



Empirical Analysis of Factors Affecting RMB Exchange Rate and Policy Implications Under Epidemic Conditions

Yuhang Zhang^(✉)

International Business, Jinan University, Guangzhou 510632, Guangdong, China
zyh2020104456@163.com

Abstract. This paper first summarizes the current situation of RMB exchange rate fluctuations from 2020 to 2022. On this basis, the causes of RMB exchange rate fluctuations are analyzed from five aspects: the epidemic, the international political environment, the Russia-Ukraine conflict, the interest rate hike of the Federal Reserve and the supply and demand of the foreign exchange market. Find out the factors and trends affecting the fluctuation of RMB exchange rate. Finally, aiming at China's response to the fluctuation of RMB exchange rate, the paper puts forward to further promote the two-way symmetric opening of the capital account and improve the formation mechanism of the RMB exchange rate. To accelerate the upgrading of industrial structure and improve the competitiveness of the countermeasures and suggestions to promote the further development of RMB internationalization.

Keywords: RMB exchange rate · Causes of exchange rate fluctuations · Countermeasures and Suggestions

1 Introduction

In the context of the global spread of COVID-19, with the increasingly complex international financial situation and the accelerated internationalization of RMB, RMB exchange rate fluctuation has become a normal economic situation, which has seriously affected the development of China's economy [1]. In 2021, China's foreign trade volume has been increasing, and its trade surplus has been expanding. In 2021, China's trade surplus reached 4.36 trillion yuan. In addition, according to data from the State Administration of Foreign Exchange, China's foreign exchange reserves reached \$3,250.2 billion at the end of December 2021, up 0.86% from the end of November, hitting the highest level since 2016, and the frequency of using foreign currencies is also increasing [2]. However, because the exchange rate is affected by many factors, the two-way fluctuation of RMB exchange rate has become normal, which is not conducive to the national economy to maintain internal and external balance [3]. In the fierce competition of international trade, in order to ensure the security of foreign exchange funds, based on the study of the fluctuation trend of RMB exchange rate in recent years, the reasons for the

fluctuation of RMB exchange rate are clarified, and suggestions against the fluctuation of RMB exchange rate in the post-epidemic era are put forward, hoping to have certain reference significance for the growth of national economy.

2 Analysis of RMB Exchange Rate Fluctuations Since the Outbreak of the Epidemic

In 2020, the global spread of COVID-19 caused severe turmoil in the international financial market, and the exchange rate of RMB against the US dollar showed an “inverted V” trend throughout the year, it depreciated first and then appreciated. It can be simply divided into two stages. The first stage is from January to May, when the central parity rate of RMB against US dollar depreciated from 6.9614 at the beginning of the year to 7.1316 on May 28, mainly because of the risk aversion and US dollar liquidity crisis caused by the outbreak of the epidemic in China [4]. The second phase in June and December, as China’s epidemic situation get better control, production and living gradually back on track and the federal reserve and other major global central bank liquidity effect, put forward the strategy of “binary” in China, with domestic and international mutual promotion of model driven economic recovery after the outbreak era, leading to the internationalization of RMB is accelerated, The material basis of the value of China’s RMB has been further strengthened, and the flexibility of the RMB exchange rate has been enhanced. As of December 31, the RMB exchange rate against the US dollar closed at 6.5249, showing a good trend of rebound and continuous appreciation which means that the relative price increase of RMB compared with USD.

In 2021, the RMB exchange rate against the US dollar fluctuated slightly, basically around the range of 6.35-6.57 two-way fluctuation, the annual increase of about 2.6%, less than 6.5% in 2020. The main reason is that in 2020, the US dollar index fell and non-US dollar currencies rose, while the rise of the RMB exchange rate basket was limited. On the contrary, in 2021, the RMB was decoupled from the US dollar and emerging market currencies, showing an independent rise, so the CFETS RMB exchange rate index rose more. In the face of the RMB to US dollar exchange rate breaking the 6.40 mark at the end of May, the Central Bank of China raised the foreign exchange reserve ratio of financial institutions twice on May 31 and December 8 to strengthen the foreign exchange liquidity management of financial institutions. The overall stock and bond market showed a stable net inflow trend. In addition, China’s regular epidemic prevention and control also supports the continued strong performance of the yuan against the US dollar and a basket of currencies.

Major changes have taken place in the international situation since 2022. A series of major international events and policies have once again led to drastic fluctuations in the international financial markets. In January and February 2022, the central parity and closing price of the RMB exchange rate rose 0.85% and 0.98% respectively, the CFETS RMB exchange rate index rose 1.72%, and the dollar index rose 0.77% during the same period. Among them, on February 28, the central parity rate of the RMB against the US dollar was 6.3222 yuan, 124 basis points higher than the previous trading day, and the RMB appreciated to the highest level since April 25, 2018. Since March, along with the conflict between Russia and Ukraine, the international bulk raw materials represented by

oil have skyrocketed. Combined with the loose monetary policies adopted in the previous two years, international inflation has been further aggravated. The Federal Reserve raised interest rates sharply in the hope of curbing inflation. The dollar continued to strengthen, the United States debt further higher, a large amount of money back to the United States. The RMB began to depreciate sharply against the US dollar, reaching 6.7898 on May 13. Meanwhile, the second quarter of this year saw the most serious rebound since 2020. Production and consumption in Shanghai have been severely halted due to the pandemic for more than two months, and economic growth has fallen short of expectations. Under the dual role of both internal and external factors, the RMB exchange rate has depreciated for six consecutive months since March, and “broke 7” on September 15. As the intensity of interest rate hikes by the Federal Reserve weakens and the domestic economy tends to be stable, the RMB exchange rate will stabilize and fall in the future.

3 Reasons for RMB Exchange Rate Fluctuations

3.1 Repeated Outbreaks Have Led to Weak Recovery in Developed Economies

Since the outbreak of COVID-19 in 2019, the number of confirmed cases in China has exceeded 500 million. The new round of Omicron outbreak in March 2022 has made the global situation more severe. China has always adhered to the general policy of “dynamic zero elimination”, and its outstanding epidemic prevention performance has enabled China to maintain its global leading position in economic development. However, in order to protect their own economic recovery, some countries have erected barriers to investment and trade, undermining global trade rules and dealing a serious blow to the world economy. In its latest global economic outlook report, the International Monetary Fund lowered its forecast for global growth in 2022 from 4.4 percent to 3.6 percent [5]. The weak recovery of developed economies will greatly hinder personnel exchanges and trade cooperation between countries, cause fluctuations in the global financial market, hinder the internationalization of RMB and constrain the pace of global economic growth.

3.2 The International Political Environment is Grim and State Interventionism is Intensifying

Against the backdrop of the pandemic of the century, the global situation is complex and volatile, and geopolitics is constantly evolving. In recent years, the US has been pursuing the “Indo-Pacific Strategy”, diverting strategic resources to the Indo-Pacific region, increasing the probability and frequency of security conflicts in the region, posing real threats to regional security and stability and undermining regional economic integration. Due to the evolution of the political situation of the world, some countries the internal governance of crisis, the stable political environment driving economic growth, some countries abandon the market free financial and business practices of foreign trade development philosophy, lead to global protectionism prevails, with economic globalization, frequent trade friction between different countries, is not conducive to the establishment of mutually beneficial and win-win partnership, Exacerbating the uncertainty of the international political environment.

3.3 The Conflict Between Russia and Ukraine Continues, and the Shadow of High Inflation Hangs Over the World

On February 24, 2022, Russia launched a special military operation in Ukraine, and the Russia-Ukraine conflict erupted in full force. The flood of money out of emerging markets has led to a broad depreciation of their currencies and a rise in global inflation. RMB initially shows some characteristics as a risk-off currency, but RMB is not a typical risk-off asset, but a regional risk-off currency [6]. Chinese bond yields continue to rise. In February, foreign investors reduced their net holdings of RMB bonds by 80.3 billion yuan, including 35.4 billion yuan of national bonds. In March, foreign investors continued to reduce their holdings of RMB bonds, falling to 112.5 billion yuan. The reduced holdings of RMB assets overseas were converted into foreign exchange, resulting in the continuous partial depreciation of the offshore RMB exchange rate CNH equivalent to the onshore RMB exchange rate CNY, which drove the correction of the RMB exchange rate and further depreciation of the RMB.

3.4 The Federal Reserve's Frequent Interest Rate Hikes Have Triggered Widespread Concerns About the US Economic Outlook

After the pandemic, the United States responded to the deficit problem through monetization and launched three rounds of massive economic stimulus programs, which led to the rise of the inflation level in the United States. In June 2022, the CPI of the United States was as high as 9.1%, which was the highest in nearly four decades. On March 17, 2022, the Federal Reserve announced to raise interest rates by 25 basis points, starting a new cycle of interest rate hikes after 2015 [7]. As of September 2022, the Fed has raised interest rates five times in 2022, with a cumulative increase of 300 basis points. The Fed's monetary policy, which differs from that of other banks, will affect the future direction of the dollar and cause turmoil in financial markets.

3.5 Domestic and Foreign Trade Trends are Improving, and Foreign Exchange Supply and Demand are Relatively Balanced

According to the Administration of Foreign Exchange, from January to May 2022, banks accumulated foreign exchange settlement of US \$1,0950.14 billion, accumulated foreign exchange sales of US \$1,015.711 billion, cumulative foreign exchange settlement and sales surplus of US \$79.303 billion. In the face of the appreciation of RMB in the first two months of this year, enterprises did not increase the settlement of RMB, but reduced the purchase of foreign exchange by making more external payments with their own foreign exchange, resulting in a decline in the settlement rate and a greater decline in the purchase rate [8]. Therefore, they adopted natural hedging to resist foreign exchange risks, resulting in the fluctuation of RMB exchange rate.

4 Conclusion

Through the analysis of the above five aspects can be concluded that China's economy in the face of the new champions league pneumonia of strong toughness and good economic

performance will in future make general continue to watch the RMB in international, regardless of the other countries' situation, and the fed geared to take radical interest rates policy makes serious recession risks to the global economy. Would further undermine the dollar's global credibility; The constant tension in the international situation and the escalating conflict between Russia and Ukraine will make the international financial market fluctuate further, the uncertainty will be further aggravated, and the international capital will prefer more stable and safe currency. To sum up, under the environment of further fluctuations in the international environment in the future, international capital will be more inclined to stable and safe assets and currencies, and China will be further favored due to its sound economic fundamentals and stable political environment. And with the further development of RMB internationalization, the formation mechanism of RMB exchange rate will be affected by the market to a greater extent. Therefore, in the long run, the RMB exchange rate will further stabilize and rise.

5 Countermeasures and Suggestions to Cope with the Fluctuation of RMB Exchange Rate in the Aftermath of the Epidemic

5.1 Further Promote the Two-Way Symmetric Opening of the Capital Account and Improve the Formation Mechanism of the RMB Exchange Rate

The two-way opening of the capital account will not necessarily lead to a large capital flight and a large depreciation of the RMB, but help the RMB to form a reasonable exchange rate price and reflect the real demand for the RMB. When it is not possible to fully realize the two-way opening of the capital account, we can preliminarily explore the implementation of the two-way symmetric opening of the capital account, enrich the channels for outbound investment of RMB, establish and improve the RMB opening channel with the same access and the same magnitude as foreign investment, so as to further ease the pressure of unilateral appreciation of RMB.

5.2 Accelerating the Upgrading of the Industrial Structure and Enhancing Competitiveness

In the future, the appreciation of the RMB could cut export product price advantage in order to have an adverse effect on traditional exporters, on the one hand, countries should adjust the structure of export, give some export enterprises and foster a favorable policy, ease the outlet pressure caused by the appreciation of the RMB; on the other hand, the appreciation of the RMB to high-tech industries such as electronics, new energy, new materials have beneficial effects, these industries can seize the opportunities of the small local currency appreciation, actively introduce advanced technology from abroad and the resources, to narrow the development gap with the developed country, to speed up the transformation and upgrading of industrial structure, improve the core competitiveness.

References

1. Shi T T. (2021). Research on the prediction of RMB exchange rate fluctuation trend under the COVID-19 pandemic based on ARIMA model. *Modern business* (14), 108–110. <https://doi.org/10.14097/j.carolcarrollnki.5392/2021.14.034>.

2. Cao W J. (2021). Research on spillover effects of global exchange rate risk during the COVID-19 epidemic. *Financial Economics* (03), 38–50. <https://doi.org/10.14057/j.cnki.cn43-1156/f.2021.03.005>.
3. Hu Yabing. (2020). Enterprise RMB exchange rate risk management under the impact of the epidemic. *China Finance* (11),58-59
4. Wu Lihua & Fu Guangmin. (2014). The Interaction between RMB Exchange rate, short-term capital and stock price. *Economic Research Journal* (11),72-86
5. Chen Langnan & Chen Yun. (2009). RMB Exchange rate, asset prices and short-term international capital flows. *Economic management* (01), 1–6. <https://doi.org/10.19616/j.carolcarrollnki.BMJ.2009.01.002>.
6. Chen Liufu & Liu Houjun. (2007). Price Pass-through Effect of RMB Exchange Rate: An empirical analysis based on VAR model. *Financial Research* (04),1-13.
7. Yi Gang, Fan Gang, Li Yan. (2003). Theoretical thinking on China's economic growth and total factor productivity. *Economic Research Journal* (08),13–20+90.
8. Yi Gang, Fan Min. (1997). Determinants and trends of RMB exchange rate. *Economic Research* (10)

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