

# *Analysing RMB exchange rate fluctuations based on multiple perspectives*

Xinlei Shi, Xinzhe Liang

*School of Accountancy, Hainan Vocational University of Science and Technology, Haikou, 570100, China*

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**Abstract:** With the trend of economic globalisation and the close economic interaction between China and the rest of the world, the exchange rate as a bridge of economic communication with the rest of the world, to maintain the stability of the exchange rate in international trade is particularly important. However, the current international financial situation is complicated and affected by the novel coronavirus (COVID-19) epidemic, the fluctuation of RMB exchange rate is particularly obvious, which seriously affects the stable development of China and the world economy. Based on this, this paper analyzes the reasons for the fluctuation of RMB exchange rate from three different perspectives: internal state intervention, external interest rate hike by the Federal Reserve and repeated special events of the novel coronavirus epidemic. Analyze the reasons from a more comprehensive perspective. In addition, it not only analyzes the impact of the exchange rate system on exchange rate fluctuations, but also discusses how to develop the exchange rate system in order to better weaken the impact of exchange rate fluctuations. From the perspective of analyzing the new coronavirus epidemic, we further analyze the mechanism of the RMB exchange rate fluctuation from the Keynesian macroeconomic model. Then, from the perspective of China's conditions, this paper innovatively discusses the adverse effects of RMB exchange rate fluctuations on economic development and situation from four aspects: terms of trade, price level, employment and industry, labor productivity and economic structure. Finally, in view of the current economic development situation in China, it is proposed to promote the internationalization process of RMB, improve the exchange rate formation mechanism, and use financial instruments to cope with the frequent fluctuations of the current RMB exchange rate. Based on the above analysis, it is hoped that the RMB exchange rate can be controlled to fluctuate within a reasonable range, constantly promote the internationalization process of RMB, and accelerate the market-oriented development of exchange rate. To provide a foundation for the stable development of the economy.

## 1. Introduction

Since the reform and opening up, China's economy has been developing rapidly, and the exchange rate is regarded as an important tool of economic development. Therefore, China has adopted some economic policies and measures to further use the exchange rate tool to develop the economy. Since

the founding of the People's Republic of China, China's exchange rate system has changed from a single fixed exchange rate system to a dual-track system pegged to the US dollar, to a floating exchange rate system with reference to a basket of currencies, and to a managed floating exchange rate system after the "8.11 exchange rate reform". While constantly improving the exchange rate system, the development of market-oriented exchange rate has been promoted, making exchange rate fluctuations the normal state of economic development. Based on the understanding of the exchange rate system, this paper innovatively analyzes the causes of RMB exchange rate fluctuations from the development of the exchange rate system and the domestic exchange rate policy system, and discusses how to develop the exchange rate policy and reduce the impact of exchange rate fluctuations on economic development.

Under the current economic trend of economic globalization, serious inflation in various countries is bound to have a bad impact on the world economy, financial markets and other economies through various ways such as exchange rate fluctuations. Zhu Ning et al. [1] discussed the impact of the novel coronavirus pneumonia epidemic as an uncertain event on the fluctuation of RMB exchange rate based on people's psychological expectations of consumption. They only analyzed the potential reasons, but failed to prove the reasons of RMB exchange rate based on principles and mechanisms. The impact of the novel coronavirus pneumonia on the foreign exchange market, the motivation of prevention and prudence in people's minds occupy the dominant position, thus making the RMB exchange rate fluctuate constantly.

Due to the COVID-19 epidemic and the current international economy shrinking, the United States is trying to make its economy recover and further develop. Meanwhile, the Federal Reserve keeps raising interest rates to promote economic recovery. However, since 2022, the Federal Reserve has raised interest rates too frequently, which also has an impact on the exchange rate of the US dollar, as the world currency, has an important influence on the international economic market. When the exchange rate of the US dollar fluctuates continuously, the exchange rate of the RMB is also constantly impacted by fluctuations, which has an irreversible impact on our economy. However, Pan Hongsheng et al. [2] only explained the impact of the Fed's interest rate hike on the capital market, ignoring the current economic situation in China and not analyzing based on China's actual situation when facing the impact of the Fed's interest rate hike on the RMB exchange rate. Based on this, this paper further elaborates the impact of RMB exchange rate fluctuations on China's economy from four perspectives: China's terms of trade, current price level, employment and national industrial development, China's labor productivity and economic structure.

Domestic economists have different opinions about the causes of RMB exchange rate volatility, and this paper discusses the causes from three aspects: domestic factors, irresistible epidemic factors, and international economic situation. Li Qing and Hao Jianhuan (2022)[3] study the impact of RMB exchange rate on economic factors from the perspective of foreign trade, based on this paper from China's national conditions, to analyse the impact of RMB exchange rate fluctuations on China's economy from a macro point of view.

## **2. Causes of fluctuations in the exchange rate of the RMB**

### **2.1 National intervention**

In 2018, the state comprehensively deepened reform, which put forward the need to "improve the market-based formation mechanism of the RMB exchange rate". Therefore, on 11 August 2018, the People's Bank of China, in order to accelerate the degree of marketisation of the mid-rate of the exchange rate between the RMB and the US dollar, made further improvements to the exchange rate mid-rate formation mechanism by means of the "8.11 Exchange Reform"[4-5].

## 2.2 Recurrent outbreaks of new crown pneumonia

In late 2019, an epidemic of neococcal pneumonia spread globally with a strong and rapid contagion, leading to a cumulative total of more than 500 million confirmed cases and more than 6.19 million deaths globally since the outbreak of neococcal pneumonia until early 2022 [1]. This has had a huge impact on the political and economic spheres globally. The arrival of the new coronavirus epidemic not only affects people's daily productive work and life, but also challenges the stability of the macroeconomy of each country. When the global economy is in volatility, due to the high sensitivity of the foreign exchange market to the economy, the risk of economic volatility is quickly transferred to the foreign exchange market, and the value of the currencies of various countries has also been severely impacted [6-7]. On the one hand, by the impact of the new crown epidemic, the economic development of countries around the world can be inhibited, people's economic uncertainty, unwilling to overconsumption led to the depreciation of their own currencies; on the other hand, the new crown pneumonia epidemic has also brought uncertainty to the economic market, investors have a cautious motivation and speculative motivation in the case of economic situation uncertainty, reluctant to overinvestment, which further expand the exchange rate of the renminbi volatility.

## 2.3 Federal Reserve raises interest rates

In March 2022 the Federal Reserve opened a new cycle of interest rate hikes, this time large and very frequent. At the beginning of 2023, three full years have passed since the outbreak of the New Crown Pneumonia epidemic. Under this influence, in March 2023, the Fed also began its ninth round of interest rate hikes since the 1970s, which also means that the RMB exchange rate will once again be subject to new shocks.

## 3. Impact of fluctuations in the exchange rate of the renminbi

### 3.1 Exchange rate fluctuations affect terms of trade

A rise in the exchange rate of the renminbi, i.e. a depreciation of the renminbi and an appreciation of foreign currencies, puts the country at a terms-of-trade disadvantage, but when the country meets certain conditions, the negative impact will be greatly reduced.

However, although the above situation will reduce the negative impact of local currency depreciation on the terms of trade, from a practical point of view, all the country's imports and exports to meet the above two scenarios is very difficult, so in general, the depreciation of the local currency will bring about a deterioration in the terms of trade of the international trade [8].

### 3.2 Exchange rate fluctuations affect price levels

Fluctuations in the exchange rate of the renminbi will directly affect the price level. When the RMB exchange rate rises and the local currency depreciates, it will affect the domestic price level through the currency wage mechanism, the production cost mechanism, the money supply mechanism and the above three mechanisms, and will even lead to a cyclical increase in the wage level and the price level.

#### (1) Currency wage mechanism

When the exchange rate of RMB rises, the price of imports into the country increases, which leads to an increase in the cost of living for the people in the country, and in turn, the people working in the country need additional salary payments, more money in the market, more wages will only lead to a higher cost of production and living, and repeating this economic process, which leads to the

substitution of exports and imports of goods and exports of goods and imports of goods and an increase in the general level of prices in the country.

(2) Production cost mechanism

When the exchange rate of RMB rises, and the imported goods are important raw materials for the domestic goods, the depreciation of the local currency will lead to an increase in the price level of imported raw materials, which will lead to an increase in the price level of the domestic goods.

### **3.3 Exchange rate fluctuations affect employment and national industries**

Social employment rate is usually positively correlated with aggregate social demand. When the exchange rate of RMB rises, the depreciation of the local currency will bring about an increase in aggregate demand, and in order to expand the scale of production, enterprises will increase the inputs of factors of production and increase the number of employees in the company, which will lead to an increase in the rate of social employment.

The impact of RMB exchange rate fluctuations on national industries is usually linked to the development strategy of national industries in the country. The devaluation of the local currency can be seen as a taxing behaviour, a tax on imports and a subsidy on exports. When a country wants to take advantage of its national industry, it adopts an export-orientated strategic system, whereby the devaluation of the local currency leads to a decrease in the price of the country's exports, thus increasing the demand for them in the international market and allowing the development of its national industry. However, when a country adopts an import-oriented strategic system, it needs to import more products from the international market to develop the national industry, the depreciation of the local currency makes the price of imported goods high, the cost of national industrial development greatly increased, thus inhibiting the development of national industry.

### **3.4 Exchange rate fluctuations affect labour productivity and economic structure**

The exchange rate fluctuation of RMB will have different impacts on the economic structure of the country from short-term and long-term perspectives.

(1) In the short term, it is favourable to the operation of import and export enterprises.

When the RMB exchange rate rises, on the one hand, the local currency depreciates, thus making the foreign currency price of the country's export commodities fall, the export trade develops, and the sales of export commodities increase; on the other hand, the local currency depreciates, leading to the rise in the price of foreign imports, thus making the imported commodities in the domestic market at a disadvantage, inhibiting imports, and the demand for foreign imports decreases, while at the same time the domestic demand and sales of the imported commodities of the country's substitutes demand and sales increase, for the country's commodity enterprises to get opportunities and development.

(2) In the long run, it is not conducive to the increase of labour productivity and the improvement of economic structure

When the exchange rate of RMB rises and the local currency depreciates, the market will protect those backward enterprises which are high-cost and low-efficiency substitutes for exported and imported goods, and even make these backward enterprises expand their production scale to a certain extent, which is not conducive to the enhancement of labour productivity and the improvement of the economic structure in the long run.

However, when the local currency depreciation, the domestic enterprises through short-term sales increase in income, product upgrading and production technology innovation, thereby improving production efficiency and innovation to make goods more competitive in the international market, then in the long term, labour productivity and economic structure will be improved [9].

## **4. Response Strategies**

### **4.1 Promote the process of RMB internationalisation**

From the perspective of economic development, exchange rate fluctuations have a dampening effect on international import and export trade. As the world's first trading country, China's economic and trade exchanges with countries around the world have become increasingly close, and the influence of the RMB in the international financial market is also increasing, and the internationalisation of the RMB will be the trend of economic development [10]. The current Federal Reserve continues to raise interest rates, the stability of the international exchange rate system has a certain impact, making the yuan to a certain extent by the impact of depreciation, the world's economic development has also been inhibited to a certain extent. In the future, after the depreciation of the dollar will again suffer certain fluctuations in the world economy, when promoting the internationalisation of the RMB, the RMB exchange rate will no longer be subjected to large fluctuations due to the depreciation of the dollar, the currencies of countries around the world are closely traded with the RMB, which can also weaken the perturbation of the US dollar on the exchange rate of various countries [11].

### **4.2 Improve the exchange rate formation mechanism**

The exchange rate system is by the country's monetary authorities through different monetary policies and monetary instruments on the national currency exchange rate fluctuations in a certain way to regulate the method of regulation [12]. 8.11 after the exchange rate reform of the RMB exchange rate with the mid-price linked to the reference basket of currencies, the RMB exchange rate has also begun to link with the market economic factors [13-16]. Usually managed floating exchange rate system, the degree of the RMB exchange rate in the face of the international economic situation turbulence and the impact of various economic factors, can still be a certain degree of adjustment of the exchange rate, so that the RMB exchange rate fluctuations in a reasonable range. Therefore, China should adhere to the managed floating exchange rate system and actively promote the marketisation of the RMB exchange rate, so that the fluctuation of the RMB exchange rate tends to be normalised.

### **4.3 The use of financial instruments to prevent exchange rate risk fluctuations**

Therefore, it is particularly important to learn and use risk hedging tools, such as forward settlement, foreign exchange options, currency swaps, exchange rate hedging index funds and other financial instruments.

## **5. Conclusion**

The fluctuation of RMB exchange rate is determined by many factors. From the perspective of state intervention, this paper explains that after the "8.11 exchange rate reform", the continuous implementation of market-oriented exchange rate makes the exchange rate linked to the market economy, and the exchange rate fluctuation is the normal state. The novel coronavirus epidemic is an unexpected event that the market and investors cannot anticipate, which will have a certain impact on the economic situation. Due to the important position of the US economy in the international economy, the interest rate hike of the US Federal Reserve will bring risks to the entire financial market. Therefore, the RMB exchange rate has fluctuated and risen recently, but its fluctuation range is within the range of China's adjustable exchange rate. Don't panic too much. At present, investors and enterprises are particularly sensitive to the fluctuations of the RMB exchange rate, especially the



rise and depreciation of the RMB exchange rate, which makes investors lack confidence in the RMB. Investors will reduce risk investment and choose to hold more stable interest-bearing assets. Therefore, the economic market and situation will shrink under the economic condition of exchange rate fluctuations. The real economic crisis and exchange rate crisis. Therefore, in this economic situation, investors need to have confidence in the RMB and economic development, and the country and the market need to take certain measures to prevent possible risks and enhance investors' confidence.

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