

# Analysis of Factors Influencing the Fluctuations in the RMB to US Dollar Exchange Rate

Zhuoran Wang\*

Xi'an Jiaotong-Liverpool University, Suzhou, 215123, China

\*Corresponding author's e-mail: Zhuoran.Wang22@student.xjtlu.edu.cn

**Abstract:** This article is based on the 2022 exchange rate fluctuation curve of the RMB against the USD and analyzes the factors affecting the fluctuation of the RMB against the USD exchange rate. The analysis reveals that the main influencing factors on the exchange rate include domestic economic conditions, international factors, interest rate levels, international balance of payments, and the COVID-19 pandemic. Within the domestic economic environment, factors such as economic growth rate, social investment, consumer spending, employment situation, and inflation rate also play significant roles in influencing the RMB exchange rate. The analysis presented in this article holds significant practical significance for maintaining stability in China's foreign exchange market.

**Keywords:** Exchange rate, Exchange rate fluctuations, Influencing factors.

## 1. Introduction

The COVID-19 pandemic has a tremendous and lasting impact on the world economy. During the post-pandemic period, global economy faces increasing uncertainty, while China is currently in the transitional period of economic growth and the international capital opening. The US dollar dominates international trade under current background of globalization. The study of RMB to the US dollar exchange rate is conducive to the effective communication between China and the United States while promoting the healthy development of international trade. It is also helpful to China's response of emergencies and scientifically judge the anti-risk ability of the RMB exchange rate. Effective identification factors of the exchange rate have great practical significance for maintaining the stability of China's foreign exchange market and promoting the internationalization of the RMB. This article will analyze the factors of the exchange rate change of the RMB against the US dollar based on the curve of the exchange rate of the RMB against the US dollar in 2022.

## 2. Trend of RMB Against the US Dollar Exchange Rate in 2022

From the beginning of the year to mid-April, the renminbi

exchange rate fluctuated around 6.35, and rose to the highest to 6.39 on April 13, which was basically the same as the 6.37 at the end of the previous year. From late April 2022 to early November, due to new waves of epidemic and the acceleration of the Federal Reserve's interest rate hike, the depreciation of the renminbi accelerated to 6%, from April 20 to May 17; from May 18th to June 8th, there was a short-term mild appreciation to 6.66, followed by the stable period of nearly two months from June 9th to August 6; From August 7th, there is another depreciation wave to the lowest point of 7.18 on November 5th. At this stage, the RMB exchange rate overall depreciated around 12%. After early November 2022, the RMB exchange rate began to rebound to 6.91, and ended up total depreciation values of 8.2%.[1]

Generally speaking, the exchange rate of the RMB against the US dollar in 2022 showed two rounds of depreciation and a stable recovery stage. The first round of depreciation is from late April to mid-May; the second round of depreciation is from early August to early November; the stabilization period is November to the end of year (Figure 1).

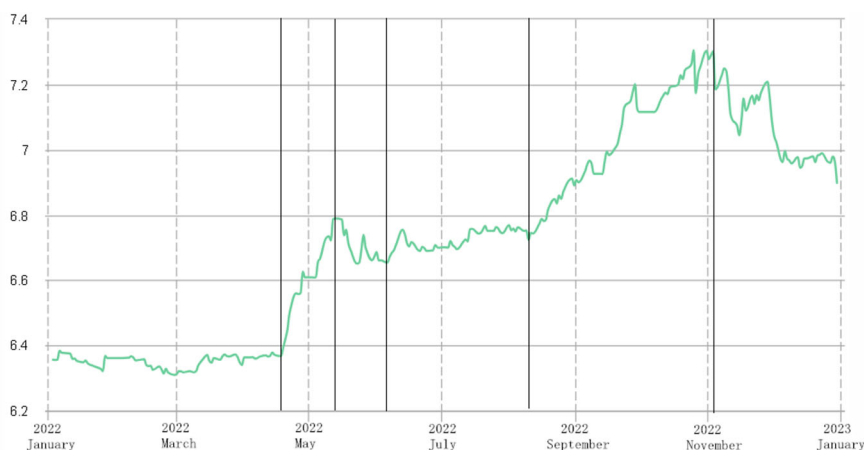


Figure 1. RMB to USD Exchange Rate Fluctuation Curve

### **3. Influencing Factors of the Exchange Rate**

#### **3.1. Domestic Economic Environmental Factors**

Exchange rates reflect the foreign value of a nation's currency, and the domestic economic situation is a crucial determinant of the stability of the Renminbi exchange rate. The significant depreciation and volatility of the Renminbi against the U.S. Dollar in 2022 were closely related to changes in China's economic conditions and internal environment.

Firstly, there was a slowdown in economic growth. Due to the impact of the pandemic, China's Gross Domestic Product (GDP) in 2022 reached 12.10207 trillion yuan, with a year-on-year growth rate of 3.0% when calculated at constant prices. This growth rate was lower than the initial expectation of 5.5%.

Secondly, social investment and consumption were lower than expected. Total social investment in the first 11 months of 2022 increased by only 5.3%, which was 0.3 percentage points lower than the initial expectation of 5.6%. Retail sales of consumer goods decreased by 0.1%, with a significant 5.29% month-on-month drop in November, indicating a serious impact on social economic vitality due to weak consumption.

Thirdly, the employment situation was severe. In March, influenced by the pandemic, the nationwide urban surveyed unemployment rate rose to 5.8%, further increasing to 6.1% in April. With the implementation of a comprehensive set of policies to stabilize the economy and subsequent measures, the employment situation improved, with the surveyed unemployment rate continuously declining from May onwards and reaching 5.3% in August. The average urban surveyed unemployment rate for the third quarter was 0.4 percentage points lower than that of the second quarter. [2] However, entering the fourth quarter, the urban surveyed unemployment rate increased slightly, reaching 5.7% in November. In December, with the optimization and adjustment of pandemic prevention and control measures, the urban surveyed unemployment rate decreased to 5.5%, a 0.2 percentage point drop from November.

Lastly, the inflation rate increased. According to data from the Ministry of Finance and the National Bureau of Statistics, China's inflation rate in 2022 was 3.7%, a two-percentage-point increase from 2021. The food and non-alcoholic beverage index and the non-food index rose by 5.1% and 3.3%, respectively.

#### **3.2. International Environmental Factors**

Exchange rates are influenced not only by economic issues but also by political and military factors because political and military issues directly affect economic development. Starting in February, the geopolitical situation between Russia and Ukraine remained volatile, and the conflict led to difficulties in Russia's energy exports, further driving up commodity prices and exacerbating global supply-demand imbalances, resulting in increased inflationary pressures. Additionally, the global trade system faced additional shocks due to Western sanctions against Russia, increasing uncertainty in the economic recovery prospects of various countries. The Russia-Ukraine conflict had a certain impact on China's "One Belt One Road" initiative and international

trade, intensifying the risk of capital outflows from China and causing continued fluctuations in the Renminbi exchange rate.

Regarding agricultural products, China has a relatively high dependence on agricultural products from both Russia and Ukraine, with agricultural products imported from these two countries accounting for 23% of the total imports. Due to the impact of the Russia-Ukraine conflict, the export of agricultural products from both countries was restricted, significantly affecting China's international agricultural trade. Additionally, in sectors such as oil and metal minerals, the cost of international trade rose significantly, to some extent exacerbating fluctuations in the Renminbi exchange rate.

#### **3.3. Interest Rate Level Factors**

In 2022, the trend of the U.S. Dollar Index closely paralleled the trend of the U.S. Dollar to Renminbi exchange rate, indicating that the U.S. Dollar Index was the dominant factor influencing the U.S. Dollar to Renminbi exchange rate in 2022. The U.S. Federal Reserve began reducing its bond purchases and initiated interest rate hikes in March 2022. [3] During the first round of Renminbi depreciation from mid-April to mid-May, the Federal Reserve raised interest rates by a total of 75 basis points (BPs), and the U.S. Dollar Index also temporarily rose to around 104, entering an upward trend. From a domestic perspective, in late April, efforts were made to stabilize the macroeconomic situation, and macroeconomic control policies were strengthened. On April 15th, the People's Bank of China announced a 25 BPs cut in the reserve requirement ratio (RRR). In May and August, the one-year and five-year Loan Prime Rates (LPR) were reduced to 3.6% and 4.3%, respectively, with a 30 BPs decrease in the five-year LPR. Under these influences, the divergence in monetary policy between China and the United States intensified, and the direction of monetary policies began to deviate. Since late October, the appreciation trend of the U.S. Dollar Index slowed down, but the Renminbi exchange rate still showed weakness. On one hand, market expectations had not yet warmed, and the Renminbi continued to depreciate as the expectation of further depreciation persisted. On the other hand, the domestic economic recovery fell short of expectations, and the overall weakness in the domestic economy had limited impact on boosting market expectations. Under the influence of factors such as the U.S. Federal Reserve's consecutive and significant interest rate hikes and the domestic economic recovery falling short of expectations, the Renminbi exchange rate continued its depreciation trend.

#### **3.4. Balance of Payments Factors**

Changes in the supply and demand flows in the foreign exchange market directly impact exchange rates, and the balance of payments determines the trading behavior in the foreign exchange market, affecting the import and export of the production materials needed for a country's development. Therefore, there is a close relationship between the balance of payments and exchange rates. If there is a trade deficit in the balance of payments, it can lead to increased demand for foreign exchange, potentially causing an increase in the foreign exchange rate and a decrease in the domestic currency exchange rate. A trade surplus, on the other hand, implies increased demand for the domestic currency and may lead to an appreciation of the domestic currency.

In recent years, China has consistently maintained a surplus in its balance of payments, which has supported the

appreciation of the Renminbi exchange rate. Since the second half of 2021, China's export growth rate has remained at a relatively high level. However, starting in July 2022, the export growth rate dropped sharply from 18.1% to 7.4% in August, and it turned negative in October. Particularly, exports to major economies continued to decline, weakening the support of the trade surplus on the exchange rate

### 3.5. COVID-19 Factors

The domestic pandemic situation and policy changes are critical factors influencing the Renminbi exchange rate. The COVID-19 pandemic has had a severe impact on global economic development and personal safety, leading to challenges for the internationalization of the Renminbi due to factors such as industrial shutdowns, economic stagnation, slow capital circulation, and imbalanced supply and demand in the domestic market. [4] The rapid global spread of the pandemic triggered investor panic, significantly affecting the performance of currencies worldwide. The U.S. dollar index fluctuated at high levels, causing dramatic fluctuations in the Renminbi exchange rate.

First, from late March to the end of May 2022, several cities in China experienced outbreaks of the Omicron variant, with Shanghai seeing a continuous rise in daily new infections, leading to the implementation of city-wide lockdown measures. In mid-April 2022, the daily number of new COVID-19 infections in China reached nearly 30,000, and strict containment measures resulted in factory shutdowns and production halts, deteriorating the fundamentals of the Chinese economy. [5] During this period, the Renminbi began a continuous depreciation against the U.S. dollar, with a devaluation of over 6% within a month starting from late April 2022. Subsequently, from August to October 2022, apart from the resurgence of the Omicron variant, several cities in China faced risks of delayed deliveries of commercial real estate projects. Coupled with a slowdown in Chinese export growth and market pessimism regarding the fundamentals of the Chinese economy, this led to a significant adjustment in asset prices, including the exchange rate, resulting in a second round of Renminbi depreciation. After November, improvements in domestic pandemic control policies, signals of stable growth and risk prevention from major conferences, strengthened measures for social stability, and improved domestic expectations led to a robust appreciation of the Renminbi against the U.S. dollar. It broke through the threshold of 7 in early December and rebounded

to 6.91 by the end of December.

## 4. Conclusion

This article utilizes data related to the 2022 Renminbi to US Dollar exchange rate trend to conduct a detailed analysis of the factors affecting the Renminbi exchange rate. The analysis reveals that domestic economic conditions, international factors, interest rate levels, balance of payments, and the COVID-19 pandemic are the primary influencing factors for the Renminbi to US Dollar exchange rate. Additionally, economic growth rate, social investment, consumer spending, employment situation, and inflation rate are important factors within the domestic economic environment that impact the Renminbi exchange rate.

After the end of the pandemic, as various policies and measures in our country continue to take effect, China's economy will accelerate its return to normalcy, and the Renminbi exchange rate is expected to recover with a tendency towards stability and strength. To promote the appreciation of the Renminbi exchange rate, our country needs to maintain strategic stability in a complex national environment, make every effort to create a peaceful development environment, utilize various means to stabilize growth, adjust the structure, expand openness, stimulate domestic demand, coordinate and advance financial market reforms, and comprehensively use various financial derivatives to hedge against exchange rate volatility.

## References

- [1] Wang, X. (2023) "Improvements in the Foreign Exchange Market as Seen from the Changes in the RMB Exchange Rate in 2022." *China Money Market*, 260, 1-3.
- [2] Ji, Y. (2020). " Analysis of the Reasons for Changes in the Renminbi to US Dollar Exchange Rate and Its Impact Factors." *China Agricultural Accounting*, 9:53-54.
- [3] Geng, X. (2012) "Factors and Trends of the Renminbi Exchange Rate Against the US Dollar." *China Securities and Futures*, 11:219.
- [4] Liang, S. (2023) "A Review of the Renminbi Exchange Rate Trends in 2022 and Outlook for 2023." *Macro Observations*, 471:1-15.
- [5] Lu, L. (2009) "Analysis of Factors Affecting the Trends of Renminbi to US Dollar Exchange Rate." *Financial Perspectives*, 8:41-45.