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Research on the Impact and Strategy of the Epidemic on the Macroeconomics of China and the United States

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Abstract: At the end of 2019, it was Chinese's new year, when everyone stayed at home and spent time with their family, the hospitals in Wuhan, Hubei province, have brought in patients with COVID-19. And then the pandemic started to spread out in China and to the whole world and influenced the health and lives of people all over the world. This paper selected China and the United States as the research objects, compared some economic indicators of the two countries and analyzed the negative impact of the epidemic on the economic development of China and the United States. The results showed that the pandemic had a huge negative impact on GDP growth, national income, and trading markets in China and the United States. Economic growth in both countries has slowed or reversed; traffic stagnation leads to a substantial drop in commodity liquidity; unemployment increases and affects people's personal income. Comparing the economic data of the two countries can help people face the negative impact of the pandemic and make decisions. It is also clear whether the policies implemented in both countries in response to the economic downturn caused by the pandemic have been effective in helping stabilize economic growth.

Keywords: COVID-19, macroeconomics, GDP growth rate

1. Introduction

In an era of gradual economic globalization, where various factors of production flow freely among countries, the COVID-19 pandemic has obviously dealt a heavy blow to the global economy. As medical experts and scientists were trying to develop the vaccine to detect the COVID-19, economists and governments were trying to deal with the influences caused by pandemic. Because of the coronavirus, people had to stay in hospitals or at home, unable to work or study outside the home. The result of isolation was that customers' demand for goods and service decreased and the supply also declined, subsequently, the domestic economy began to enter a depression and affected the international trade, the import and export, then was the tariff, the currency market and so on. Just like the butterfly effect, the stagnation and even recession of the global economy caused by the COVID-19 pandemic will continue to bring unpredictable and unpredictable impacts on the economic development and people's work and life of countries around the world. So economists and governments must adopt policies and strategies to deal with the economic paralysis.

This paper focuses on those negative influences caused by COVID-19 in China and America, the potential economic crisis that might happen later, discusses about the aspects, like the aggregate demand, the aggregate supply, the inflation and unemployment, that show a trend of recession in

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macro perspective and analyzes the countermeasure of China and America's government. In addition, the effects of strategies will be evaluated and then have a conclusion of whether the economic policies or strategies will work, slow the trend of economic recession, in short term and long term as the outcome of this research.

Before this research, there were already some papers and research about the negative influences that were brought by COVID-19 and some possibly effective direction or methods to retard and resist the recession even try to avoid the potential larger economic damage or crisis like the Great Depression in America from 1929 to 1933. Under such circumstances, economists need to analyze the current situation, think carefully and make decisions. According to Junhao Hu's report, the pandemic affected both aggregate supply and aggregate demand. His research based on AD-AS model. On the aggregate supply side, the pandemic caused the third industry's output significantly declined because the factors of production could not flow from one market to another; the transportation system was confined [1]. Employees could not go to work or even loss their jobs, so their income source becomes undependable. People would prefer to hold money to response to emergency, which led to lessen in demand. If the central bank didn't increase the quantity of money supply, the currency in circulation would decrease and create a deflation. On the aggregate demand side, the pandemic affected consumers' demand. Since the transportation activities decreased, even though people purchased goods online, the production could hardly be sent to the consumers' location. The other reason was that people had to stay at home and tried their best to reduce contact with each other; therefore, it has a great impact on consumption and material flows that need to be contacted offline. In addition, the pandemic has also had a huge impact on imports and exports.

Another research analyzed the characteristic of China's macroeconomics stage and then indicates the relationship between pandemic and the economic growth in China. It showed that the emergence of the epidemic has increased the difficulty of China's economic transition and slowed down the economic growth rate [2]. In 2003, the GDP growth rate was 10%, however, in 2019, the GDP growth rate decreased to 6.1%. The downward trend in the economy is not conducive to the response to the pandemic.

2. The Impact of Pandemic to China and U.S

2.1. GDP

GDP is the most intuitive and effective data to see a country's economic strength and economic development trend. It can used to measure the comprehensive economic strength of the country or a region and national affluence. Second, this part of essay will compare the GDP and economic growth rate of China and the United States during the three years of the epidemic to show the huge impact of the epidemic on the economies and societies of the two countries.

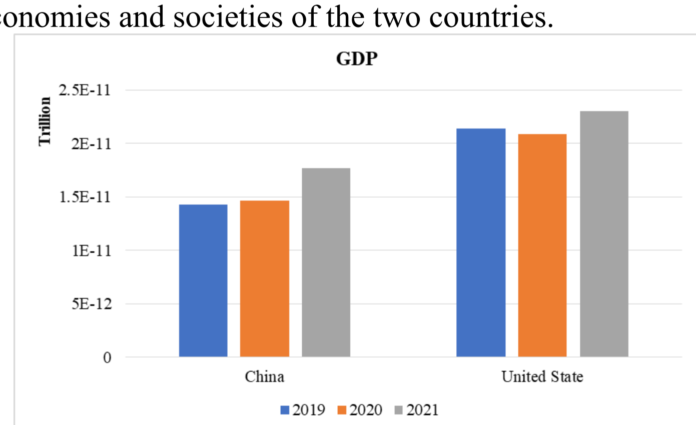

Figure 1: The GDP of China and United State from 2019 to 2021.

As is shown in the figure 1, from 2019 to 2021, the GDP in China kept the tendency of increasing [3]. In 2019, the GDP in China was 14.28 trillion and increased to 14.69 trillion for one year. However, the growth rate of GDP between 2019 and 2020 is significantly lower than the growth rate from 2018 to 2019. Between 2019 and 2020, the increased growth rate of GDP in China was 2.3%, compare to the rate in last pattern, which is 6.1%, it decreased about 3.8%.

During the pandemic, the economy in United State experienced a negative period. The GDP decreased from 21.37 trillion to 20.89 trillion in one year. From 2019 to 2020, the GDP growth rate in United State was -3.4%. Compare to the growth rate in the last year, the number decreased a lot and even became negative. Therefore, America's economy and society have been hit harder than China's.

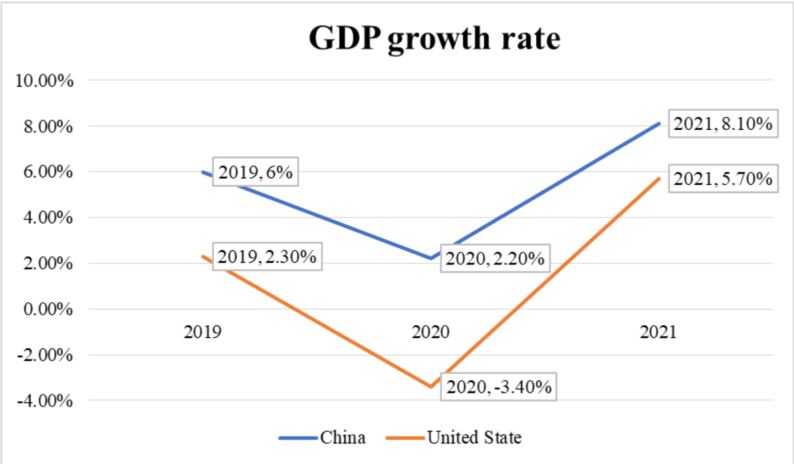

Figure 2: The GDP growth rate of China and United State from 2019 to 2021.

As shown in Figure 2, in general, both China and the United States suffered a noticeable impact on economic development in 2020, the year of the global pandemic [4]. The United States is in recession, while China is experiencing its lowest growth rate in recent years. From the perspective of GDP, it can be clearly seen that the growth rate of both countries has been reduced, the economic growth rate has declined, and the economic development was slow.

2.2. Unemployment

During the pandemic, people had to stay at home, preventing many from working and earning an income. Through unemployment rate, researchers can identify whether the economic society has stable operation or find out the influence caused by any reason like the COVID-19 in labor force market. Because of the economic downturn, many factories and companies have had to cut their workforces in order to survive in the market, and some small businesses have even gone bankrupt because of the pandemic. Those actions actually increased the unemployment rate and caused more people lost their jobs.

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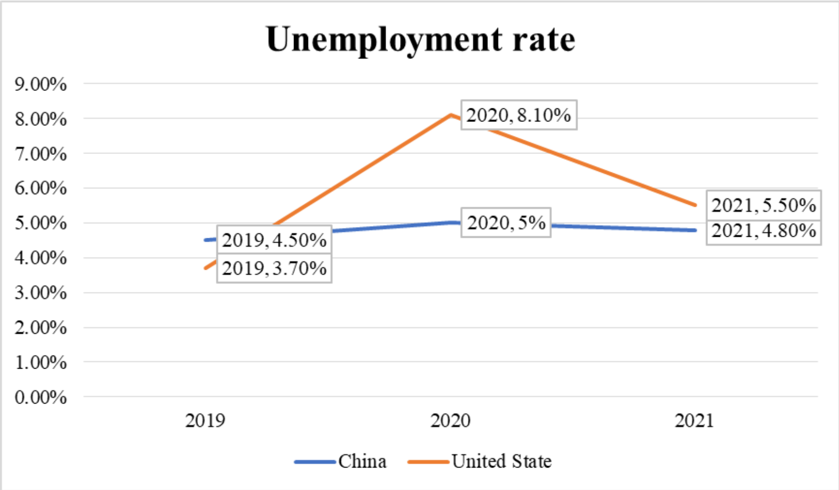

Figure 3: The unemployment rate of China and United State from 2019 to 2021.

As shown in Figure 3, it is clearly to see that China has more stable unemployment rate from 2019 to 2021 than United State has. In 2019, the unemployment rate was 4.5%, but in 2020, it increased to 5% which means that there more people lost their jobs in 2020 [4].

However, in United State, the situation does not seem good [5]. In 2019, the unemployment rate was 3.7% which even lower than China, but in 2020, the unemployment increased significantly because of the pandemic. The 8.1% unemployment rate was the highest data since the great depression [6].

2.3. Inflation and GNI per Capita

The inflation rate and GNI per capita will show the influences caused by COVID-19 on people's income and expenditure.

In the prediction, a lot of people cannot go outside and work, then the factories and company cannot produce goods and serves in economic market so the quantity of good and serves decreased. When there is less quantity of supplied in market, the market price will increase. Ignore the exception of some unscrupulous merchants taking advantage of the national crisis, there are fewer products available and prices are higher than they used to be, especially when most companies are unable to carry out normal production activities. People tend to consume less because the goods they used to be able to afford are suddenly much more expensive than they are willing to pay. In other words, people's purchasing power decreased because the actual value of their money declined.

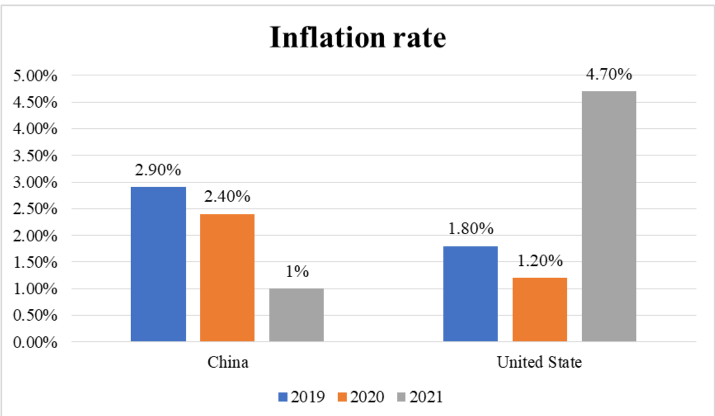

Figure 4: The inflation rate of China and United State from 2019 to 2021.

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However, like the figure 4 shows, during 2020, the data showed another situation. The inflation rate decreased in both China and United State. In China, the inflation rate decreased from 2.9% to 2.4%. In United State, the inflation rate decreased from 1.8% to 1.2% [4].

This figure indicated that deflation from the pandemic. After the outbreak of the epidemic, people's demand for masks, disinfectant water and other items has increased. In order to ensure that people can buy enough of these items, the government will adjust their market prices to ensure that people can get them easily. The market price decreased and people's expense decreased because they can spend less money to buy product that they think is important during pandemic. The investment market also was influenced by COVID-19 since people didn't want to lose money on stock or other item and most of them think the recession will happen in stock market, too. Inflation affects the value of money, which then affects the exchange rate of money in the international money market, and also has an impact on international investment. The currency flowed in market is less than the quantity of currency that products flowed in market need and led to currency appreciation. The company needs money to make sure their basic economic activities, so most of them will choose to low their price of products to attract consumers to buy their good since they have lower price. Nevertheless, the supplier didn't consider that consumers' demand for goods and serves also decreased because the transportation system almost paralyzed they have no way to consume and purchase something that they want and people paid too much attention on the COVID-19 and just stay at home and make sure they have enough necessary staff for dealing with the pandemic. And most of them prefer to save their money for emergency since the pandemic was unpredictable. In addition, deflation is one of the characteristics of economic recession.

GNI per capita is the gross national income divided by the number of people in the middle of the year. GNI is the net revenue from the sum of value added created by all resident producers, plus taxes on any products not included in the output estimates, plus the net income from original revenues from overseas operations. And the growth rate of GNI per capita of one country or region represents the income of the people of this country or region. It measures the economic strength of a country or region and the wealth of its people. So the higher the GNI per capita is, the stronger the comprehensive economic strength of this country of region is.

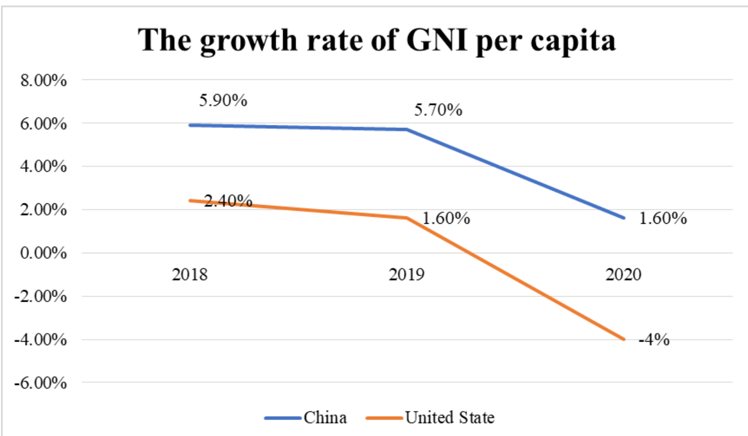

Figure 5: The growth rate of GNI per capital in China and United State from 2019 to 2021.

According to The World Bank, the growth rate of GNI per capita in China decreased from 5.9% to 5.7% and declined sharply to 1.6% in 2020 in figure 5 [4]. The decreased growth rate indicated that people's income decreased and their purchasing power declined especially the ordinary people.

In United State, the growth rate of GNI per capita decreased from 2.4% to 1.6% between 2018 and 2019 and even low to -4% in 2020. 2020 was the year that COVID-19 was most popular and severe,

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the -4% growth rate of GNI per capita was the lowest since 1970 until now. The growth rate of GNI per capita decreased represent that the speed of people's income increasing decreased which will influence people's purchasing power and lower their demand. The economic society will also be influenced since the currency flowed in the market decreased.

2.4. The Government's Actions

After government and economists in China noticed that domestic economic growth in the face of a huge blow and pressure because of the pandemic, they began to take some action.

In order to adjust the order of economic and social operation in line with the epidemic prevention and control and minimize the impact of the epidemic on economic and social development, the Chinese government has introduced a lot of policies.

While ensuring the orderly resumption of work and production, China has adopted a number of policies, including tax cuts, increased government subsidies and financial support for small and medium-sized enterprises and individual businesses. While actively responding to the epidemic, this paper will ensure that farmers and other labor forces can return to work. Preferential tax policies such as VAT exemption will be adopted for industries that are more affected by the epidemic, such as public transport, catering and tourism. China has temporarily postponed the repayment of principal and interest on loans to small, medium and micro enterprises, and added new loans at preferential interest rates. The government even allowed individual business goes outside to set up a stall and formed night market or street market to simulate consumer to purchase. By the end of April, more than 99 percent of industrial enterprises above designated size, 88.4 percent of micro, small and medium-sized enterprises, and 95 percent of major projects had resumed work. In Hubei, 98.2 percent of industrial enterprises above designated size returned to work and 92.1 percent of employees returned to work, close to the national average [7].

The government has implemented an unprecedented countercyclical macro policy. In terms of fiscal policy, the Federal Reserve reduced the federal funds rate by 150 basis points to zero interest rate, implemented unlimited quantitative easing policy, and introduced a number of innovative liquidity supply measures to alleviate the liquidity crisis in the financial market. As a result of extremely loose monetary policy, the Fed's total balance sheet has ballooned from around $4 trillion at the start of the year to more than $7 trillion today. In terms of fiscal policy, the US government has introduced a fiscal stimulus package worth $2.25tn, equivalent to 10.5% of GDP. Basically, the Federal Reserve would buy assets and then the local governments, companies and individuals who short of money can obtain cash and there are more cash flowed in the market so the market liquid increased.

3. Suggestion

In general, the policy should consider the short term recession and long term continued economic growth at the same time.

In the short term, the government can promote individual and household's purchasing ability through financial aid method like sending cash subsidies and transform payment to individuals. In addition, in order to stabilize the economy and ensure employment, the government can provide emergency assistance to enterprises, especially small, medium and micro enterprises, through fiscal taxation and relevant financial policies [8-10]. The government can reduce tariffs and provide welfare for foreign trade enterprises to ensure the smooth flow of production factors in the world, increase foreign trade, and stimulate domestic economic and social development through foreign investment. In the long term, increasing the investment on infrastructure, especially public health infrastructure, will boost productivity and job creation, and stimulates private investment. In the market for factors

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and resources, government need to deepen reform of the market-oriented allocation of factors of production, ensure the independent and orderly flow of factors of production, and improve the efficiency of factor allocation.

4. Conclusion

At the beginning of 2020, the suddenly pandemic attacked the whole world and brought a huge impact on the economic growth around world. In this paper, through comparing the GDP and GDP growth rate and a lot of economic data, it is clear to see that the pandemic brought a negative effect on China and United State. The economic depression caused by isolation and low liquidity of factors of production will led to more people could not afford a lot of goods and service in the market and impact international trade. However, this paper only analyzed the effects of the pandemic in two countries, China and the United States, from a macroeconomic perspective, and did not include information about money markets such as interest rates and exchange rates. As for the economic policies made by China and the United States in response to the economic impact caused by the epidemic, this paper did not elaborate and analyze the results after the implementation of the policies. In addition, this paper only selects three years of economic data from 2019 to 2021. From the perspective of sustainable development, the comparison of data from a longer period is a more comprehensive way to show the changes in the economic and social development of the two countries. The COVID-19 pandemic is a test for all mankind and a huge impact on the economic development of all countries. All countries in the world should, on the basis of the health of their people, take the road of sustainable economic development and steadily push economic development back to normal. By studying the impact of the epidemic on the macro-economy of China and the United States and their response policies, it can help other countries analyze their domestic economic conditions, formulate appropriate economic policies and restore economic development.

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