Analysis on the Global Inflation Crisis under COVID-19 Pandemic and Ukraine Conflict

Rui Zhang

School of Finance, Anhui University of Finance and Economics, Anhui, China

20203960@aufe.edu.cn

Abstract. After the outbreak of the COVID-19 epidemic, the macro-economies of all countries in the world have been impacted to varying degrees, and the global economy is in a downward trend, with unemployment and trade problems coming one after another. The outbreak of the Ukraine Conflict has caused a new round of impact on the gradually recovering world economy, resulting in the rising prices of energy, agricultural products and other commodities. This paper mainly studies the impact of the epidemic situation in COVID-19 and the Russian-Ukrainian war on the macro-economy. This paper analyzes the macroeconomic changes through the data of cpi, GDP and unemployment rate, and takes three important economies as examples to analyze the macroeconomic problems caused by the wars between COVID-19 and Russia and Ukraine and their countermeasures. In 2022, when the epidemic continues and the war escalates, the state should pay close attention to macroeconomic changes, adjust the supply and demand structure, adopt reasonable fiscal and monetary policies, reduce the unemployment rate, stabilize commodity prices, and promote the development of world trade.

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

1. Introduction

Since the outbreak of the COVID-19 epidemic in the beginning of 2020, the macro-economy of all countries in the world have been impacted to some extent. In order to get out of the predicament, some countries have adopted different fiscal and monetary policies which have also affected the economies of others. Affected by the global economic downturn, rising commodity prices and ultra-loose fiscal and monetary policies in various countries, the global inflation rate continues to rise.

However, three years after being deeply hit by the epidemic, the Ukraine conflict broke out in February 2022, which caused a new round of impact on the world economy. Russia and Ukraine are important exporters of energy, basic metals, agricultural products and other commodities. The war between the two countries greatly reduced the supply of commodities, resulting in the rapid rise and drastic fluctuation of the prices of major commodities such as crude oil, natural gas, copper, aluminum, zinc, nickel, wheat and corn, which increased the global inflationary pressure [1].

The consumer price index is a macroeconomic indicator that reflects the changes in the price level of consumer goods and services generally purchased by households. It is used to reflect the changes in the price level of consumer goods and services purchased by households. It is the price index that can fully and comprehensively reflect inflation. This paper focuses on data such as CPI and inflation rate, and analyzes the impact of the COVID-19 and Ukraine conflict on the world economy from a macro perspective.

2. Cause of Global Inflation Crisis

Inflation refers to the economic phenomenon that the overall price level continues to rise and people's purchasing power declines. Generally speaking, moderate inflation is the lubricant of economic development. However, the inflation aggravated by the COVID-19 epidemic far exceeds people's expectations, and it also brings many negative effects. As a complex economic phenomenon, inflation has various causes. This paper mainly analyzes the causes of inflation from three perspectives: structural inflation, cost driven inflation, expectation and inflation inertia.

2.1 Structural Inflation

At the early stage of the epidemic in COVID-19, in order to prevent the spread of the epidemic, many countries have introduced restrictive measures such as shutdown, home isolation, fuse mechanism of inbound flights and delayed delivery of freight. On the one hand, people stay indoors, and their needs are gradually changing. The demand for contactless consumption such as online shopping and take-away food delivery has increased, while the demand for tourist accommodation has declined due to epidemic control.

On the other hand, with the shutdown of some large-scale factories and the massive purchase of medical supplies and food during the control period, the supply of some commodities has long been unable to meet the demand, and even chain negative reactions will occur among related industries. Under the dual influence of supply and demand, all countries' economies and import and export trade began to slow down, a large number of companies declared bankruptcy, the unemployment rate rose greatly, and the world economy fell into a trough.

With the epidemic under certain control, governments of various countries gradually canceled all kinds of restrictive measures, the demand side of the global economy was quickly repaired, and the tertiary industry, which was dominated by service industry, ushered in a round of retaliatory growth. However, affected by the supply bottleneck, the repair of the supply side of the global economy lags far behind the demand side [2]. This asymmetric aggregate supply and aggregate demand caused the structural imbalance between supply and demand, and further promoted the rate of inflation.

2.2 Cost-Driven Inflation

Cost-driven inflation refers to the decrease of total supply, which makes the total demand greater than the increase of price level caused by total supply. One of the main reasons for the global inflation is that the dual effects of the COVID-19 Pandemic and Ukraine Conflict have caused serious problems in supply and impacted the industrial chain. Some countries have adopted stricter containment and control measures to prevent the spread of the epidemic. During this period, the production of some large factories was suspended, and at the same time, many sea and air transportation were canceled. This makes the supply of some industries chaotic, the intermediate links may be delayed or shut down, and the production cost will also rise. With the globalization of production, the absence of some production links may lead to the halt of the whole industry. And because of the import and export restrictions, the efficiency of air transport and sea transport has been greatly reduced, and the price has been greatly increased. Large companies with pricing power tend to maintain their profit margins by raising prices, and even take the opportunity to increase their profit margins. This act will undoubtedly worsen the inflation situation [3].

The rapid rise of energy prices (such as crude oil and natural gas) caused by the Russian-Ukrainian war is also one of the main reasons for the rising production costs. Russia and Ukraine are both important exporters of energy and basic metals. The war reduced the supply of energy, agricultural products and other commodities, greatly increased the prices, and caused drastic fluctuations in the prices of the whole market. Undoubtedly, at the critical moment of the COVID-19 epidemic, it further increased the pressure of world inflation.

2.3 Inertial Inflation

Inflation inertia (Fuhrer 1995) refers to the time that inflation deviates from its equilibrium state after being impacted by random disturbance. Expectation is one of the important factors affecting inflation inertia. The price rise caused by the COVID-19 epidemic and the Russia Ukraine war has led people to adjust their expectations of inflation and believe that prices will continue to rise at this rate in the next period. For this reason, prices will continue to rise in the next period. At first, the prices of medical supplies, food and vegetables and other commodities rose, and then the prices of crude oil and natural gas continued to rise. In the process of trading, people usually considered the expected price changes, which led to inflation inertia. This is also a key reason why global inflation continues for a long time.

The above are some common causes of high global inflation. This paper will take three important economies in the world: the United States, Britain and China as examples to further analyze the impact of the COVID-19 epidemic and the Russian-Ukrainian war on the world macro-economy.

3. Analysis based on the Three Economies

3.1 The US Market

The macro phenomenon of high inflation can be clearly seen from the year-on-year growth trend chart of CPI in the United States (see Figure 1). The growth rates mentioned below are year-on-year growth rates. At the beginning of the COVID-19 epidemic, the global economy suffered a huge impact, and its economic form declined. The growth rate of CPI gradually declined in January 2020, and began to rise in May 2020. However, since March 2021, the growth rate of CPI in the United States has exceeded the fiscal target of 2% for 19 consecutive months, and has continued to climb substantially, reaching an astonishing level of 9.06% in June 2022. Although it dropped slightly in the next three months, it remained above the high level of 8.2%.

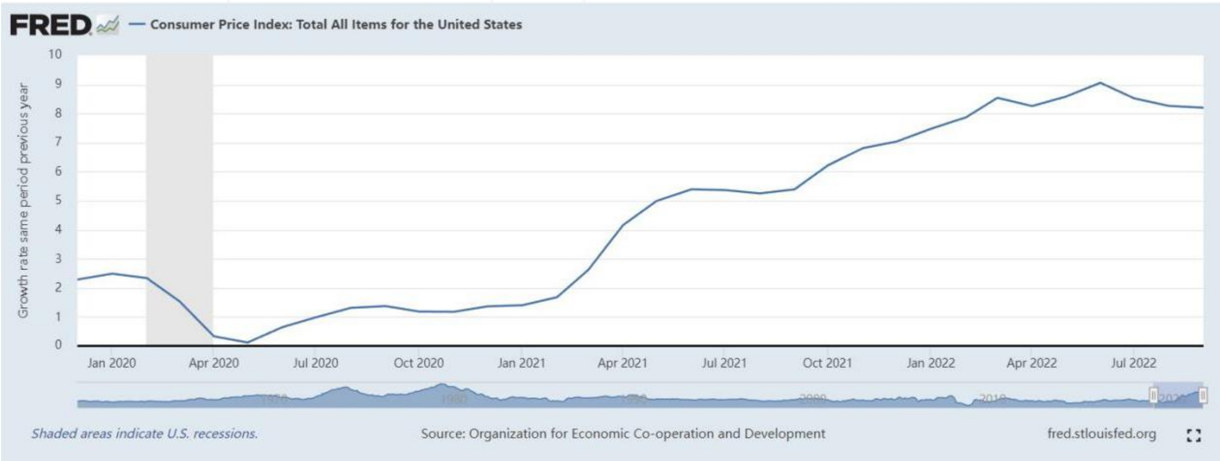

Fig. 1 U.S. CPI from Jan 2020 to Jul 2022 [4]

Different from before, the United States adopted a policy of fiscal and monetary easing at first. Both real interest rates and long-term interest rates were going down. The United States spends a lot of financial subsidies, accounting for more than 8% of GDP, which is an important cause of inflation in the United States [5].

In order to curb the high inflation caused by the COVID-19 outbreak and the Russian-Ukrainian war, and to gradually withdraw from the extremely loose policy, the Federal Reserve has raised interest rates four times since 2022. To some extent, this tight monetary policy has alleviated the adverse effects brought by the previous ultra-loose fiscal policy and monetary policy, boosted the US dollar index and reduced the market circulation of the US dollar. Capital flows back from emerging markets at the same time.

Although the interest rate increase by the Federal Reserve has indeed played a certain role in curbing inflation in the United States, it also has many drawbacks. While the US dollar appreciates, other countries will face risks such as devaluation of local currency and capital outflow. With the rise of interest rates in the United States, a large amount of capital flows into the United States, and capital outflow from developing countries intensifies [6]. At present, 38 emerging economies are experiencing or facing the risk of debt crisis. Interest rate increase in developed economies may lead to tightening of external financial environment in emerging markets and developing countries.

3.2 UK Market

The year-on-year growth trend chart of CPI from 2020 to 2022 in the UK can also clearly show the obvious upward trend of CPI (see Figure 2). Before February 2021, the CPI in the UK remained at a low level, but after that, it began to rise substantially. This kind of increase never stopped until it reached 7.8 % in April 2022. However, even though the growth rate slowed down, the CPI in the UK reached a super high level of 8.8% in September 2022. The inflation rate in Britain has reached its highest level in forty years.

Fig. 2 Britain's CPI from Jan 2020 to Jul 2022 [4]

Energy and food prices have risen sharply, and the inflation rate remains high. In May, 2022, the inflation rate increased even more than twice the basic wage growth rate, which greatly squeezed the purchasing power of consumers. Britain has fallen into recession. A British think tank research said that the trade barriers after Brexit pushed up the food prices in the UK. Another important reason for Britain's high inflation is that the Russia-Ukraine War and the negative impact of European sanctions against Russia. The Russian-Ukrainian war caused some supply chains to be interrupted. The export volume of crude oil, natural gas and other energy sources, as well as wheat, edible oil and other food products, was greatly reduced, and the transportation cost increased, so did the production cost. This has led to a substantial increase in prices in the UK and aggravated inflation.

In order to alleviate the pressure of high inflation, Britain adopted the policy of raising interest rates as early as the end of last year. However, the rate increase in Britain was not enough to solve inflation. Because the Federal Reserve has raised interest rates aggressively since 2022, the British pound exchange rate can't strengthen. In November, 2022, the British interest rate increased by 75 basis points, and the British interest rate rose from nearly 0 to 3%. The British housing boom has been a strong support for its economy. Since the global financial crisis in 2008, house prices in the UK have been rising steadily, and after the outbreak of the epidemic, the increase was even greater [7]. However, after a sharp interest rate increase, house prices in the UK began to fall. In November, 2022, the British interest rate increased by 75 basis points, and the British interest rate rose from nearly 0 to 3%. The British housing boom has been a strong support for its economy. Since the global financial crisis in 2008, house prices in the UK have been rising steadily, and after the outbreak of the epidemic, the increase was even greater. However, after a sharp interest rate increase, house prices in the UK began to fall. If the house price falls sharply, it will not only bring an impact to the real estate industry, but also bring a heavy blow to the whole British economy. The Bank of England stressed that the medium-term inflation risk is still on the upside. If inflationary pressures persist, a stronger rate hike may be needed.

3.3 China Market

Unlike Britain and the United States, China was the first country to be hit by the epidemic (see Figure 3). In January 2020, China's CPI has risen to 5.4%, but during this period, the CPI of Britain and the United States remained below 3%. After that, China's CPI continued to drop rapidly, even falling below 0 to -0.5% in November 2020. Although CPI rose slowly in the next two years, it remained below 3%. Judging from the trend chart, China's inflation rate is less than that of Britain and the United States.

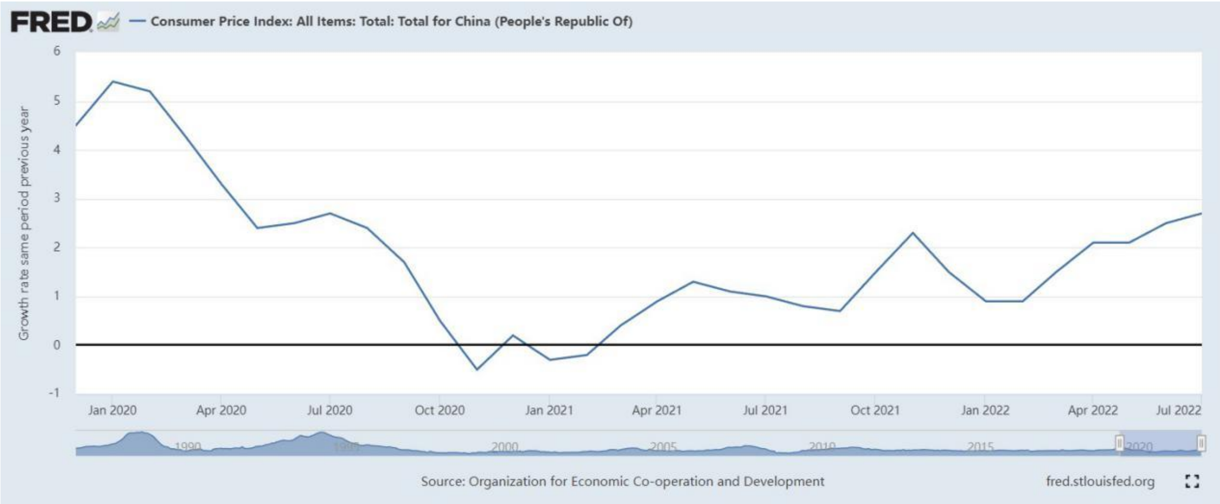

Fig. 3 Chinese CPI from Jan 2020 to Jul 2022 [4]

At the beginning of the outbreak of COVID-19, it coincided with the New Year in China, and it was an excellent opportunity for catering, entertainment and other service industries to make profits in a year. The policies of home isolation, shutdown and shutdown have had a serious impact on China's catering industry, cultural and entertainment industry and rail transit. With the improvement of the epidemic situation, the suppressed demand began to rebound, prompting the overall price level to rise upward. Faced with the inflation transmission of the US dollar system, China has adopted such measures as reducing monetary easing, RMB appreciation and policy intervention since April 2021 to reduce the impact of inflation on China's economic operation.

In addition, China's fiscal policy is more inclined to support enterprises and investment, so the production recovers quickly. However, as a labor-intensive country in China, the problem of underemployment after the COVID-19 epidemic is more obvious, and the per capita disposable income has decreased, so the unemployment problem has become an important problem that the China government can't ignore. In order to get rid of the economic difficulties caused by COVID-19, the United States, the EU and Japan have implemented some extremely loose monetary policies at first such as unlimited asset purchases and zero interest rates, which have led to a series of spillover effects such as global money supply surplus, abnormal fluctuations in commodity markets, and supply chain disruption. This has had an impact on China's economy [8].

4. Impact of COVID-19

The most obvious impact of the COVID-19 epidemic is the rising unemployment rate. In order to prevent the virus from spreading on a large scale, strict epidemic prevention policies such as home isolation, work stoppage and production stoppage have greatly affected the macro-economy and led to periodic unemployment. The 2021 Sustainable Development Financing Report released by the United Nations shows that the COVID-19 outbreak may cause the loss of 114 million jobs and the extreme poverty of about 121 million people worldwide.

Under the background of the global economic downturn, many enterprises have closed down, and the demand for labor has been greatly reduced. The most direct examples are the large-scale layoffs of companies and the devaluation of academic qualifications. The epidemic prevention policy has a positive impact on the unemployment risk [9]. The stricter the epidemic prevention, the less the population flows, the lower the demand for labor, and the labor force cannot go out to work during the isolation period. The supply and demand of labor force decreased at the same time, and when the supply decreased more than the demand, the rising unemployment rate also increased.

Another important influence brought by COVID-19 is the import and export trade. The world is not only faced with the impact of insufficient capacity supply and weak demand, but also the adverse trade conditions of global shipping outage and extended customs clearance and quarantine time, resulting in the total import and export volume being limited to a low level [10]. Unbalance of supply and demand, obstruction of logistics and transportation have seriously affected the normal import and export trade. The fact that the trade was blocked by the COVID-19 epidemic exposed the fragility and instability of the industrial chain and supply chain under the economic globalization, and also caused indirect effects such as industrial chain transfer and economic structure adjustment.

5. Conclusion

According to the phenomenon of high inflation in recent three years, this paper analyzes the causes and influences of inflation caused by COVID-19 epidemic and Ukraine conflict, as well as the present situation of three important markets and its countermeasures. This paper finds that the COVID-19 epidemic and the Russian-Ukrainian war have led to the change of market structure, affected the relationship between supply and demand, and broke the original market balance. Therefore, people's expectations are beginning to change.

Inflation has impacted the macro-economy of all countries in the world, and then caused such problems as soaring house prices and commodity prices, obstruction of import and export trade, breakage of some industrial chains and substantial increase of unemployment rate. Although all countries have taken actions to curb market volatility, now that the economies of all countries are closely linked, the fiscal policy and monetary policy introduced by one country may affect other countries. Nowadays, how countries all over the world can jointly resist the impact of the COVID-19 epidemic and the Russian-Ukrainian war and achieve a new economic balance are still problems to be solved.

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