowdown in the growth rate of the administrative

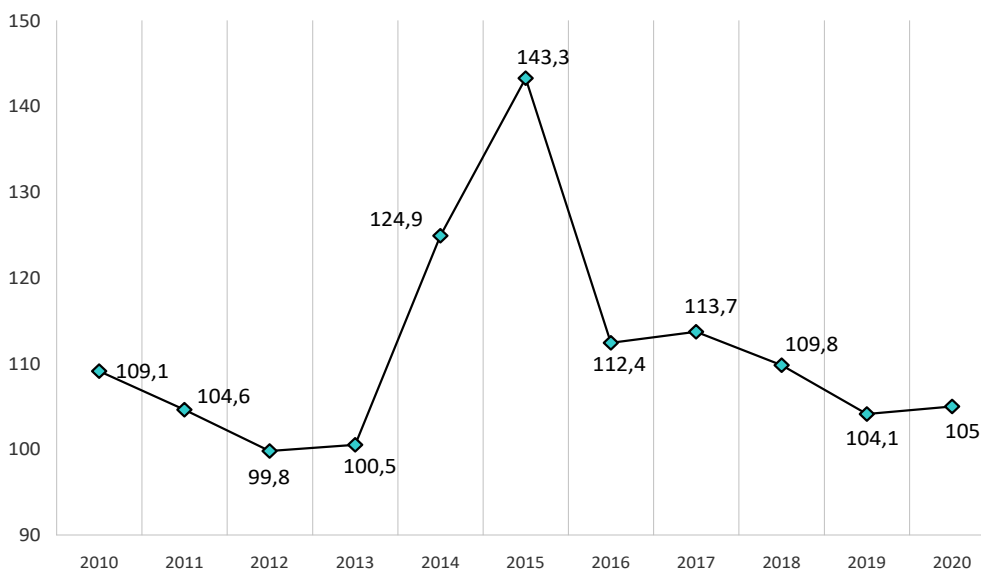


Fig. 2 – Dynamics of the inflation index in Ukraine for 2010–2020 years

component of non-core inflation, and the slow recovery of the credit process also contained inflationary pressures.

During 2011–2013, there is a downward trend in inflation, especially in 2012, the consumer price index decreased by 0.2% compared to the previous year (for the first time since 2002). The main factor behind the downward dynamics of the consumer price index in 2012 was a 2.9% drop in prices for food products due to a high level of supply in the domestic food market, ensured by a high harvest of fruits and vegetables in 2011–2012 and the development of infrastructure for storage and sale of food products. This led to a 4.6% reduction in raw food prices. Restraint of tariffs for services, which were administratively regulated, also had a significant impact on the reduction of inflation rates. In 2014, the implementation of the macroeconomic imbalances accumulated in recent years led to a rapid increase in inflation to 24.9%, which was due to the devaluation of the UAH in the context of a decrease in foreign exchange earnings and an increase in panic due to the military conflict in the East of Ukraine. Narrow core inflation, reflecting the rise in prices for non-food products, most of which are imported, amounted to 25.3% at the end of the year. The growth of administratively regulated prices amounted to 30.4% per year, mainly due to the increase in tariffs in the sphere of housing and communal services – by 34.3% per year (3.8 p. p. – contribution to inflation). The cheapening of oil on world markets only partially offset the effect of the devaluation on the cost of fuel, which increased by 60.7% in the reporting year [4; 5].

In 2015, consumer prices increased by 43.3%. Some economists have talked about galloping inflation. Real wages fell by an average of 21% in 11 months, while real disposable household income fell by 28%. D. Sologub, Deputy Governor of the National Bank of Ukraine, believes that the inflation rate of 43.3% was evidence that all the bad things that could have happened to prices have already happened. Moreover, in the first half of last year. Reasons for rising inflation:

- panic in the foreign exchange market in the first quarter led to an uncontrolled explosion of prices for basic consumer goods;
- increase of natural gas tariffs for the population by 5.5 times from April 1;
- inflation expectations remained high.

The growth of consumer prices in Ukraine in 2016 was 12.4%, which is in line with the forecasts of the National Bank [6, 7]. This figure was much lower than in previous years. In particular, in 2015 it was 43.3%, and in 2014–24.9%. Inflation in 2016 was 0.9% in December, 1.8% in November and 2.8% in October. At the same time, the average annual inflation in 2016 (January-December to January-December of the previous year) is 13.9%. Core inflation, ie inflation that does not take into account short-term uneven price changes due to seasonal factors and administrative regulation of tariffs, slowed to 5.8 percent from 34.7 percent in 2015 and 22.8 percent in 2014. In December, core inflation was zero after 0.5 percent in November, 0.9 percent in October and 2 percent in September. The NBU explained inflation in 2016 by rising utility tariffs and rising fuel prices.

In 2017, the government and the National Bank forecast a further slowdown in inflation to 8–8.1 percent, provided that economic growth accelerates to 3 percent. Inflation in January was 101.1, in February – 101 percent. NBU in comments and inflation reports [8; 9] explains the slight acceleration of annual inflation in January 2017 was expected and occurred due to increased production costs, rising commodity prices in world markets, including oil and food and the weakening of the hryvnia in late 2016 and first half of January 2017. In February 2017, year-on-year consumer inflation accelerated as expected to 14.2% (from 12.6% in January). On a monthly basis, the consumer price index grew by 1.0%. This is evidenced by data published by the State Statistics Service of Ukraine.

In 2018, inflation in the consumer market was 9.8%, according to the website of the State Statistics Service of Ukraine. According to this information, in 2018 the core inflation was 8.7%. The National Bank of Ukraine predicted that in 2018 inflation will be over 8%.

In 2019, consumer inflation slowed to 4.1%, the lowest level in six years. The NBU reached the medium-term inflation target of 5% ± 1 in. n., which he declared since 2015. This was due to a decrease in fundamental inflationary pressure, which was reflected in a slowdown in core inflation (to 3.9% yoy). The reduction of inflation to the target in 2019 was primarily due to the NBU's consistent monetary policy aimed at achieving price stability, combined with prudent fiscal policy. The strengthening of the hryvnia exchange rate due to the foreign exchange surplus on the market, which was maintained for most of last year, had a decisive impact on the rapid slowdown in inflation. In turn, the expansion of the supply of currency was due to high sales of foreign exchange earnings by exporters and the lively interest of foreign investors in government bonds. Against the background of long-term preservation of macroeconomic stability with attractive yields, the portfolio of IGLBs in the national currency owned by non-residents increased by \$4.3 billion. during 2019. On the other hand, the growth of economic productivity, especially in agriculture and, as a result, another record harvest of grain and oilseeds provided high export earnings. Contributed to the growth of currency surplus in Ukraine and improved trade conditions due to a deeper fall in world import prices compared to export prices [10].

Despite the unprecedented development conditions in which Ukraine found itself as a result of the spread of the COVID-19 pandemic, price dynamics during 2020 remained broadly projected. The consumer inflation rate was 5%, which is fully in line with the NBU's inflation target.

The main conditions for the formation of domestic prices during 2020 were: relatively limited demand due to forced measures to prevent the active spread of the pandemic; state support of the economy in the current conditions; gradual devaluation of the hryvnia; dynamics of world prices, which was formed as a result of destructive processes in the world economy, as well as associated with measures to contain the spread of the disease in the world.

In difficult conditions against the background of quarantine measures, the formation of consumer prices depended on changes in consumption priorities and, accordingly, on the adjustment of sales agents to these

changes. Thus, both retail trade volumes and consumer prices, primarily for essential goods, grew at a high rate. And vice versa, the consumer’s motivation to keep from non-priority expenses in the face of uncertainty about the prospects for earning income in the near future against the background of the deployment of the risks of the spread of a pandemic restrained the growth of prices for most goods and services or, on the contrary, strengthened the deflationary trend, for example, for clothes and shoes. (at the end of 2020, prices decreased by 7.3% compared to a decrease of 2.3% in 2019). Among the goods, prices for which were growing against the background of maintaining constant demand, it is worth highlighting food products (at the end of 2020, prices increased by 5.2% compared with an increase of 4.9% in 2019), healthcare services (increased by 7.7% compared to 3.8% in 2019). Dynamics of changes in the inflation rate for 2010–2020 Shown in fig. 3.

Therefore, consumer inflation accelerated in Ukraine. Among the reasons, which were named in the National Bank, there was a more significant than expected rise in

the price of fuel, some food products (butter, cheese, bread, meat products) and excisable goods. The dynamics of the CPI for goods and services is shown in Table 1.

So, the consumer price index, as we can see, is constantly changing. That is, there are periods when it grows, in other periods it decreases. However, if we compare the value of this index for the year as a whole in 2020 with the same value in 2016, it can be noted that the consequences of the crisis for Ukraine are becoming less tangible, since this index has decreased.

The dynamics of indices of industrial production by type of activity in recent years has mainly shown a downward trend, except for the supply of electricity, gas and air conditioning (in 2020 compared to 2019). The decline is observed in the mining and processing industries. Thus, the index of industrial production in the mining and processing industry in 2020 amounted to 95.0%, which is 5.2% lower than in 2019 and 9.1% lower than in 2016 (Table 2).

As a result of the analysis of the inflation index, it can be concluded that today the fight against the general rise

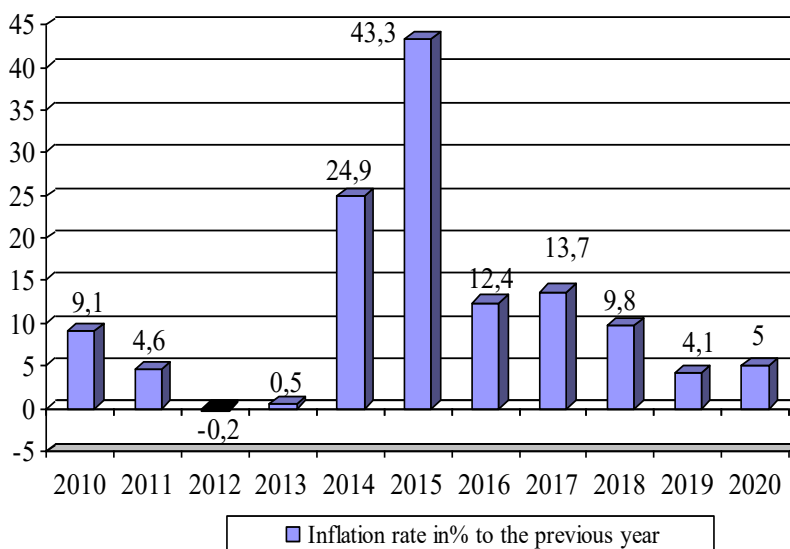


Fig. 3 – Dynamics of the inflation rate in Ukraine for 2010–2020 years

Table 1 – Consumer price indices for goods and services in 2010–2020

Years	Consumer price index	Food and non-alcoholic drinks	Alcoholic drinks, tobacco products	Clothe sand foot wear	Housing, water, electricity, gas and other fuels	Household items, appliances and routine maintenance
2010	109,4	110,9	125,6	103,7	109,4	103,2
2011	108,0	106,4	116,0	101,6	117,1	102,9
2012	100,6	97,9	107,5	98,9	102,6	101,9
2013	99,7	97,8	108,4	97,0	100,3	99,7
2014 ¹	112,1	112,2	116,7	102,0	116,2	111,7
2015 ²	148,7	145,9	133,2	133,1	215,8	145,9
2016 ²	113,9	109,0	112,6	116,1	135,1	109,4
2017 ²	114,4	112,9	126,2	102,4	126,7	102,9
2018 ²	110,9	111,1	118,5	101,8	106,8	106,1
2019 ²	107,9	108,0	115,6	100,2	108,0	102,9
2020 ²	102,7	102,7	110,7	95,4	97,0	99,3

Note: 1 – Data are given without taking into account the temporarily occupied territory of the Autonomous Republic of Crimea and the city of Sevastopol. 2 – The data are given without taking into account the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the temporarily occupied territories in the Donetsk and Luhansk regions

Table 2 – Indices of industrial products by type of activity for 2016–2020

Indicators	2016	2017	2018	2019	2020
Industry	104,0	101,1	103,0	99,5	95,5
Extractive and processing industry	104,1	102,4	103,0	100,2	95,0
Mining and quarrying	101,1	96,5	103,4	98,4	97,0
Processing industry	105,6	105,2	102,9	100,9	94,1
Supply of electricity, gas, steam and conditioned air	103,1	94,0	103,0	95,6	99,1

in prices and its negative socio-economic consequences is still relevant for the national economy.

Conclusions

So, in Ukraine, there is a slowdown in inflation, as a result of the consistent monetary policy of the NBU, aimed at achieving price stability. Decrease in inflationary pressures was supported by a general decline in world prices for energy resources that Ukraine imports, and a weakening of pressure from food supply.

Today, there are certain problems that prevent the Ukrainian economy from developing and stabilizing. First

of all, this is the war in the east of the country and the coronavirus pandemic. This is the reason that our state, like the whole world, is in a state of crisis and uncertainty: what will happen to the economy next?

Solving the problems of regulating inflationary processes requires time and constant monitoring. The gradual lifting of quarantine will lead to the recovery of the Ukrainian economy. This will be facilitated by soft fiscal and monetary policies. The government's increase in budgetary spending to overcome the crisis and measures to support the banking system will reduce the negative impact of the pandemic on economic development.

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