

Will global quantitative easing (QE) lead to high inflation this time?

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In response to the coronavirus epidemic, the Federal Reserve launched unlimited quantitative easing on March 23. Other central banks, including the European Central Bank, the Bank of England, and the Bank of Japan, also launched or added QE. Will this round of globalized quantitative easing cause higher global inflation?

Unlike the 2008 financial crisis, the coronavirus epidemic has disrupted global supply chains and damaged some countries' industrial production capacity. The total output of the global economy will decline significantly. QE will lead to more currencies chasing fewer goods in this environment. Hence, the risk of a sharp increase in global inflation is rising.

1. The difference between theory and the real world means QE does not necessarily bring higher inflation

Under the assumption of economic theory, quantitative easing will inevitably bring global inflation higher. According to the monetary economics equation: $MV = PQ$, the amount of currency in the economy times the speed of currency circulation is always equal to the amount of goods in the economy times the prices of goods. Assuming that the output and speed of currency circulation in the economy remain the same for a short time period, then there will be a positive relationship between the amount of money printed in the economy and the price of commodities. Therefore, QE, which creates more money, will inevitably bring the price of goods up.

But in the real world, things are different:

1. The currency circulation rate may slow down.
2. The output in the economy may increase.

In both situations, even if the amount of money in the economy increases, goods prices may not rise sharply accordingly.

3. the definitions of currencies and goods in monetary economic equations are different from those in the real world. First, in the real world, not all currencies can be considered as having the same purchasing power. For example, the Bank of Japan launched quantitative easing policy as early as 2001, but it has not clearly exported any inflation to the world. Yen's over-supply was partially offset by its depreciation vs US dollar.

The difference between theory and reality helps to explain why global quantitative easing after the 2008 financial crisis did not bring about global inflation, and why this time the inflation scenario will be different.

2. The adjustment of exchange rates in the euro and yen vs the US dollar makes other central banks' quantitative easing to have limited impact on global inflation compared with the US

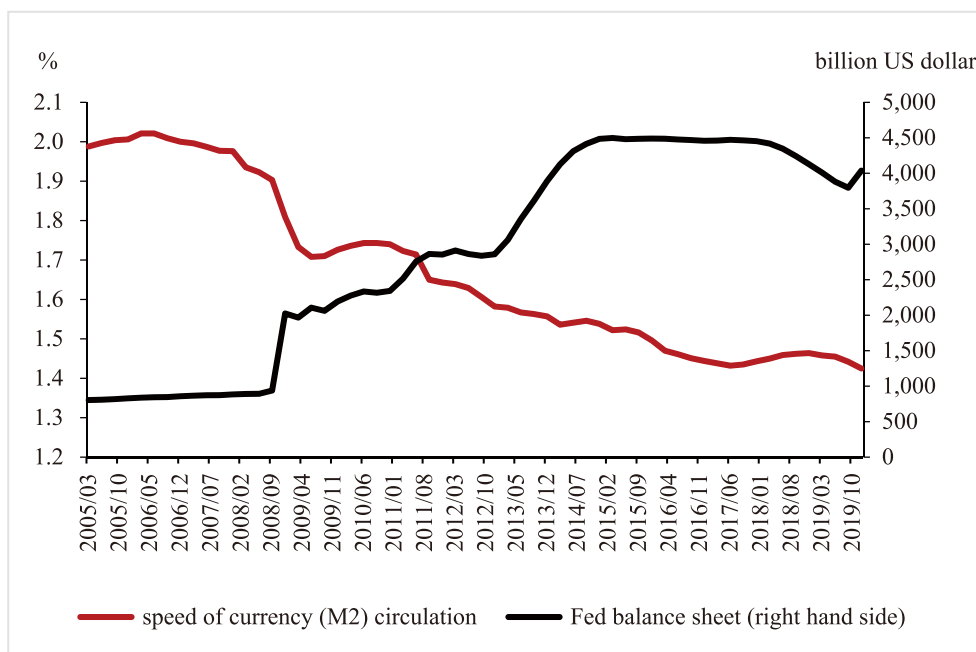
Although the European Central Bank, the Bank of England, and the Bank of Japan introduced unprecedented quantitative easing after the 2008 financial crisis, the effect of these QEs on global inflation were limited due to the adjustment of exchange rates of these countries' currency vs the US dollar. For example, although the European Central Bank launched a similar asset purchase program during the European debt crisis, the exchange rate of the euro vs US dollar fell from a high of 1.4 to a low of 1.04, a decline of more than 25%. The purchase power of euro fell significantly; Similarly, the dollar-yen exchange rate has risen from 75 to 125, an increase of more than 60%, limiting the effect of multiple rounds of quantitative easing by the Bank of Japan on global inflation.

In the absence of major changes in the foreign exchange market, the only QE that can cause significant inflation pressure globally is Fed's quantitative easing.

3. The main reasons why QE from the Fed after the 2008 financial crisis failed to bring higher inflation lay on structural decline in the U.S. currency multiplier, globalization, and the sharp fall of oil price

The Fed's quantitative easing in response to the 2008 financial crisis led to a large expansion of its balance sheet, but at the same time, there was a structural decline in the U.S. currency multiplier measured by M2 after the 2008 financial crisis, (see Figure 1). The rise in excess reserves of US commercial banks can reflect the slowdown in the rate of currency creation

Figure 1: Fed balance sheet and speed of currency (M2) circulation



Source: Wind, BOCHK Research

in the US financial system after the 2008 financial crisis (see Figure 2). The US economy has not fully absorbed the liquidity created by the Fed through quantitative easing. So, the left-hand side of the equation $MV=PQ$ remained unchanged.

After the financial crisis in 2008, China launched a four trillion-yuan economic stimulus

package and expanded its production capacity rapidly; Under globalization, China's action means more tradable goods are produced in a short time period. Global layout of supply chains made the allocation of resources globally more efficient, hence global output increased accordingly. Both of these factors contributed to the expansion of Q in the $MV=PQ$ equation. So certain amount of M increases in this equation does not necessarily lead to an increase in P.

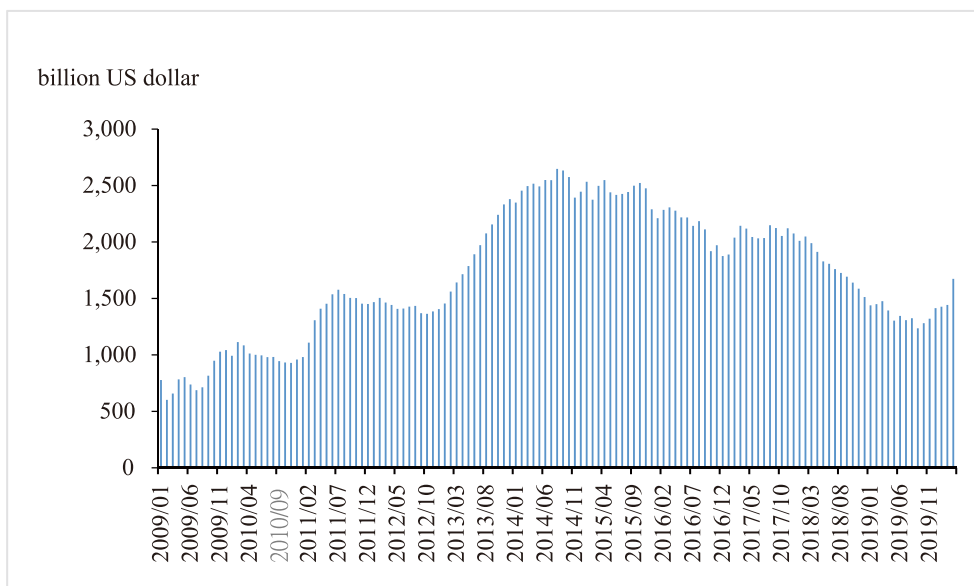
The last factor is the fall in oil prices. More crude oil production from U.S. shale oil mining has transformed the United States from a net importer of crude oil to a net exporter of crude oil. Global crude oil production surplus did not ease until OPEC+ reached a production restriction agreement. During this period, the US crude oil futures price dropped from around US\$ 95 To around 50. With the falling of oil price from the beginning of 2014 to February 2016, oil price changes accounted for most of the change in US inflation. The correlation between the year-on-year growth rate of the US CPI and the crude oil price reach as high as 0.7. The correlation between US import price and crude oil price exceeded 0.8. The same happened between EU HICP year over year growth rate and crude oil price in the same time period. At the same time, China's deleveraging amplified the decline in global commodity prices, which fueled the dropping of inflation globally.

4. The negative impact of the epidemic on the global supply chain and industrial production capacity, together with QE, will create inflation pressure

The biggest difference between economic recession caused by the coronavirus epidemic and the 2008 financial crisis is the impact on the supply side:

First, compared with the 2008 financial crisis, the integration of the global supply chain has upgraded. As of 2018, more than 70% of global trade volume was intermediate goods such as parts and materials. China's importance in the global supply chain is increasing. Compared with

Figure 2: Excess reserve for US depository institution



Source: Wind, BOCHK Research

2000, China has replaced Japan as the core of supply chain in the Asia-Pacific region according to the WTO. Since the outbreak of the epidemic in China, the global supply chain has been severely impacted. China's imports and exports of mechanical and electrical products, which play an important role in global supply chain, fell by 7.6% and 16.2% year-on-year respectively in the first two months of 2020. In March, exports of mechanical and electrical products continued to decline by 9% year-on-year.

As the epidemic spreads, its negative impact on the global supply chain has become more obvious. Taking the automotive industry as an example, the initial impact of the epidemic on China hindered the supply of auto parts. Hubei, as one of China's important automobile and parts manufacturing centers, accounts for about 10% of China's total output. In this epidemic, the return of workers to the factory and the resumption of the production have been delayed, causing many manufacturers to suspend the production of some vehicle factories. Although China's epidemic prevention and control has controlled the situation for now and the supply of auto parts has gradually recovered, global auto production is still facing difficulties due to the epidemic in Europe. With the rapid spread of the epidemic in Europe, the manufacturing of complete vehicles has been greatly affected. Car companies such as Volkswagen, Renault, Regal, Ford, Chrysler, and others have closed more than 70 plants in Italy, Spain, and Hungary.

Second, due to the implementation of certain degrees of social distancing around the world, industrial production in various countries has shrunk significantly. The risk of rising industrial goods prices increased due to a shortage of supply.

Third, the epidemic of coronavirus in some countries may impact agricultural production and cut global supply, as in the case of ASEAN and South America.

Finally, the current round of oil price declines come more from concerns over demand than capacity, as was the case in 2014. Lower oil prices have caused shale oil producer bankruptcies in the United States. Large oil service companies are also facing the threat of bankruptcy or layoffs, as oil price kept falling. As the oil price goes lower and lower, things may get worse for these companies. This will cause irreversible damage to the future production capacity of crude oil, which may create a shortage of this important raw material globally.

Based on the foregoing analysis, the negative impact of the current epidemic on the supply side is much greater than what happened during the 2008 financial crisis. Coupled with the unprecedented level of quantitative easing launched by global central banks, the risk of more currencies chasing fewer goods in the future will increase significantly. The medium-term inflation outlook may look very different from the one in the previous Fed quantitative easing period (2008-2014).