

Inflation Surge: Impact of COVID-19 Pandemic and Ukraine Conflict

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Abstract. In recent years, people have faced the fastest spreading and most widespread disaster in human history, the COVID-19 pandemic. Undoubtedly, the most direct factor affecting the effectiveness of epidemic prevention and control is the level of science and technology, especially medical science and technology. However, the level of public governance, especially public health governance, as well as cultural traditions and living habits also have a major impact on epidemic prevention and control. In 2022, Russia and Ukraine also broke out a military. Due to the impact of the epidemic and the conflict between Russia and Ukraine, the global economy has been gradually brought serious impact, inflation and other problems have also emerged. As one of the important indicators to measure the performance of the macroeconomy, the fluctuation of the inflation rate will be closely watched by the general public and the government departments that specify the macroeconomic policy. In this paper, the causes and consequences of inflation will be studied by discussing the effects of the novel coronavirus epidemic and the Russia-Ukraine conflict on the global consumer price index (CPI) and the economic trade between the three major economies.

Keywords: Inflation; COVID-19 pandemic; Ukraine conflict; Macroeconomy.

1. Introduction

The outbreak of the novel coronavirus has brought unprecedented impact to the economy of China and the world, greatly affecting the production and life of ordinary people and even completely stagnating for a time. In order to ensure the economic operation, prevent the occurrence of liquidity crisis, and stimulate the economy after the outbreak of the epidemic, all countries in the world have adopted corresponding loose monetary policies and active fiscal policies, providing huge liquidity for the market. In the classic observation of Nobel Prize-winning economist Friedman that "all inflation is a monetary phenomenon," easy liquidity has raised concerns about a relative high, but in reality, the forms of money supply and inflation have moved in opposite directions. The outbreak of the Russia-Ukraine conflict in 2022 caused severe economic turmoil on a global scale, as well as increased prices for bulk goods, energy, and agricultural products on the international market. Inflation also grew worse. The implementation of a number of sanctions between the US, Europe, and Russia has contributed to the further spread of global fear, obstructed international logistics, notable spillover effects from the crisis in Russia and Ukraine, and increased supply chain risk.

The inflation rate is one of the important factors that monetary authorities refer to when formulating relevant policies to achieve the monetary policy objectives, and the change of the inflation rate is closely related to the life of ordinary people, and has been closely concerned by the public and relevant government departments. Inflation reflects rapid economic growth in some specific areas. If the inflation rate continues to rise, it is very easy to break out an inflation crisis, which will bring interference and negative effects and problems to the economic operation. On the contrary, an excessively low inflation rate manifests itself in the deficiency of the demand side or the money supply side, leading to continuous economic decline and contraction. High inflation rate will first make the currency lose the means of store of value, resulting in currency depreciation, then affect the means of payment of currency, cause interference to the social and economic operation, and then lead to financial crisis or even economic crisis, finally, national income decline, economic contraction and recession, consumer spending and investment decline, rapid rise of unemployment, total social demand decline, thereby increasing The cost of living for ordinary people and the loss of social

welfare. Therefore, by studying the influencing factors of the inflation rate, especially the influence and changes of various factors on the inflation rate under the background of the novel coronavirus epidemic and the Russia-Ukraine conflict, some references are put forward for the world's macroeconomic policies in the post-COVID-19 era, which has certain practical significance for the recovery of the world economy and the steady development of the economy [1].

2. US Economy

Since the outbreak of COVID-19, the consumption of goods in the United States has grown at an unprecedented rate, but the supply side has fallen short of demand. In less than a year from March 2020, the US launched a multi-trillion dollar fiscal stimulus, much of it directed to Main Street. But the recession has limited U.S. spending on services, and consumer demand has concentrated on goods. Among goods, consumption of durable goods grew faster. The COVID-19 pandemic's direct and indirect macroeconomic impact is the fundamental variable that determines US inflation [2]. During the pandemic, the global supply chain continues to be strained, and the United States is in short supply, and its productivity cannot meet the market demand. In addition, due to the increase of fiscal transfer payments, the US household income grew rapidly during the epidemic, which promoted the strong recovery of consumption and economy, but also intensified the demand and inflation pressure, resulting in the rise of the prices of cars, houses and other resources [3].

Since the beginning of 2021, the inflation problem in the United States has continued to increase. In March 2022, the U.S. consumer price index was up 8.5% from a year earlier. Excluding volatile food and energy products, CORE CPI was up 6.4% from a year earlier, both the highest levels since 1982. On a month-on-month basis, the U.S. consumer price index rose 1.2% in March, another high for the current inflation cycle, but core CPI growth slowed to 0.3%. Headline CPI and core CPI diverged, indicating a slowing trend in inflation growth [4]. The drag on the U.S. economy from inflation is clear. In terms of its contribution to CPI, the impact of the conflict on food and energy prices is clear. Of the 1.2 per cent month-on-month increase, core goods and services rose 0.32 per cent, accounting for about 25 per cent of overall inflation. Core services grew 0.34 per cent, and core goods also had a slight deflation. Food increased by 0.13%, accounting for about 10%; The energy sector grew 0.83 per cent, contributing 65 per cent to overall inflation. To put that in context, energy prices rose 11 per cent month-on-month. Gasoline (18.3 percent) and fuel oil (22.3 percent) saw the largest price increases [5]. After the epidemic subsided, US residents shifted their consumption spending from goods to services, which also brought about a shift in inflationary pressure. Since February 2022, CPI for core services has outpaced CPI for core goods on a month-on-month basis, and the gap widened further in March. Price rises have become widespread, not just based on specific sectors. Overall, core inflation in America has experienced a more persistent rotation from goods to services. The Russia-Ukraine conflict will also see energy prices rise in volatility, which makes the U.S. inflation trend still at risk.

3. EU Economy

Major nations or regional governments throughout the world have enacted expansionary monetary and fiscal policies in response to the pneumonia outbreak. Global inflation, notably in Europe, started to significantly increase from 2021 due to base periods, production delays, transportation bottlenecks, and base periods brought on by the pandemic.

As the fifth largest trading partner of the EU, Russia has a very close economic relationship with the EU. EU trade with Russia accounts for 4.8% of its total foreign trade; The EU is Russia's largest trading partner, with Russia's imports and exports to EU countries accounting for 37.3% of its total foreign trade. The EU is also Russia's biggest investor. After the outbreak of the conflict between Russia and Ukraine, the economic relations between Europe and Russia deteriorated rapidly, resulting in great losses to the economies of both sides. Russia is an important global energy producer. In 2022,

Russia will produce 10 million barrels of oil per day, ranking second among OPEC+ countries, just behind Saudi Arabia. After the outbreak of the Russia-Ukraine conflict in February 2022, Russia began to reduce crude oil production, which brought great uncertainty to global energy supply, trading and transportation, and international energy prices rose sharply. The European Union has imposed restrictions and sanctions on trade, transport and imports of various goods since the conflict broke out. As a result, energy prices in Europe have been hit. Many European countries are highly dependent on Russian energy. The shortage of energy supply and the rise of energy prices have caused a serious impact on European economy, affecting the direction of European monetary policies and fiscal policies [6]. In January 2022, before the outbreak of the Russia-Ukraine conflict, the year-on-year CPI growth rate of the 27 EU countries was 5.6% and that of the US was 7.5%. Europe's inflation rate was 1.9 percentage points lower than the US's. Inflation in consumer prices on an annual basis has been lower in Europe than in the US. Following the conflict, inflation in Europe increased significantly, hitting 7.8% in March 2022, compared to 8.5% in the US, closing the difference to 0.7 percentage points. In May 2022, the CPI growth rate in Europe reached 8.8% year on year, and that in the US was 8.6% year on year, with Europe 0.2 percentage points higher than the US. The continuous increase in the EU's CPI growth year over year is an economic shock brought on by factors related to external supply. 15.1% of the CPI was allocated to the "food" category, of which "bread and grains" accounted for 2.77% and "fats" for 0.47%. Gas and liquid fuel accounted for 2.20 percent and 0.73 percent, respectively, of the "energy" category. The four items indicated above saw price increases of 11.9%, 27.8%, 52.4%, and 77.3% in May 2022, adding 0.33%, 0.13%, 1.20%, and 0.56%, respectively, to the CPI. Given that both Russia and Ukraine are significant grain and sunflower oil producers, the conflict between those two countries is partially to blame for the increase in food prices in Europe. At the same time, through the relevant data, it is found that the geographical location of countries closer to Russia is higher inflation, which reflects the impact of Russia-Ukraine conflict on inflation to a certain extent [7].

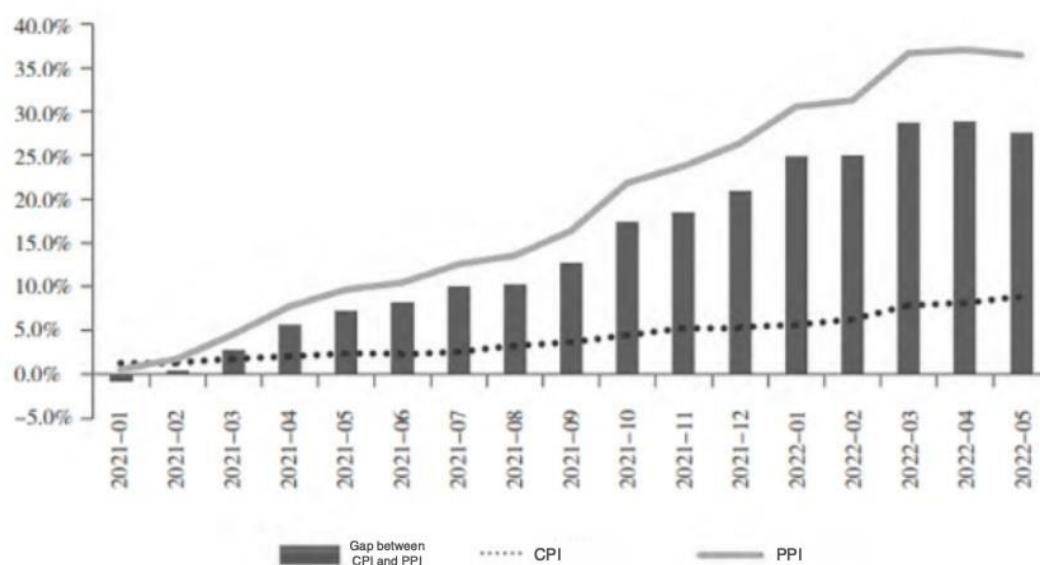


Fig 1. CPI and PPI in the EU from Jan 2021 to May 2022 [7]

From the perspective of European producers, the gap between PPI and CPI is widening, as Figure 1 shown. For European producers, the pressure from upstream raw materials is difficult to pass on to the consumer price index, putting extreme pressure on manufacturers' profits. On the other hand, the absolute income of European residents has not yet shown a significant decline. The eurozone unemployment rate was 6.6% in May 2022, compared with 6.9% in January. And significantly lower than the 2021 average. From the point of view of wage income, labor costs in European countries continue to show an upward trend. From the perspective of enterprises, the rise of upstream costs and labor costs has brought great pressure to the production and operation of enterprises. The outbreak of

the conflict between Russia and Ukraine has once again challenged Europe's finances, which are already under increasing pressure from the COVID-19 pandemic.

4. China Economy

China's Consumer Price Index From 2012 to 2019, With the exception of February 2013, September 2013 and October 2013, when the CPI rose 3.2 percent, 3.1 percent and 3.2 percent respectively, China's CPI has remained within the range of 0.8 percent to 3.0 percent year on year, and most of the months have been around 2.0 percent year on year. However, in the fourth quarter of 2019, CPI rose to 3.8 percent from a year earlier, and continued to increase by more than 4.0 percent in the following five months. China's CPI grew by more than 5.0 percent year-on-year in January and February 2020, but has since declined, triggering inflation in the post-pandemic era.

China will definitely suffer from the conflict between Russia and Ukraine, which will also be transmitted to China through trade channels, financial channels, and supply chain channels. China is a significant player in the global economy and an important trading partner of both Russia and Ukraine. Although China's trade dependence on Russia is small in general, China is also relatively dependent on Russia for some products. In terms of exports, China's exports to Russia of cocoa, photography and film supplies, tobacco, cork and cork products all account for more than 5 percent of China's total exports of such products. In terms of imports, nickel and its products from Russia account for 18.75% of China's total imports of fertilizers, 22.73% of China's total imports of fertilizers, 18.38% of imports of wood and wood products, and 12.48% of imports of fossil fuels and mineral oils [8]. Since China has a relatively high level of import and export in these product fields, after the conflict between Russia and Ukraine, the high and volatile prices of these products have also affected the prices of domestic products. The prices of oil and other products continue to rise, which also increases the risk of imported inflation in China to some extent. Higher product prices will eventually be reflected in prices through the supply chain, increasing people's living costs. As the conflict between Russia and Ukraine continues, the imported inflation risk will inevitably affect China's proactive fiscal and monetary policies. In this case, the government needs to actively track the changes in the international and domestic markets and try its best to achieve the precise delivery of fiscal and monetary policies [9].

5. Suggestions

Stable economic foundations are at the heart of this. Although the output gap and inflation rate have a negative connection, the rising output gap and falling inflation rate show that the rebound in demand has not increased inflationary pressure and that there is still more potential for economic growth. Once the output gap closes, the economy may experience "stagflation," which is characterized by a decline in output and an increase in the inflation rate. It is important to firmly follow the policy of increasing domestic demand as production and living in China progressively return to normal. To improve people' income and hasten the release of their epidemic-inhibited consuming potential, the government can suitably raise the individual income tax level. In order to improve the economic driving force of investment internationally, the government should simultaneously encourage industrial transformation and upgrading, expand the development of new infrastructure, and strengthen the weak areas of investment as soon as feasible.

There are many similarities between the current global economic situation and the stagflation period of 1974-1982. First, soaring energy prices and supply chain disruptions; Second, the structural contradiction between labor supply and demand leads to the prevailing wage; Third, the fiscal expansion expands the total social demand; Fourth, loose monetary policy has failed to solve the supply-side structural problem. In the face of the grim international economic situation, we can strengthen international cooperation to curb the trend of stagflation into the medium to long term [10]. At the same time, we can speed up trade negotiations and put an end to China-US trade frictions as

soon as possible. In addition, we can draw on historical experience and strive for new opportunities for development.

6. Conclusion

The new coronavirus pandemic has had a non-negligible effect on the global economy as a significant public health event. The impact of demand and supply on prices as well as market intervention measures have modified the inflation rate's trend and increased its volatility, making it harder to meet monetary policy goals. At the same time, the conflict between Russia and Ukraine has also led to a large number of cross-border refugees, which is bound to increase the risk of the spread of the virus and the difficulty of epidemic prevention and control, and the recurrence of the epidemic is the main reason for the setbacks in the global economic recovery. The World Health Organization has warned that mass population movements caused by the conflict between Russia and Ukraine could not only accelerate the spread of the novel coronavirus, but also facilitate the creation of new mutated viruses, making economic recovery more difficult. The inflationary pressure caused by it is also troubling the current global economic recovery, which leads major economies to tighten fiscal and monetary policies in order to curb inflation. But now the main prop for global recovery is strong fiscal and monetary policy. For now, global economic and trade relations will remain introverted, and the pattern of global inflation is likely to reset in the future.

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