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ABSTRACT

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The work is devoted to the issues of reserve currency development and their future prospects in the context of globalization and integration of the banking system. The theoretical foundations of the international reserve currency system are considered, which play a vital role in maintaining financial stability and facilitating international trade and investment. The problems faced by the modern international reserve currency system in the context of global financial crises are summarized.

The characteristics of the current international reserve currency system and the problems it faces are analyzed. The risks associated with a system dominated by a single currency, such as exchange rate fluctuations, monetary policy spillovers, and global financial stability problems, are summarized.

Particular attention is paid to sharp fluctuations in exchange rates, which not only affect international trade and investment, but can also trigger financial crises, and the Triffin model is proposed, which aims to explore how to balance the supply and demand of reserve currencies in a diversified reserve currency system to achieve global financial stability.

A multipolar model of the future reserve currency system is designed, which envisages the gradual increase in the status of the renminbi and other emerging market currencies in international reserves, injecting new vitality and diversity into the global reserve currency system.

Recommendations are formulated to strengthen the stability of the

international monetary system and promote the diversification of reserve currencies, including strengthening international cooperation, promoting the reform of the international monetary system, enhancing the international status of emerging market currencies, and strengthening the role of international financial institutions in the management of reserve currencies. By implementing these policy measures, the stability and development of the global reserve currency system can be promoted, and global economic prosperity can be reliably supported.

Keywords: globalization, integration of the banking system, development of reserve currencies, Triffin problem model, exchange rate fluctuations, multipolar model, internationalization of the renminbi, the stability of the international monetary system.

АНОТАЦІЯ

Сюй Цзіньмін. Проблеми та перспективи їх розвитку в умовах глобалізації та інтеграції банківських систем. – Рукопис.

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Робота присвячена питанням розвитку резервних валют та їх майбутні перспективи в контексті глобалізації та інтеграції банківської системи. Розглядаються теоретичні основи міжнародної системи резервних валют, що відіграють життєво важливу роль у підтримці фінансової стабільності та сприянні міжнародній торгівлі та інвестиціям. Узагальнені проблеми, з якими стикається сучасна міжнародна резервна валютна система в контексті глобальних фінансових криз.

Аналізуються характеристики поточної системи міжнародної резервної валюти та проблеми, з якими вона стикається. Узагальнено ризики, пов'язані з системою, де домінує одна валюта, такі як коливання обмінного курсу, перелив монетарної політики та проблеми глобальної фінансової стабільності.

Особлива увага приділена різким коливанням обмінних курсів, які не тільки впливають на міжнародну торгівлю та інвестиції, а й можуть спровокувати фінансові кризи та запропоновано модель Тріфіна, яка має на меті дослідити, як збалансувати попит і пропозицію резервних валют у диверсифікованій резервній валютній системі для досягнення глобальної фінансової стабільності.

Спроектовано багатополярну модель майбутньої резервної валютної системи, що передбачає поступове збільшення статусу юаню та інших валют ринків, що розвиваються, у міжнародних резервах, вводячи нову життєву силу та різноманітність у світову систему резервних валют.

Сформульовані рекомендації щодо зміцнення стабільності міжнародної валютної системи та сприяння диверсифікації резервних валют, що включають зміцнення міжнародного співробітництва, сприяння реформі міжнародної валютної системи, підвищення міжнародного статусу валют ринків, що розвиваються, і посилення ролі міжнародних фінансових установ в управлінні резервними валютами. Завдяки впровадженню цих політичних заходів можна сприяти стабільності та розвитку глобальної системи резервних валют, а також можна забезпечити надійну підтримку глобального економічного процвітання.

Ключові слова: глобалізація, інтеграція банківської системи, розвиток резервних валют, модель проблеми Тріфіна, коливання валютного курсу, багатополярна модель, інтернаціоналізація юаня, стабільність міжнародної валютної системи.

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INTRODUCTION

Reasons for choosing a topic for a Master's thesis. In the era of globalization and the integration of the banking system, reserve currencies play a pivotal role as a key medium in international economic exchanges. It not only carries multiple functions such as international payment, store of value and liquidity provision, but also is the cornerstone of maintaining global financial stability and promoting the smooth flow of international trade and investment activities. In recent years, with the profound changes in the international political and economic pattern, especially the increasingly obvious trend of multipolarization of global economic forces, the international monetary system is undergoing unprecedented changes. The frequent adjustment of the monetary policy of the central banks of Europe and the United States, the intensification of geopolitical risks, and the rise of the wave of "de-dollarization" are all profoundly affecting the composition and distribution of reserve currencies, which in turn pose challenges to global financial stability and economic security.

In this context, an in-depth study of the development of reserve currencies and their prospects will not only help us better understand the evolution of the international monetary system, but also provide theoretical support and practical guidance for dealing with current and possible financial risks in the future. In addition, with the deepening of global economic integration and the deepening of the interdependence between the economies of various countries, the selection and management of reserve currencies have an important impact on the formulation and implementation of economic policies of various countries. Therefore, this study has important practical significance and theoretical value, and can provide a useful reference for the reform and improvement of the international monetary system.

Degree of scientific development. The degree of scientific development in the field of reserve currencies reveals substantial progress in understanding their

roles and evolution amid globalization and integration of banking systems. Researchers have analyzed the historical dominance of traditional reserve currencies, such as the U.S. dollar and euro, alongside the growing importance of emerging market currencies like the renminbi. Current studies emphasize the challenges posed by geopolitical instability, shifts in economic power, and the rapid digitalization of financial systems. However, the integration of banking systems and advancements in financial technologies, such as blockchain, continue to offer new prospects for diversification and greater inclusion of non-traditional currencies in global reserves. These developments highlight a dynamic interplay between policy frameworks, technological innovation, and economic trends.

At the current stage of reserve currency development, research in this direction is actively conducted by such scientists, as Eichengreen B. and Frankel J. [1], Bénassy-Quéré A. and Arnaud M. [2], Cohen B. [4], Cardarelli R. [5], Bénassy-Quéré A. and Coeurdacier N. [10], Smith J. [23], Johnson A. & Taylor P. [24], Müller G. & Schuler K. [32], Brown R. & Davis E. [48], Böhme R. & Christin N. [71], Krugman P. [83], Stiglitz J. E. [103], etc. The issues of the status and composition of reserve currencies are constantly on the agenda, discussed and analyzed by a number of international institutions, including the International Monetary Fund [13, 18, 46, 52, 55, 69, 74], the Federal Reserve Bank of St. Louis [25], the People's Bank of China [89], the World Bank [100].

Chinese researchers have made remarkable advancements in science. Many prominent figures from China have contributed significantly to various scientific fields: Zhang Wei, Li Hua [6], Wang Li, Zhao Lei [7], Chen L. & Wang P. [44], Lei Ye [58], Chen Q. & He D. [63], Liu X. & Zhang H. [64], Li Y. & Liu X. [87], Zhao Min, Li Jie [94].

Purpose of the Master's thesis. The purpose of this paper is to comprehensively discuss the development of reserve money and its prospects in the context of globalization and the integration of the banking system. Through the comprehensive use of theoretical analysis and empirical research, this paper aims

to reveal the historical law of the evolution of the reserve currency system, analyze the characteristics of the current reserve currency system and the problems it faces, predict the development trend of the reserve currency system in the future, and put forward forward-looking and actionable policy suggestions accordingly.

Objectives of the study:

- to sort out and summarize the research results on the issue of reserve currency at home and abroad, and to clarify the research background and current situation;

- to deeply analyze the impact mechanism of globalization and the integration of the banking system on the reserve currency, and reveal its internal logical relationship;

- to focus on the changes in the status of major reserve currencies such as the US dollar, the euro, and the renminbi under the conditions of globalization and the integration of the banking system, as well as their development prospects;

- the econometric method and case analysis method are used to predict the future development trend of the reserve currency;

- based on the above analysis, we put forward policy recommendations to promote the stability, fairness and sustainable development of the reserve currency system.

The research focuses on international reserve currencies, especially the major reserve currencies such as the US dollar, the euro, and the renminbi. These currencies occupy an important position in the global economic and financial system, and their status changes and development prospects have an important impact on global financial stability and economic security. **Ошибка! Источник ссылки не найден.**

The subject of the study is the impact of globalization and banking system integration on the reserve currency, the function of the reserve currency, the future development trend, and related policy recommendations. **Ошибка! Источник ссылки не найден.**

Scientific Research Methods. This paper adopts a combination of literature

review, theoretical analysis and empirical analysis. Firstly, by combing the historical literature and existing research results on the issue of reserve currency at home and abroad, the research background and current situation are clarified, so as to lay a foundation for subsequent in-depth research. Secondly, the theories of economics and finance are used to theoretically analyze the impact of globalization and the integration of the banking system on reserve currency, and reveal its internal logical relationship and evolution law. Finally, combined with international economic data, case analysis and econometric methods, this paper conducts empirical research and verification on the current situation, problems, development trends and policy suggestions of reserve currency. **Ошибка! Источник ссылки не найден.**

The theoretical value of studying reserve currencies lies in understanding their role in the global financial system, particularly in the context of economic globalization and banking integration. It provides a framework for analyzing currency dynamics, reserve diversification, and the impact of geopolitical and economic changes, contributing to the development of monetary theory and international finance.

Practical significance of the results of the qualification thesis. The results of this paper are of great significance for guiding the reform of the international monetary system and the practice of diversification of reserve currencies. First, this paper reveals the historical law of the evolution of the reserve currency system and the current problems, which provides a useful reference for policymakers. Second, the policy recommendations put forward in this paper are conducive to promoting the stability, fairness and sustainable development of the reserve currency system, and provide strong support for maintaining global financial stability and economic security. In addition, the research results of this paper can also provide useful guidance for financial institutions and investors on the selection and management of reserve currencies, and help them better cope with financial risks and uncertainties.

The elements of scientific novelty are as follows. Scientific novelty of the results of the research submitted for the defense. On the basis of in-depth research on the issue of reserve currency, this paper puts forward some new perspectives and theoretical models. For example, this paper constructs a Triffin problem model in a diversified reserve currency system, which not only considers the conflict of interests of reserve money suppliers, but also combines the new context of globalization and banking system integration, providing a new perspective for analyzing the instability and risks of the reserve currency system. In addition, based on historical experience and current trends, this paper predicts the multipolar model of the future reserve currency system and puts forward corresponding policy recommendations. These new perspectives and theoretical models not only enrich the research content of the reserve currency issue, but also provide new ideas for the reform and improvement of the international monetary system.

Testing of the research results. The main results and conclusions of the study were reported and discussed at the V International Scientific and Practical Conference "SCIENTIFIC ACHIEVEMENTS OF CONTEMPORARY SOCIETY" (London, Great Britain, December 5-7, 2024).

Structure of the Master's thesis. The Master's thesis consists of 3 chapters, introduction, general conclusion, bibliography, necessary annexes, including abstract in a foreign (Ukrainian) language. The total volume of the thesis is 126 pages of computer text, including the main body of the thesis of 93 pages. The thesis contains 1 table, 36 figures, 7 annexes on 17 pages. The list of references contains 105 sources.

CHAPTER 1.

THE IMPACT OF GLOBALIZATION AND BANKING SYSTEM INTEGRATION ON INTERNATIONAL RESERVE CURRENCIES

1.1 The development of reserve currencies and their place in the current global economic environment

Reserve currency refers to the currency that is widely accepted and used in international economic transactions, and its main function is to serve as an international means of payment and reserve assets. In international economic activities, the role of reserve currency is crucial, it is not only the main settlement tool in international trade, but also an important part of the foreign exchange reserves of central banks of various countries, which has a far-reaching impact on the stability and development of the global economy.

In the 19th and early 20th centuries, the British pound was the world's most important reserve currency. During this period, Britain, with its strong economic power and extensive colonial system, established an international monetary system centered on the British pound. The pound sterling is not only widely used in the United Kingdom and its colonies, but also dominates international trade and financial markets. According to historical data, in 1913, the British pound accounted for 45% of the world's foreign exchange reserves, making it the world's most important reserve currency **Ошибка! Источник ссылки не найден.**

The sterling's status as a reserve currency is mainly due to the following factors:

1. Economic power. Britain was one of the largest economies in the world at the time, with a strong industrial power and trade network.

2. Colonial system. Britain has a wide range of colonies and spheres of influence, and the British pound is widely used in these regions **Ошибка! Источник ссылки не найден.**

3. Financial system. London was one of the most important financial centers in the world at the time, with well-established financial markets and financial institutions **Ошибка! Источник ссылки не найден..**

However, with the outbreak of the First World War and the weakening of the British economy after the war, the international status of the pound began to gradually decline.

Second, the era of the dollar. After World War II, the US dollar gradually replaced the British pound as the world's main reserve currency [4]. This shift is due to several factors:

1. Bretton Woods System. In 1944, the Bretton Woods Conference established the international monetary system centered on the US dollar, stipulating that the US dollar was pegged to gold and other national currencies were pegged to the US dollar, thus establishing the US dollar's status as a global reserve currency [5].

2. U.S. Economic Power. After World War II, the U.S. economy rose rapidly to become the world's largest economy [6].

3. Financial market development. The U.S. financial market has developed rapidly and has become one of the most important financial centers in the world, attracting a large amount of international capital inflows [7].

Under the Bretton Woods system, the international status of the dollar was further consolidated. However, as the US gold reserves dwindled and the trade deficit widened, the Bretton Woods system gradually fell into trouble. In 1971, the Nixon administration announced the "New Economic Policy" and stopped converting dollars into gold, and the Bretton Woods system officially collapsed **Ошибка! Источник ссылки не найден..**

Despite the collapse of the Bretton Woods system, the international status of the dollar has not been fundamentally affected. On the contrary, with the development of globalization and financial liberalization, the international status of the US dollar has been further consolidated. According to the International

Monetary Fund (IMF), as of 2024, the US dollar still accounts for about 60% of global foreign exchange reserves, making it the most important reserve currency in the world.

In recent years, the pattern of international monetary reserves has undergone significant changes. On the one hand, the international position of the US dollar, although still dominant, has been challenged to some extent; On the other hand, the international status of other currencies such as the euro, the Japanese yen, and the renminbi has gradually improved, and the diversification of the reserve monetary system has become a major trend.

Although the US dollar remains the world's most important reserve currency, its position has been challenged in some ways. First, the slowdown in U.S. economic growth and the widening trade deficit have weakened the long-term value of the dollar. Secondly, the growing US government debt has also raised concerns about the market's confidence in the dollar. In addition, with the development of globalization and financial liberalization, financial markets and financial institutions in other countries have gradually matured, attracting more international capital inflows, thereby reducing the demand for US dollars **Ошибка!**
Источник ссылки не найден.

The international status of other currencies has been enhanced. The international status of currencies such as the euro, the yen, and the renminbi is gradually improving. As the official currency of the European Union, the euro occupies an important position in international trade and financial markets. According to IMF data, as of 2024, the euro accounts for about 20% of global foreign exchange reserves, making it the world's second largest reserve currency. As the official currency of Japan, an important economic power in Asia, the yen also plays an important role in international trade and financial markets. Since the exchange rate reform in 2005, the internationalization process of the renminbi has accelerated, and it has gradually become one of the world's important reserve currencies. According to the IMF, as of 2024, the renminbi has accounted for 2.45%

of global foreign exchange reserves, making it the world's fifth-largest reserve currency (see Annex A for details).

Factors influencing the status of reserve currencies. Changes in the status of reserve currencies are influenced by a variety of factors, including economic strength, financial market development, international trade status, monetary policy and geopolitics.

Economic strength. Economic strength is one of the important factors affecting the status of the reserve currency. Countries with strong economies usually have stronger industrial power, trade networks, and financial markets, which can attract more international capital inflows and enhance the international status of their currencies.

Financial market development. The level of development of financial markets has a direct impact on the international status of currencies. Countries with developed financial markets usually have a better financial system and more financial instruments, which can provide richer investment opportunities and better risk management tools, thereby attracting more international investors.

International Trade Status. The status of international trade is also one of the important factors affecting the status of reserve currencies. Countries with a high international trade status usually have a wider trade network and more trading partners, which can use their own currencies for more international trade settlements and enhance the international status of their national currencies.

Monetary policy. Monetary policy is one of the key factors affecting the status of the reserve currency. A prudent monetary policy can maintain the stability of the value of the currency and enhance investors' confidence in the currency. On the contrary, excessively loose monetary policy can lead to currency depreciation and inflation, weakening the international status of the currency.

Geopolitics. Geopolitical factors may also affect the status of the reserve currency. Geopolitical stability can help boost the international status of currencies, while geopolitical conflicts and tensions can lead to a decline in investor

confidence in currencies **Ошибка! Источник ссылки не найден.**

The trend of diversification of reserve currencies. With the development of globalization and financial liberalization, the diversification of reserve currencies is becoming more and more obvious. This trend is mainly due to the following aspects:

Changes in the global economic landscape. The global economic landscape has changed dramatically in recent years. Emerging markets and developing countries are growing rapidly and are an important driver of global economic growth. The increasing position of the currencies of these countries in the international market provides more options for diversification of reserve currencies.

Development of financial markets. With the continuous development of the financial market, more and more countries have well-established financial markets and financial institutions, which can provide richer investment opportunities and better risk management tools. This has attracted more international investors to the financial markets of these countries, thereby enhancing the international status of their currencies.

Adjustment of monetary policy. The adjustment of the monetary policy of central banks also provides more possibilities for diversification of reserve currencies. Some countries have increased the attractiveness and stability of their currencies by implementing prudent monetary policies and financial market reforms, thereby attracting more international capital inflows.

Reform of the international monetary system. Reform of the international monetary system also provides more opportunities for diversification of reserve currencies. In recent years, there has been a growing call from the international community for reform of the international monetary system, including strengthening the IMF's supervisory function and promoting the internationalization of the Special Drawing Rights (SDR). These reforms have helped to enhance the status and role of other currencies in the international

monetary system.

The impact of reserve currency diversification on the global economy is multifaceted, with both positive and negative aspects.

1. Positive impact.

Promote global economic stability. Diversification of reserve currencies can help reduce the risk of a single currency dominating the international monetary system. When a currency is in trouble, other countries can reduce the risk by using other currencies for international trade and financial transactions, thereby maintaining the stability of the global economy.

Promote the development of international trade. Diversification of reserve currencies can help boost international trade. As more currencies come into play in the international market, international trade settlement methods will be more diversified, which will help reduce transaction costs and improve transaction efficiency.

Promote the development of financial markets. Diversification of reserve currencies can help promote the development of financial markets. As more countries have well-established financial markets and financial institutions, international investors will have more choices, which will help improve the competitiveness and efficiency of financial markets.

Strengthen the resilience of the international monetary system. Diversification of reserve currencies can help make the international monetary system more resilient. When a currency fluctuates, other currencies can play a stabilizing role, thereby maintaining the stability and development of the international monetary system 1

2. Negative impacts.

1. Increased exchange rate risk. Diversification of reserve currencies may increase exchange rate risk. As more currencies come into play in international markets, exchange rate fluctuations will become more frequent and complex, which increases exchange rate risk for international investors and businesses.

2. Affect the independence of monetary policy. Reserve currency diversification could affect the independence of monetary policy. When a country uses the currencies of other countries as its reserve currency, the formulation and implementation of its monetary policy may be affected and constrained by the monetary policies of other countries.

3. Exacerbate financial market volatility. Reserve currency diversification could exacerbate volatility in financial markets. As more currencies come into play in international markets, financial markets will be affected and shocked by more factors, which can lead to increased volatility in financial markets **Ошибка! Источник ссылки не найден.**

As the world's most important reserve currency, the US dollar's position, while still dominant, has been challenged in some ways.

Slowing economic growth and trade deficits. Slowing U.S. economic growth and a widening trade deficit have weakened the dollar's long-term value. This can lead to a decrease in investor confidence in the dollar, which in turn reduces the demand for the dollar.

2. Government debt is increasing. The growing US government debt has also raised concerns about the market's confidence in the dollar. High debt levels can lead the U.S. government to adopt a tight fiscal or monetary policy to reduce debt levels, which can negatively affect the value of the U.S. dollar.

3. Geopolitical risks. Geopolitical risks may also affect the position of the US dollar. For example, trade disputes between the United States and other countries, geopolitical conflicts, etc., may lead to a decrease in investor confidence in the dollar **Ошибка! Источник ссылки не найден.**

Second, the status of the euro and its challenges. As the official currency of the European Union, the euro occupies an important position in international trade and financial markets. However, the euro also faces some challenges.

1. Eurozone economic disparities. Economic disparities between countries within the eurozone can lead to difficulties in the formulation and implementation

of monetary policy. For example, some countries may need to adopt a tight monetary policy to control inflation, while others may need to adopt an accommodative monetary policy to stimulate economic growth. This discrepancy can lead to economic instability and fluctuations in currency values within the eurozone **Ошибка! Источник ссылки не найден.**

2. Debt crisis. Some countries in the eurozone, such as Greece and Italy, have had debt crises, which have weakened the international status of the euro. The debt crisis could lead to a decrease in investor confidence in the eurozone, which in turn would reduce demand for the euro.

3. Geopolitical risks. Geopolitical risks could also affect the position of the euro. For example, political disagreements between countries within the eurozone, tensions with geopolitical powers such as Russia, etc., may lead to a decline in investor confidence in the euro.

3. The position of the yen and its challenges. As the official currency of Japan, an important economic power in Asia, the yen plays an important role in international trade and financial markets. However, the yen also faces some challenges.

1. Economic stagnation and deflation. Japan's long-term economic stagnation and deflation have challenged the yen's international standing. Economic stagnation could lead to a decrease in investor confidence in Japan's economic growth prospects, which in turn will reduce demand for the yen. At the same time, deflation could lead to an appreciation of the yen, further suppressing exports and economic growth, creating a vicious circle. These problems not only affect the stability of the Japanese economy, but also have a negative impact on the international status of the yen.

2. Financial markets are relatively closed. Japan's financial markets are relatively closed relative to other major economies, which restricts the free flow of international capital. Although Japan has taken a series of measures in recent years to promote the opening of its financial markets, the degree of openness of its

financial markets is still limited compared to international standards. This could lead to a decrease in interest in the yen from international investors, further affecting the yen's international standing.

3. Geopolitical risks. Geopolitical risks may also affect the position of the yen. For example, territorial disputes between Japan and neighboring countries, tensions with countries such as North Korea, etc., may cause investors to worry about Japan's political and economic stability, thereby reducing demand for the yen

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Fourth, the status of the renminbi and its challenges. Since the exchange rate reform in 2005, the internationalization process of the renminbi has accelerated, and it has gradually become one of the world's important reserve currencies. However, the renminbi also faces some challenges in the process of internationalization.

1. The degree of capital account openness. Despite significant progress in the internationalization of the renminbi, China's capital account openness remains limited. This restricts the renminbi's free use and circulation in the international market, affecting its status as a global reserve currency. In order to further enhance the international status of the renminbi, China needs to continue to promote the liberalization of the capital account and the reform of the financial market.

2. Financial market maturity. China's financial markets are still relatively immature compared to those of major developed economies. This limits the attractiveness and competitiveness of the renminbi in the international market. In order to enhance the international status of the renminbi, China needs to further strengthen the construction of the financial market and improve the financial regulatory system.

3. Geopolitical risks. Geopolitical risks may also affect the position of the renminbi. For example, trade disputes between China and the United States, geopolitical conflicts, etc., may lead to a decline in investor confidence in the Chinese economy, thereby reducing the demand for the yuan. In addition, China

will need to deal with other geopolitical challenges, such as territorial disputes with neighboring countries, in order to maintain the international status of the renminbi **Ошибка! Источник ссылки не найден.**

1.2 Characteristics of the current international reserve currency system and the problems it faces

The current international reserve currency system is dominated by the US dollar, a pattern that has gradually taken shape since the collapse of the Bretton Woods system and has endured many global economic and financial upheavals. The system has the following significant characteristics: first, the liquidity and stability of the US dollar have relative advantages; Second, the U.S. trade and financial system is still very developed; The third is the huge impact and spillover effects of the Fed's monetary policy. These characteristics not only profoundly affect the operation of the global economy, but also shape the structure and dynamics of the international financial market.

First, the liquidity and stability of the US dollar have relative advantages.

As the world's most important reserve currency, the liquidity and stability of the US dollar have been key factors in maintaining its dominance. In terms of liquidity, the US dollar dominates the global foreign exchange market with a huge trading volume. According to the latest data from the Bank for International Settlements (BIS), as of 2024, the share of the US dollar in the daily trading volume of the global foreign exchange market is more than 85%, much higher than that of other major currencies such as the euro (about 15%), the yen (about 7%) and the British pound (about 5%) (fig. 1.1). This high level of liquidity has made the US dollar the currency of choice for international trade, investment, and financial transactions, further cementing its position as the world's reserve currency.

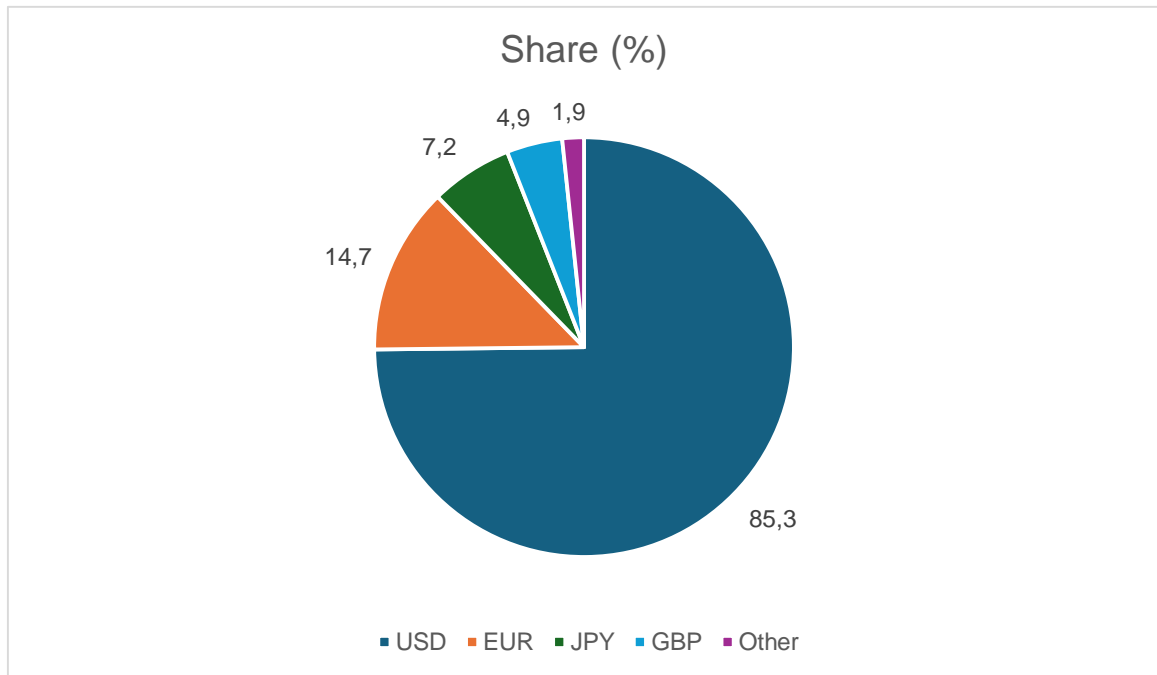


Figure 1.1 Daily trading volume share of the global foreign exchange market in 2024 (see Annex B for details)

Source: Bank for International Settlements, (BIS) Triennial foreign exchange market survey report.

In terms of stability, despite the volatility experienced by the value of the US dollar historically, its long-term performance relative to other major currencies has shown some stability. Especially in times of global economic crisis or financial market turmoil, the US dollar is often seen as a safe-haven asset, attracting large inflows, thus maintaining the stability of its value to a certain extent. In addition, the strong performance of the U.S. economy, a sound financial system, and the Federal Reserve's ability to regulate monetary policy also provide strong support for the stability of the dollar **Ошибка! Источник ссылки не найден..**

Second, the trade and financial system of the United States is still very developed. The U.S. trade and financial system is one of the most developed and well-established in the world, which provides a solid foundation for it to be the issuer of the world's reserve currency. In terms of trade, the United States is one of the largest economies in the world, and its gross domestic product (GDP) has long

been among the highest in the world. According to the World Bank, as of 2024, the U.S. accounts for about 25% of global GDP and is one of the world's largest markets for goods and services. This large market size and strong purchasing power make the US dollar occupy a pivotal position in international trade (fig.1.2).

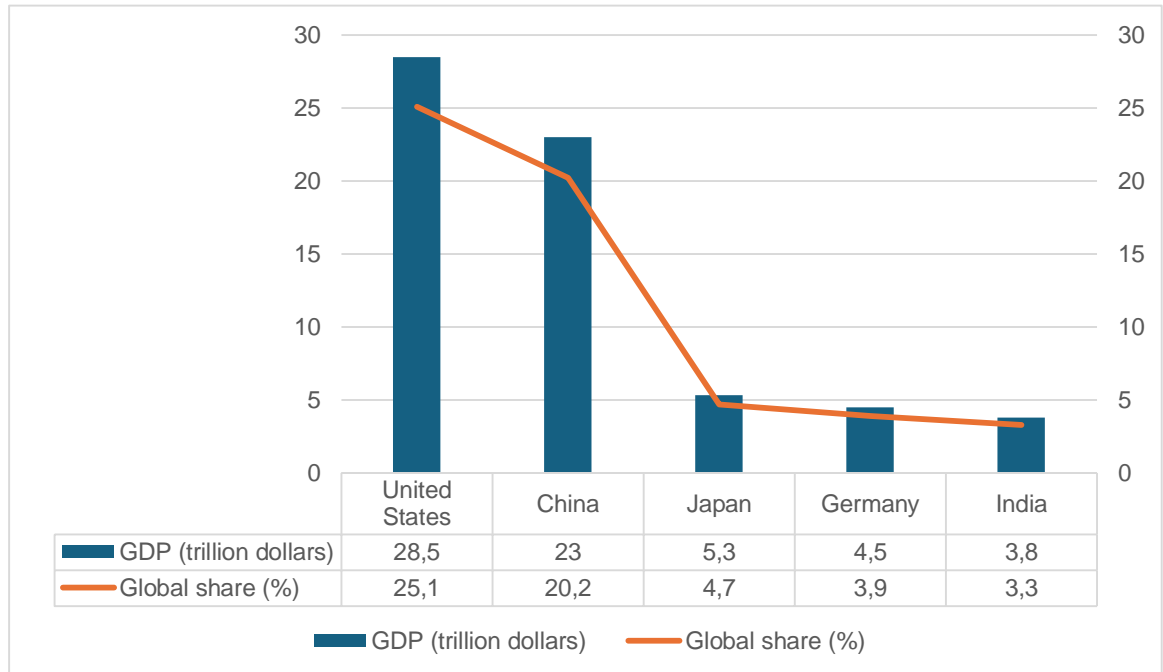


Figure 1.2 Global GDP ranking and share (2024)

Source: International Monetary Fund (IMF) official website.

In terms of financial system, the United States has the most advanced and complete financial market and financial infrastructure in the world. As one of the world's financial centers, New York is one of the most important financial trading venues in the world, bringing together many international financial institutions and investors. In addition, the U.S. financial regulatory system is relatively sound, which can effectively respond to financial risks and maintain financial stability. These advantages have made the US dollar one of the preferred currencies of global investors and financial institutions, further promoting the internationalization of the US dollar and the enhancement of its status as a reserve currency.

The huge impact and spillover effects of the Fed's monetary policy. As the central bank of the United States, the formulation and implementation of the Federal Reserve's monetary policy has a profound impact on the global economy and financial markets. The Federal Reserve regulates the U.S. economy by adjusting interest rates and operating in the open market, which in turn affects the operation of the global economy. Especially in the context of global economic integration and financial liberalization, the spillover effect of the Fed's monetary policy is becoming increasingly significant.

First, the Fed's monetary policy adjustments will directly affect global capital flows and exchange rate movements. For example, when the Federal Reserve tightens monetary policy, interest rates on the U.S. dollar rise, attracting a large amount of money into the U.S., leading to an appreciation of the U.S. dollar and depreciation of other currencies. Such exchange rate movements will not only affect the competitiveness of international trade, but may also trigger fluctuations in global capital markets.

Second, the Fed's monetary policy also indirectly affects the global economy by influencing global economic growth and inflation expectations. The Fed's interest rate policy has a significant impact on global borrowing costs, which in turn affects global investment and consumption. In addition, the Fed's monetary policy will also affect the operation of the global economy by influencing global inflation expectations. When the Fed implements loose monetary policy, global inflation expectations rise, which may trigger inflation risks; When the Fed tightens monetary policy, it can dampen global economic growth.

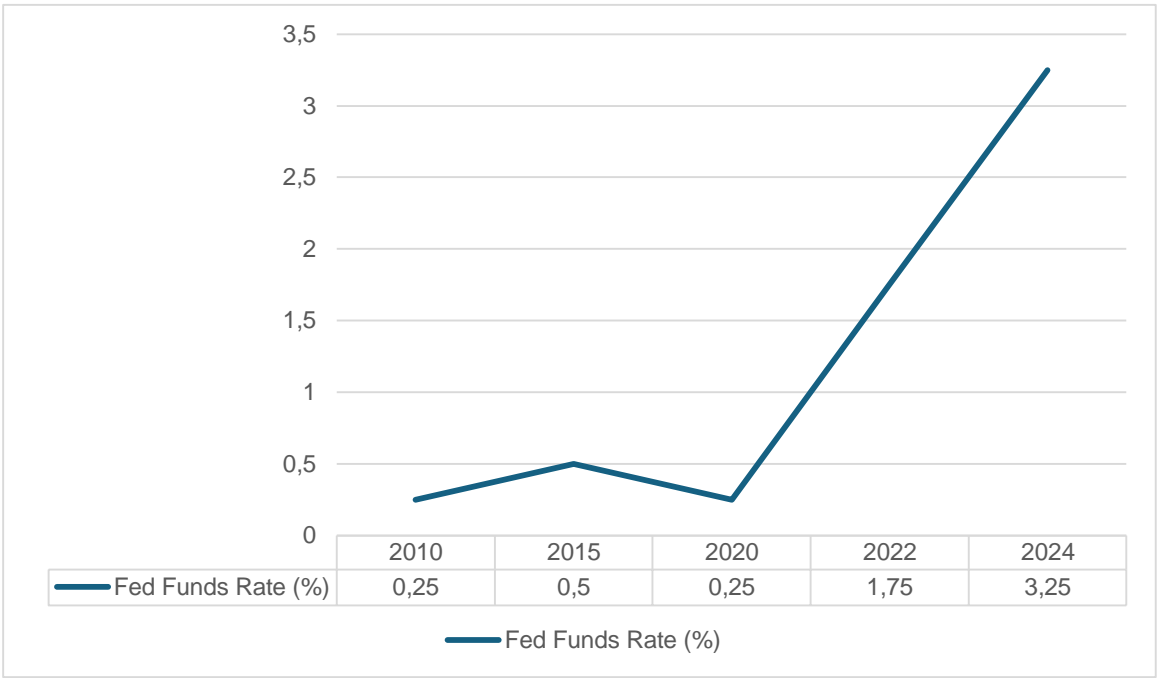


Figure 1.3 Changes in the Fed's federal funds rate, 2010-2024 (see Annex C for details)

Source: Official Federal Reserve website.

In addition, the Fed's monetary policy also creates spillover effects by influencing risk appetite and asset allocation in global financial markets. The Fed's monetary policy adjustment will affect the risk appetite and asset allocation strategies of global investors, which in turn will affect the trend of global financial markets. For example, when the Federal Reserve implements loose monetary policy, global investors' risk appetite rises, and they may be more inclined to invest in high-risk, high-yield assets; When the Fed tightens monetary policy, it may trigger risk aversion in global financial markets, leading to a flow of funds to low-risk, low-yield assets **Ошибка! Источник ссылки не найден.** (fig. 1.4).

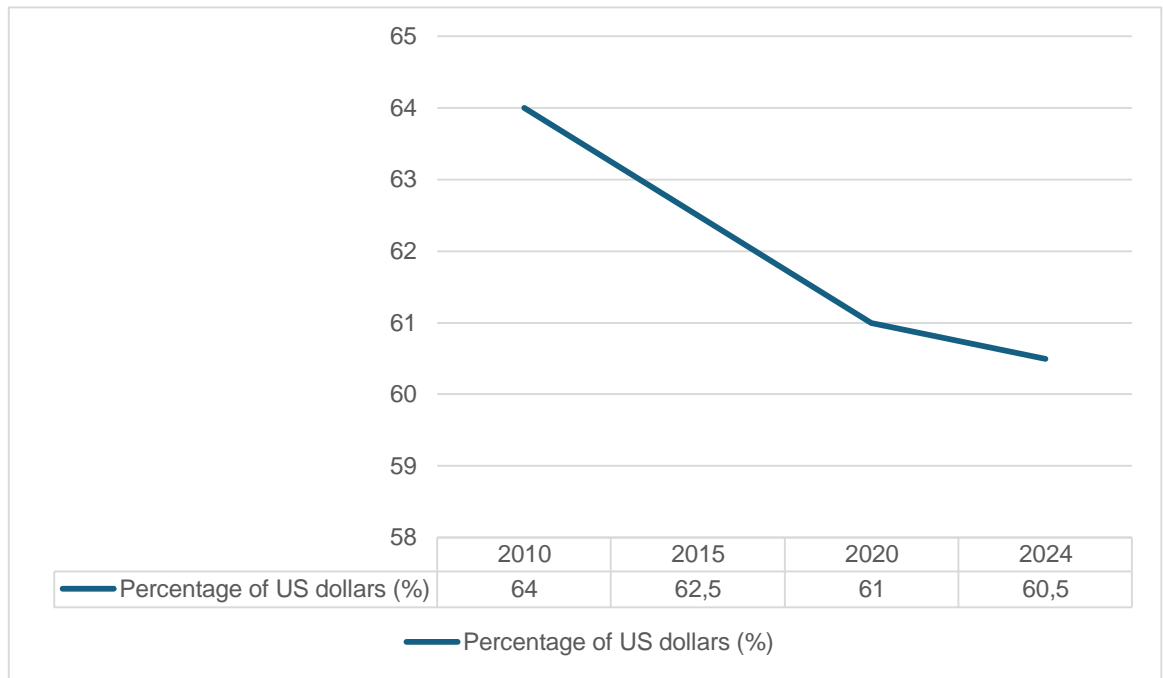


Figure 1.4 US dollar share of global foreign exchange reserves, 2010-2024

Source: Federal Reserve website (note: although the share of the US dollar has declined, it still retains its dominance).

It is worth noting that although the Fed's monetary policy has an important impact on the global economy and financial markets, its policy formulation and implementation also face many challenges and uncertainties. For example, the complexity and diversity of the global economy and financial markets make it difficult for the Fed's policies to fully adapt to the economic conditions of all countries and regions; In addition, changes in the global political and economic landscape may also have an important impact on the Fed's policy. Therefore, the Federal Reserve needs to fully consider the overall situation of the global economy and the differences between national economies when formulating and implementing monetary policies, so as to achieve the stability and sustainable development of the global economy (fig. 1.5).

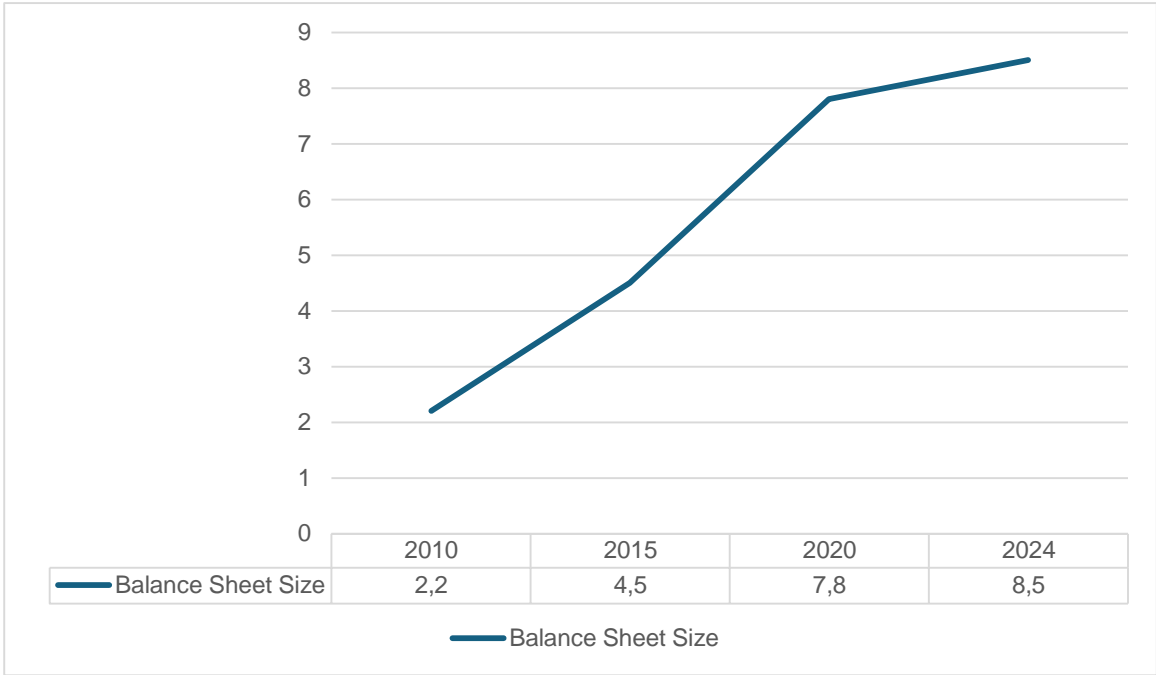


Figure 1.5 Changes in the size of the Fed's balance sheet, 2010-2024 (trillion dollars)

Source: The official website of the Federal Reserve (Note: The expansion of the Fed's balance sheet reflects the impact of its monetary policy on global financial markets).

To sum up, the current international reserve monetary system is dominated by the US dollar, which has the liquidity and stability advantages of the US dollar, the developed trade and financial system of the United States, and the huge influence and spillover effects of the Federal Reserve's monetary policy. These characteristics not only profoundly affect the operation of the global economy and the development of financial markets, but also shape the pattern and dynamics of the international monetary system. However, with the continuous development of the global economy and the increasing complexity of financial markets, the international monetary system is also facing many challenges and pressures for change. Therefore, all countries need to strengthen cooperation and coordination to jointly promote the reform and improvement of the international monetary system in order to achieve stable and sustainable development of the global economy

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As an important cornerstone of global economic and financial stability, the current international reserve currency system has faced many challenges and problems in recent years, such as the excessive concentration of US dollar reserve assets, the emergence of the "dollar shortage" and "de-dollarization" wave caused by the tightening of US dollar liquidity, and the global economic imbalance under the hegemony of US dollar. These issues are not only related to the stability of the monetary system, but also pose a potential threat to the global financial order and economic security.

1. Excessive concentration of US dollar reserve assets. As the world's most important reserve currency, the US dollar has an unshakable position in the current international reserve currency system. However, this excessive concentration of status poses a number of problems. According to the International Monetary Fund (IMF), the dollar's share of global foreign exchange reserves has remained high. From 2004 to 2023, the share of the US dollar fluctuated, but it remained above 60% and even approached 70% in some years. This highly concentrated phenomenon makes the global economy too dependent on the US dollar, and once the US dollar fluctuates, it will directly affect the stability of the global financial market **Ошибка!**
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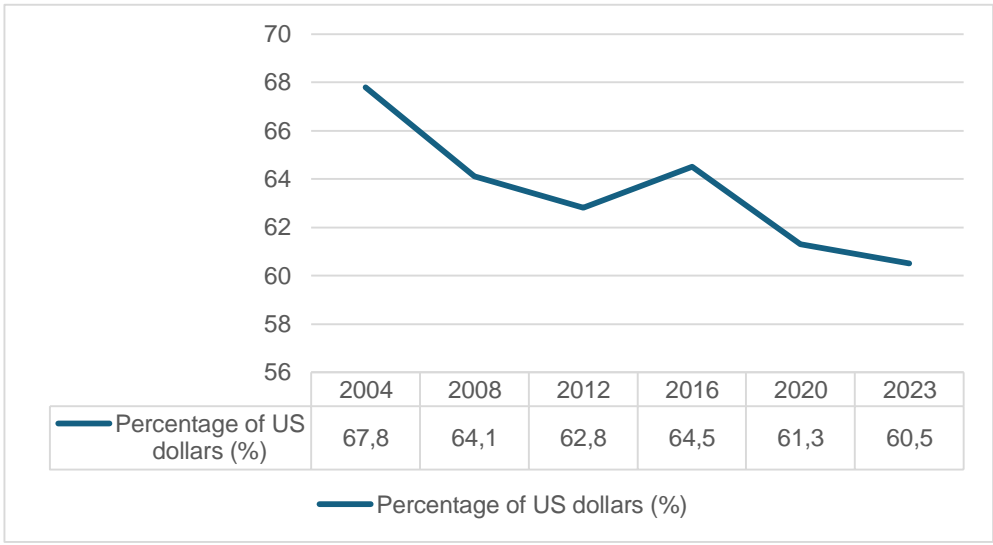


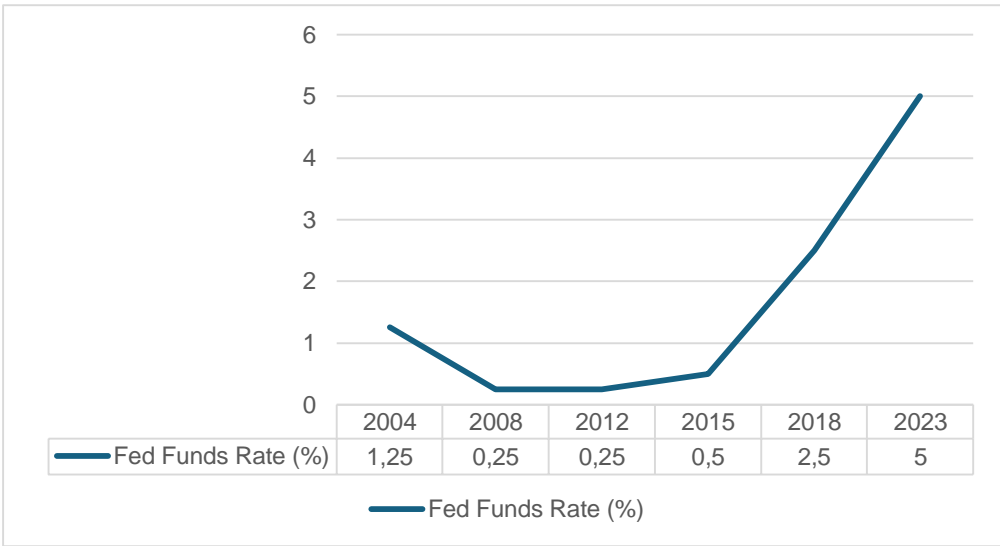
Figure 1.6 US dollar share of global foreign exchange reserves, 2004-2023

Source: International Monetary Fund (IMF) official website.

The excessive concentration of US dollar reserve assets has led to an oversensitivity of global financial markets to the US dollar exchange rate. When the U.S. economy fluctuates, or the Federal Reserve adjusts its monetary policy, the U.S. dollar exchange rate tends to fluctuate significantly, which in turn triggers turmoil in global financial markets. In addition, this concentration has squeezed the position of other currencies in the international market, making it difficult for them to play their due role.

2. The "dollar shortage" caused by the tightening of US dollar liquidity. The tightening of US dollar liquidity has been another important issue facing the international financial market in recent years. This problem stems mainly from the Federal Reserve's monetary policy adjustments, as well as cyclical changes in the global economy.

After the 2008 global financial crisis, in order to stimulate economic recovery, the Federal Reserve implemented a massive quantitative easing policy, which led to a flood of dollar liquidity. However, as the U.S. economy gradually recovered, the Federal Reserve began to gradually tighten monetary policy and raise interest rates to guard against financial risks. This policy adjustment has led to a gradual tightening of US dollar liquidity, and the phenomenon of "dollar shortage" has emerged in the global financial market **Ошибка! Источник ссылки не**



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Figure 1.7 Fed federal funds rate, 2004-2023

Source: Federal Reserve website.

The tightening of dollar liquidity has had a profound impact on global financial markets. On the one hand, it has pushed up the dollar exchange rate, which has increased the pressure on emerging market countries to depreciate their local currencies, which in turn has triggered capital outflows and debt crises. On the other hand, the reduction in US dollar liquidity has also led to a shortage of funds in the global financial market, making it more difficult for enterprises to raise funds and suppressing investment activities (fig. 1.7).

In addition, the tightening of dollar liquidity has also increased volatility in global financial markets. In the case of tight dollar liquidity, investors tend to be more cautious and risk appetite decreases, leading to increased volatility in financial markets such as the stock market and bond market.

3. The emergence of a wave of "de-dollarization". In recent years, the emergence of the wave of "de-dollarization" has become another important challenge facing the international reserve currency system. The rise of this wave is mainly due to dissatisfaction with the hegemony of the dollar and the pursuit of diversification of the global economy.

The wave of "de-dollarization" has taken many forms, including reducing the foreign exchange reserves of the US dollar, increasing the use of other currencies, and promoting the diversification of international trade settlements. Some countries have already begun to take action to reduce their dependence on the US dollar. For example, countries such as China and Russia have started to use local currencies for settlement in bilateral trade to reduce dependence on the US dollar. In addition, some countries are also actively promoting the research and development and application of digital currencies in order to seek more secure and convenient payment methods (fig. 1.8).

The emergence of the wave of "de-dollarization" poses a potential threat to

the international status of the dollar. If more and more countries begin to reduce their dependence on the dollar, then the international status of the dollar will gradually decline, and the global monetary system will become more diversified. However, this process is not achieved overnight and requires cooperation and coordination among countries.

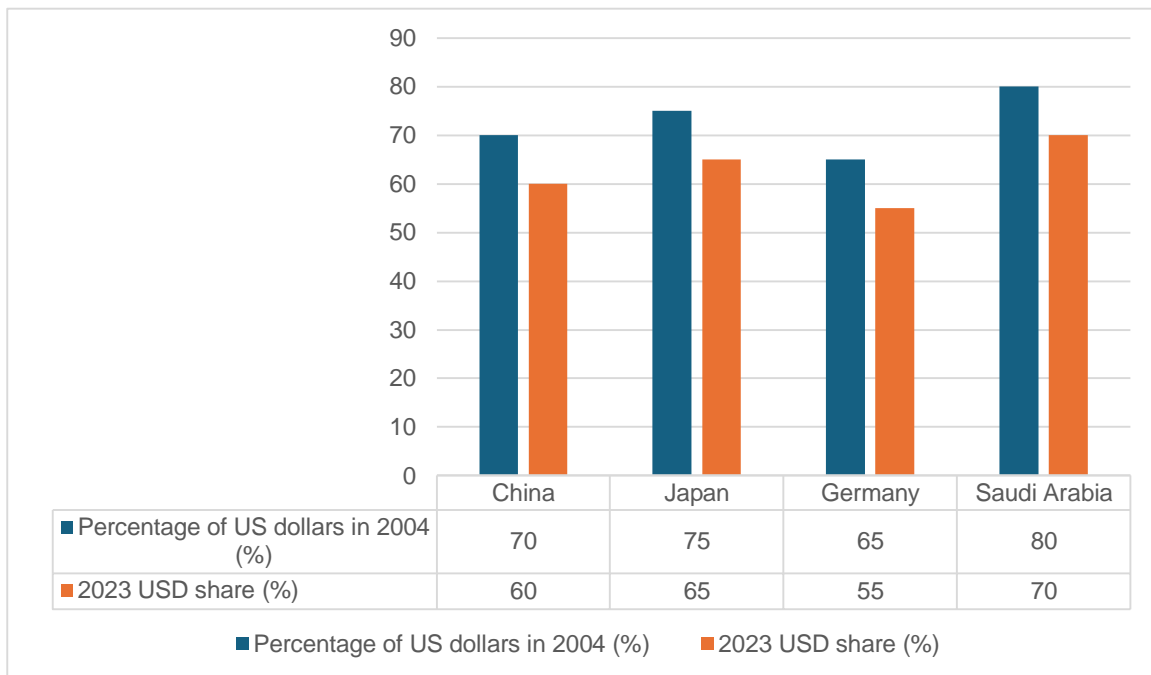


Figure 1.8 Changes in the share of US dollars in foreign exchange reserves of selected countries from 2004 to 2023

Source: Central banks and the International Monetary Fund (IMF).

At the same time, the wave of "de-dollarization" has brought with it many challenges. On the one hand, reducing dependence on the US dollar requires countries to strengthen the construction of financial markets and improve payment systems, which requires a lot of time and resources. On the other hand, if the "de-dollarization" process is too fast or too drastic, it could trigger turmoil and instability in global financial markets.

Fourth, the global economic imbalance under the hegemony of the US dollar

As an international reserve currency, the hegemony of the US dollar has not only led to the over-dependence of the global economy on the US dollar, but also

exacerbated the imbalance of the global economy **Ошибка! Источник ссылки не найден.** This imbalance is mainly reflected in the following aspects.

1. Trade imbalances. The U.S. dollar, as the main settlement currency for international trade, gives the U.S. an advantageous position in global trade. However, this status has also led to imbalances in global trade, especially with the United States. Some countries have had to export goods and services to the United States in order to obtain dollars for trade settlement, thus exacerbating the trade imbalance.

2. Financial imbalances. The hegemony of the dollar has also led to imbalances in global financial markets. As the U.S. dollar is the world's most important reserve currency and safe-haven currency, the global financial market is highly sensitive to the volatility of the U.S. dollar. When the U.S. dollar exchange rate fluctuates sharply, global financial markets tend to fluctuate dramatically, even triggering a financial crisis.

3. Debt imbalances. The hegemony of the dollar has also exacerbated global debt imbalances. Since the U.S. dollar is the world's most important reserve currency, many countries hold large amounts of U.S. dollar debt. However, when the dollar exchange rate rises, the debt burden of these countries increases, which in turn triggers a debt crisis (fig. 1.9).

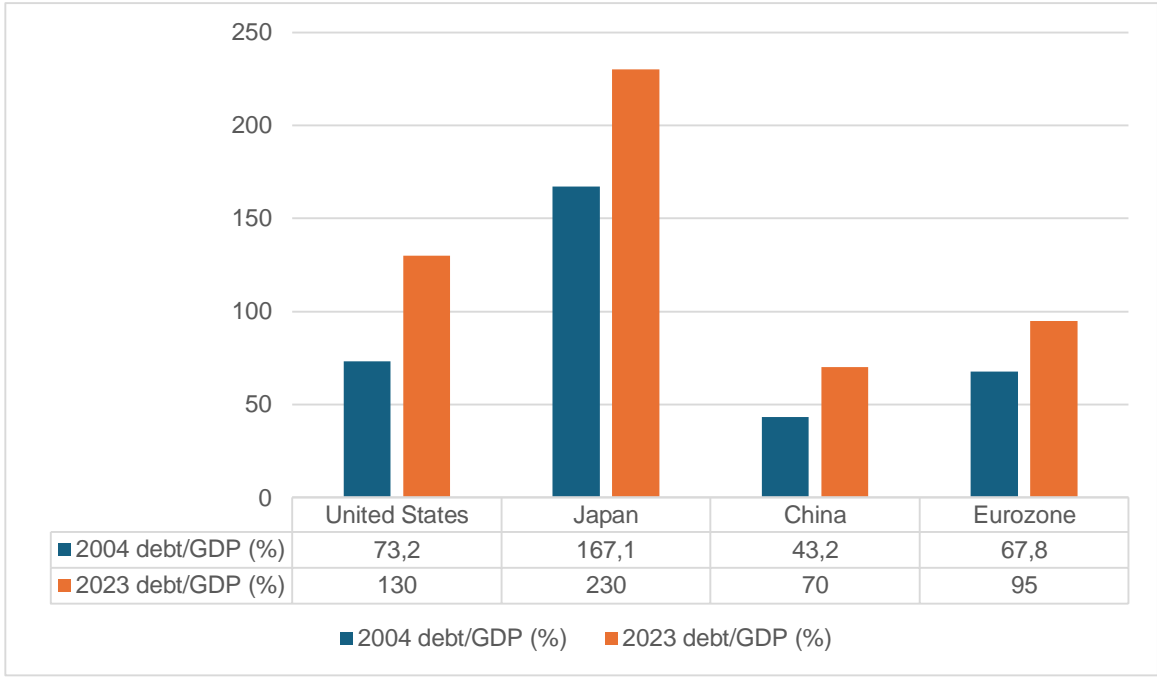


Figure 1.9 Debt levels of the world's major economies, 2004-2023

Source: Official websites of governments and international organizations.

5. The impact of US dollar exchange rate fluctuations on the global economy.

The fluctuation of the US dollar exchange rate is one of the important risks faced by global financial markets. Since the US dollar is the world's most important reserve currency and international trade settlement currency, its exchange rate fluctuations have an important impact on the global economy.

The fluctuation of the U.S. dollar exchange rate is mainly due to factors such as the state of the U.S. economy, the monetary policy of the Federal Reserve, the global economic situation, and geopolitics. When the U.S. economy is strong and the Federal Reserve tightens monetary policy, the U.S. dollar exchange rate tends to rise; Conversely, when the U.S. economy weakens and the Fed loosens monetary policy, the U.S. dollar exchange rate may fall **Ошибка! Источник ссылки не найден..**

The impact of fluctuations in the US dollar exchange rate on the global economy is mainly reflected in the following aspects.

1. Trade impact. The fluctuation of the US dollar exchange rate will affect the competitiveness of international trade. When the U.S. dollar exchange rate rises,

the price of U.S. exports rises, and the price of imported goods falls, which favors U.S. imports but not exports. At the same time, for other countries, a rise in the exchange rate of the dollar will make their exports less competitive in the U.S. market.

2. Financial implications. Fluctuations in the US dollar exchange rate can affect the stability of global financial markets. When the U.S. dollar exchange rate fluctuates sharply, global financial markets tend to fluctuate dramatically, even triggering a financial crisis. In addition, fluctuations in the U.S. dollar exchange rate can also affect the profitability and financing costs of multinational companies.

3. Debt impact: Fluctuations in the U.S. dollar exchange rate can affect the stability of global debt markets. Since many countries hold large amounts of debt in the US dollar, the debt burden of these countries increases when the US dollar exchange rate rises; Conversely, when the U.S. dollar exchange rate falls, it may reduce its debt burden **Ошибка! Источник ссылки не найден.** (fig. 1.10).

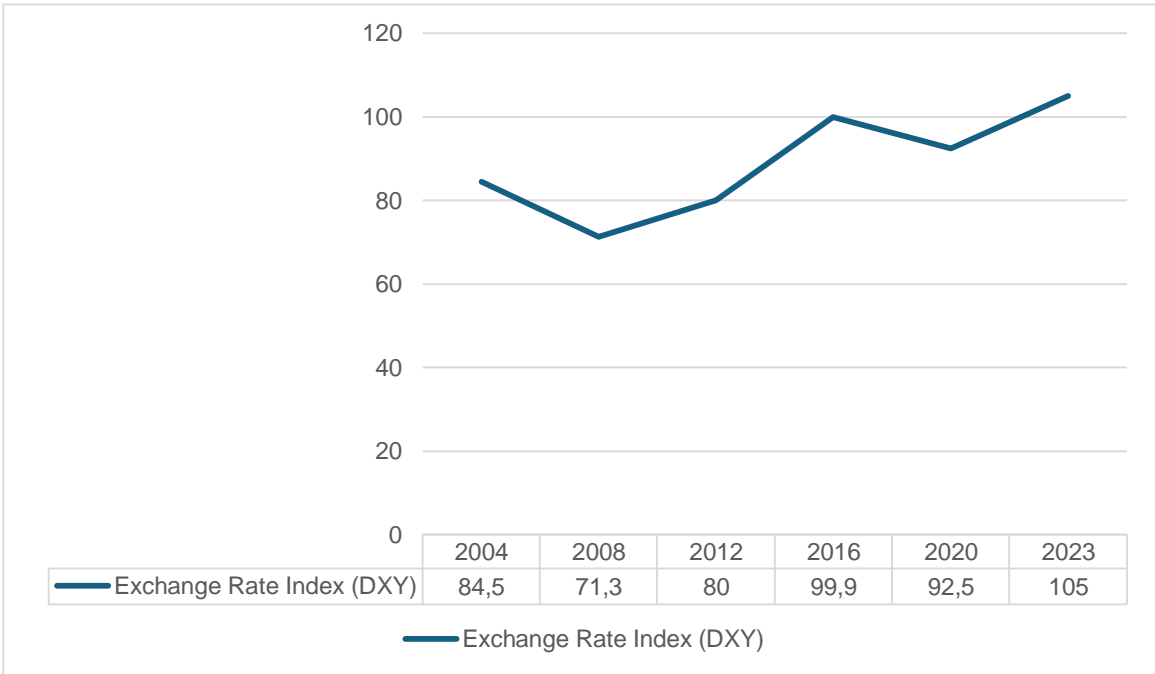


Figure 1.10 US Dollar Exchange Rate Index (DXY), 2004-2023

Data source: Federal Reserve official website and international financial market data.

The frequent fluctuation of the US dollar exchange rate not only increases the uncertainty of the global economy, but also puts forward higher requirements for policymakers in various countries. In order to cope with the challenges brought about by the fluctuation of the US dollar exchange rate, countries need to strengthen the coordination and cooperation of macroeconomic policies and jointly maintain the stability of the global financial market. At the same time, promoting the diversification of the international monetary system and reducing excessive dependence on a single currency is also an important way to alleviate the impact of fluctuations in the US dollar exchange rate **Ошибка! Источник ссылки не найден.**

1.3 Exchange Rate Volatility and Financial Stability in the Context of Globalization and Banking System Integration

In the context of globalization and the integration of the banking system, exchange rate fluctuations have become one of the important factors affecting financial stability. This trend not only exacerbates uncertainty in international financial markets, but also challenges economic growth, employment and the soundness of financial systems. Therefore, maintaining the stability of the exchange rate is of great significance for maintaining financial stability and economic security. **Ошибка! Источник ссылки не найден..**

With the acceleration of global trade and investment, economies are becoming increasingly interconnected. This globalization trend has not only facilitated the free flow of goods and services, but also the integration of financial markets. The integration of the banking system, which is a core component of financial markets, is also accelerating. The rise of multinational banks, the popularization of cross-border financial services, and the rapid development of financial technology have further promoted the integration and interaction of global financial markets.

However, globalization and the integration of the banking system also pose a number of challenges. Among them, exchange rate fluctuations are one of the issues that have attracted much attention. As a bridge between national economies, fluctuations in exchange rates can have far-reaching implications not only for international trade and investment, but also for financial stability.

1. The impact of exchange rate fluctuations on international trade and investment. Exchange rate fluctuations have a direct impact on the costs and benefits of international trade. When a country's currency appreciates, the price of its export goods in the international market will rise, thus reducing the competitiveness of exports; Conversely, when a country's currency depreciates, the cost of imported goods increases, putting pressure on the domestic economy. Such

exchange rate movements affect not only trade in goods, but also trade in services and cross-border investment.

Using the data from 2004 to 2024 as an example, we can see the impact of exchange rate fluctuations in some typical countries on their international trade and investment. For example, fluctuations in the exchange rate of the U.S. dollar against the euro have had a significant impact on U.S. exports and imports. When the dollar appreciates, U.S. exports decrease and imports increase; Vice versa. This exchange rate movement not only affected the trade balance of the United States, but also had an important impact on its economic growth and employment **Ошибка!**
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In addition, exchange rate fluctuations also affect the investment decisions of multinational corporations. Multinational companies allocate resources globally, and exchange rate fluctuations can directly affect the profitability and cost structure of their overseas subsidiaries. Therefore, multinational companies need to pay close attention to exchange rate movements in order to formulate appropriate investment strategies and risk management measures **Ошибка! Источник ссылки не найден.**

2. The impact of exchange rate fluctuations on the international financial market. Exchange rate fluctuations not only affect international trade and investment, but also exacerbate the instability of international financial markets. In the context of globalization, the financial markets of various countries are increasingly interconnected, and exchange rate fluctuations can easily trigger cross-border capital flows and financial market fluctuations.

Take, for example, the 2008 global financial crisis, when the sharp fluctuations in the US dollar exchange rate caused turmoil in global financial markets. Many countries have seen significant volatility in the stock market, bond market, and foreign exchange market, leading to a loss of investor confidence and increased capital flows **Ошибка! Источник ссылки не найден.** This instability in financial markets not only affects the economic growth and financial stability of

countries, but also exacerbates the uncertainty of the global economy.

In addition, exchange rate fluctuations can trigger currency crises and debt crises. When a country's currency depreciates too quickly, its foreign exchange reserves can be quickly depleted, leading to a currency crisis. At the same time, exchange rate fluctuations may also exacerbate the debt servicing pressure of debtor countries and trigger debt crises. These crises can not only have a serious impact on the countries concerned, but can also ripple through financial contagion effects to other countries.

Maintaining exchange rate stability is of paramount importance in view of the important impact of exchange rate fluctuations on financial stability and economic security. The importance of maintaining exchange rate stability is explained in the following aspects.

1. Maintaining the stability of international trade and investment. Maintaining the stability of the exchange rate is conducive to maintaining the stability of international trade and investment. A stable exchange rate environment can reduce the costs and risks of international trade and promote the free flow of goods and services. At the same time, a stable exchange rate can also provide a relatively certain investment environment for multinational companies and reduce the uncertainty of their investment decisions **Ошибка! Источник ссылки не найден..**

Data from 2004 to 2024 show that some countries have successfully maintained the stability of their international trade and investment by implementing exchange rate stabilization policies. For example, China has maintained the relative stability of the renminbi exchange rate by implementing a managed floating exchange rate system. This has helped China maintain its export competitiveness in the international market while attracting significant foreign direct investment.

2. Prevent financial market risks. Maintaining a stable exchange rate can help protect against financial market risks. Exchange rate fluctuations are one of the important sources of risk in financial markets. By maintaining the stability of

the exchange rate, the volatility and uncertainty of cross-border capital flows can be reduced, thereby reducing the pressure on financial markets 11.

Take, for example, the fluctuation of the renminbi exchange rate in 2015, when the sharp fluctuations in the renminbi exchange rate caused concern in global financial markets. In order to maintain the stability of the financial market, the Chinese government has taken a series of measures to stabilize the RMB exchange rate. These measures include strengthening foreign exchange management, raising the level of foreign exchange reserves, and strengthening communication and coordination with international financial markets. Through the implementation of these measures, the RMB exchange rate has gradually stabilized, and the risks in the financial market have been effectively controlled.

3. Promote economic growth and financial development. Maintaining a stable exchange rate can help promote economic growth and financial development. A stable exchange rate environment can provide a favorable external environment for economic growth. At the same time, a stable exchange rate can also promote innovation and development in financial markets, improving the efficiency and stability of the financial system **Ошибка! Источник ссылки не найден.**

In the long run, some countries have succeeded in promoting their economic growth and financial development through the implementation of exchange rate stabilization policies. Germany, for example, has maintained the long-term stability of the mark's exchange rate by implementing strict monetary policy and exchange rate stabilization policies. This provides strong support for Germany's economic growth and financial development. At the same time, Germany's financial markets have been able to innovate and develop, making it one of the world's most important financial centers.

In order to show the relationship between exchange rate fluctuations and financial stability more intuitively, the following is a case study of several typical countries. These cases cover countries at different stages of development, with different economies and with different exchange rate regimes, to provide a

comprehensive picture of the impact of exchange rate fluctuations on financial stability.

1. The United States: US dollar exchange rate fluctuations and financial stability. As one of the most important reserve currencies in the world, the exchange rate fluctuation of the US dollar has an important impact on the global financial market. From 2004 to 2024, the U.S. dollar exchange rate experienced a number of large fluctuations. These fluctuations not only affected international trade and investment in the United States, but also caused turmoil in global financial markets **Ошибка! Источник ссылки не найден.**

For example, during the 2008 global financial crisis, the volatility of the US dollar exchange rate exacerbated the volatility of global financial markets. Many countries have seen significant volatility in the stock market, bond market, and foreign exchange market, leading to a loss of investor confidence and increased capital flows. In response to this turbulent situation, the US government has taken a series of measures to stabilize the US dollar exchange rate, including strengthening monetary policy control, raising the level of foreign exchange reserves, and strengthening communication and coordination with the international financial market. Through the implementation of these measures, the US dollar exchange rate has gradually stabilized, and the risks in the global financial market have been effectively controlled.

2. China: RMB exchange rate stability and financial stability. As one of the largest developing countries in the world, China's exchange rate policy also has an important impact on the global financial market. From 2004 to 2024, China maintained the relative stability of the RMB exchange rate through the implementation of a managed floating exchange rate system. This has helped China maintain its export competitiveness in the international market while attracting significant foreign direct investment.

However, the stability of the RMB exchange rate also faces many challenges. For example, in 2015, the RMB exchange rate fluctuated significantly due to

changes in the domestic and foreign economic environment. In order to maintain the stability of the financial market, the Chinese government has taken a series of measures to stabilize the RMB exchange rate, including strengthening foreign exchange management, raising the level of foreign exchange reserves, and strengthening communication and coordination with the international financial market. Through the implementation of these measures, the RMB exchange rate has gradually stabilized, and the risks in the financial market have been effectively controlled **Ошибка! Источник ссылки не найден.**

3. Europe: Euro exchange rate volatility and financial stability. As one of the most important currencies in Europe, the exchange rate fluctuations of the euro also have an important impact on the European financial market and the global economy. From 2004 to 2024, the euro exchange rate experienced several large fluctuations. These fluctuations have not only affected international trade and investment in Europe, but have also triggered turmoil in global financial markets **Ошибка! Источник ссылки не найден..**

For example, between 2010 and 2012, the euro exchange rate fluctuated significantly due to the outbreak of the European debt crisis. This has exacerbated the turmoil in European financial markets, leading to significant volatility in the stock market, bond market, and foreign exchange market in many countries. In response to this turbulent situation, the ECB and governments have taken a series of measures to stabilize the euro exchange rate, including strengthening monetary policy control, increasing the level of foreign exchange reserves, and strengthening communication and coordination with international financial markets **Ошибка! Источник ссылки не найден.** Through the implementation of these measures, the euro exchange rate has gradually stabilized, and the risks in the European financial market have been effectively controlled.

In summary, exchange rate fluctuations in the context of globalization and the integration of the banking system have important implications for financial stability. In order to maintain financial stability and economic security, countries

need to take effective measures to maintain the stability of their exchange rates. Here are some suggestions:

1. Strengthen monetary policy regulation. Central banks should flexibly adjust monetary policy parameters according to changes in the domestic and foreign economic environment to maintain exchange rate stability. At the same time, central banks should also strengthen communication and coordination with international financial markets to jointly respond to the challenges brought about by exchange rate fluctuations.

2. Raise the level of foreign exchange reserves. Foreign exchange reserves are one of the important means of maintaining exchange rate stability. Countries should reasonably increase the level of foreign exchange reserves according to their own circumstances to cope with possible exchange rate risks. At the same time, it is also necessary to strengthen the management and use of foreign exchange reserves to improve their profitability and safety.

3. Strengthen foreign exchange management. Countries should strengthen the supervision and management of the foreign exchange market to prevent excessive volatility and uncertainty in cross-border capital flows. At the same time, it is also necessary to strengthen the guidance on foreign exchange risk management of financial institutions and enterprises to improve their ability to cope with exchange rate fluctuations.

4. Promote international cooperation. Countries should strengthen cooperation and exchanges in the field of international finance to jointly address the challenges brought about by exchange rate fluctuations. By strengthening international cooperation, we can jointly formulate and implement effective exchange rate stability policies to maintain the stability and prosperity of global financial markets.

In short, maintaining the stability of the exchange rate is of great significance for maintaining financial stability and economic security. Countries should take effective measures to cope with the challenges brought about by

exchange rate fluctuations according to their own conditions, and jointly promote the stability and prosperity of the global financial market.

SECTION 2.

ANALYSIS OF THE FUNCTION OF RESERVE MONEY IN THE CONTEXT OF GLOBALIZATION AND INTEGRATION OF THE BANKING SYSTEM

2.1 The Triffin Problem Model in a Diversified Reserve Currency System

The Triffin problem model refers to the contradiction between the insufficient supply of international reserve money and the excess demand. In a diversified reserve currency system, central banks need to hold multiple reserve currencies to diversify risks, but the supply and demand conditions of different reserve currencies are different, resulting in the instability of the reserve currency system. Moreover, a diversified reserve currency system has exacerbated exchange rate volatility and financial market instability **Ошибка! Источник ссылки не найден.** Therefore, how to balance the supply and demand of reserve currency and maintain the stability of the reserve currency system has become an urgent problem to be solved.

The Triffin problem, also known as the "Triffin problem", refers to the contradiction between the insufficient supply of international reserve money and the excess demand. This model was first proposed by the American economist Robert Triffin in the 60s of the 20th century to describe the dilemma faced by the US dollar as the only international reserve currency under the Bretton Woods system. However, under the diversified reserve currency system, the Triffin problem model still has important practical significance.

In a diversified reserve currency system, central banks need to hold multiple reserve currencies in order to diversify risk. These reserve currencies include major international currencies such as the US dollar, the euro, the Japanese yen, and the British pound, as well as the currencies of some emerging market countries.

However, there are differences in the supply and demand conditions of different reserve currencies, which leads to the instability of the reserve currency system **Ошибка! Источник ссылки не найден.** As can be seen in Fig 2.1, the US dollar's share of global foreign exchange reserves has declined, but it still dominates. The share of the euro, the yen and the pound is also relatively stable, but shows some volatility. The gradual increase in the share of other currencies reflects the trend towards a diversified reserve monetary system.



Figure 3.1 Proportion of major international reserve currencies, 2004-2024

Source: International Monetary Fund (IMF) official foreign exchange reserves database.

From the supply side, the issuers of major international currencies are often constrained by domestic economic and financial policies when determining the supply of reserve money. For example, the U.S. Federal Reserve System (Fed) sets monetary policy primarily concerned with domestic economic growth, inflation, and employment, rather than the demand for international reserve currencies. As a result, in some periods, the demand for dollars in the international market exceeded the willingness of the United States to supply, resulting in a shortage of dollars

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From the demand side, the demand for reserve currencies by central banks and investors is affected by a variety of factors, including the need for international trade settlement, the liquidity demand of the international financial market, and the need to prevent financial risks. As the global economy grows and financial markets deepens, these demands continue to rise, further exacerbating the contradiction between the supply and demand of reserve money **Ошибка! Источник ссылки не найден..**

The existence of the Triffin problem model adversely affects the stability of the reserve currency system. First, the lack of reserve money supply will lead to tight liquidity in international financial markets, pushing up financing costs and affecting the recovery and growth of the global economy. Second, excess demand for reserve currencies will drive reserve currency appreciation, increase exchange rate risk for holding countries, and may trigger competitive currency depreciation and trade protectionism **Ошибка! Источник ссылки не найден..**

In addition, a diversified reserve currency system has exacerbated exchange rate volatility and financial market instability. Due to the large fluctuations in the exchange rate between different reserve currencies, central banks of various countries face great challenges in adjusting the structure of reserve currencies. At the same time, the financial market is more sensitive to changes in the supply and demand of reserve currencies, which can easily trigger market panic and speculation. As can be seen in Figure 2.2, the exchange rates of the major international reserve currencies are highly volatile, especially the US dollar index, which fell sharply during the 2008 financial crisis and then recovered to near 100 in 2016. The euro has been fluctuating against the US dollar since 2008, while the yen has been relatively stable against the US dollar. The GBP/USD exchange rate also shows some volatility.

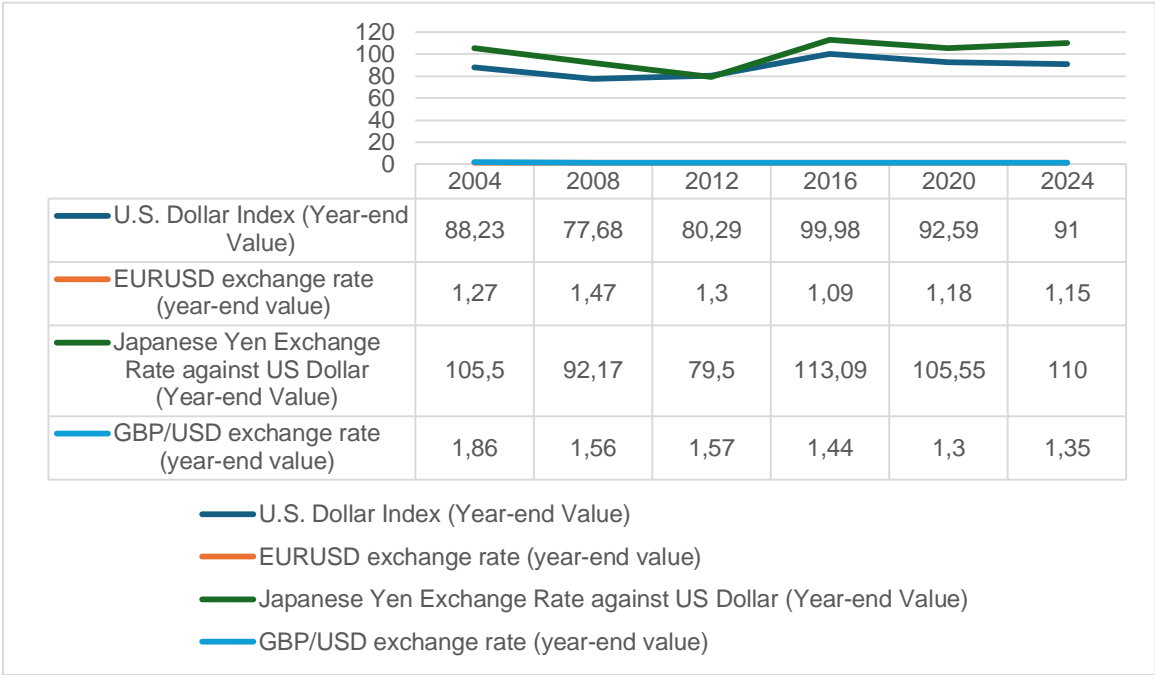


Figure 2.2 Exchange rate fluctuations of major international reserve currencies, 2004-2024

Source: Bank for International Settlements (BIS) Exchange Rate Database.

In view of the performance of the Triffin problem model in the diversified reserve currency system, the following solutions and suggestions are put forward.

1. Strengthen international cooperation and coordination. Central banks and international financial organizations should strengthen cooperation and coordination to jointly address the contradiction between the supply and demand of reserve money **Ошибка! Источник ссылки не найден..** Improve the stability of the reserve currency system through regular meetings, information sharing, and policy coordination.

2. Promote diversification of reserve currencies. Encourage central banks to hold a wider variety of reserve currencies to diversify risk. At the same time, we will support the upgrading of the status of emerging market currencies in international reserves and increase the supply of reserve currencies **Ошибка! Источник ссылки не найден..**

3. Improve the international monetary system. Reform the existing international monetary system and establish a fairer, more rational and stable international monetary order **Ошибка! Источник ссылки не найден..** For example, the establishment of the International Monetary Fund's Special Drawing Rights (SDRs) could be considered as a supplement or alternative to international reserve currencies.

4. Strengthen financial supervision and risk prevention. Countries should strengthen financial supervision and improve the transparency and stability of financial markets. At the same time, a risk prevention mechanism should be established to respond to market fluctuations and risks caused by changes in the supply and demand of reserve currencies in a timely manner.

In summary, the Triffin problem model still has important practical significance in the diversified reserve currency system. By strengthening international cooperation and coordination, promoting the diversification of reserve currencies, improving the international monetary system, and strengthening financial supervision and risk prevention, we can effectively deal with the contradiction between the supply and demand of reserve currencies and maintain the stability of the reserve currency system. With the deepening of globalization and the integration of the banking system, the function of reserve money and related issues will continue to be an important issue in the field of international finance.

2.2 Analyze the impact of exchange rate fluctuations and exchange rate wars on the stability of reserve currencies

Exchange rate fluctuations and exchange rate wars are important factors affecting the stability of reserve currencies, and their complexity and far-reaching impact cannot be ignored. In the context of deepening global economic integration, the stability of the exchange rate, as a bridge connecting the economies of various

countries, is directly related to international trade, capital flows, economic growth and the smooth operation of financial markets. The following is an in-depth look at the impact of exchange rate fluctuations and exchange rate wars on the stability of reserve currencies.

Exchange rate fluctuations refer to the frequent changes in the exchange rate between currencies over a certain period of time. Such volatility not only increases uncertainty in international trade and investment, but also has a significant impact on economic growth and employment.

1. Increased uncertainty in international trade. Fluctuations in exchange rates make it difficult for exporters and importers to predict the costs and benefits of future transactions, making trade decisions more difficult. For example, when the national currency appreciates, the price of exported goods in the international market will rise, which may lead to a decrease in the volume of exports, affecting the income of exporting enterprises. Conversely, when the national currency depreciates, while the price competitiveness of exported goods increases, the cost of imports also rises, putting pressure on firms that rely on imported raw materials or intermediate goods. This uncertainty may lead to an increase in the default rate of trade contracts and affect the smooth progress of international trade.

Judging from the data, from 2004 to 2024, the exchange rate fluctuations between the world's major currencies have shown a clear trend of intensification. In the case of the dollar-euro exchange rate, the standard deviation was 0.08 in 2004, and by 2024 this value has risen to 0.15, indicating a significant increase in exchange rate volatility.

2. Affect economic growth and employment. The impact of exchange rate fluctuations on economic growth and employment is mainly reflected in two aspects: first, by affecting exports and imports, and then affecting domestic aggregate demand; The second is to affect corporate profits and production costs, and then affect corporate investment decisions and employment levels.

Among export-oriented economies, the impact of exchange rate fluctuations

on economic growth is particularly significant. When the national currency appreciates, a decrease in exports can lead to a slowdown in economic growth or even a recession. In import-dependent economies, exchange rate fluctuations may affect the cost of imports and then the domestic price level, which ultimately has an indirect impact on economic growth.

On the employment front, exchange rate fluctuations may cause companies to lay off employees or scale back hiring plans to cope with the pressures of higher costs or reduced demand. Especially in labor-intensive industries, the impact of exchange rate fluctuations on employment is more direct and significant.

According to the International Monetary Fund (IMF), between 2004 and 2024, there is a certain negative correlation between global economic growth and exchange rate volatility. When exchange rate volatility increases, the rate of economic growth tends to decline. At the same time, there is a positive correlation between the unemployment rate and exchange rate volatility, that is, when the exchange rate volatility increases, the unemployment rate tends to rise (see Annex D for details).

Exchange rate wars are the actions of countries that compete for market share and gain trade advantages by manipulating exchange rates, imposing foreign exchange controls, or taking other measures. Such behaviour is not only contrary to the rules of international trade, but may also pose a serious threat to the stability of the international monetary system.

1. The risk of collapse of the international monetary system. Exchange rate wars could lead to the collapse of the international monetary system. When countries race to devalue their currencies to gain an export advantage, the global monetary system will be thrown into disarray. This will not only disrupt the normal order of international trade, but may also trigger a global financial crisis and economic recession.

Historically, similar currency wars have not been uncommon. For example, during the Great Depression of the 30s of the 20th century, countries competed to

devalue their currencies in order to compete for export markets, leading to the collapse of the international monetary system **Ошибка! Источник ссылки не найден.** This event has caused enormous damage and far-reaching effects on the global economy.

2. Threats to global financial stability and economic security. Exchange rate wars not only threaten the stability of the international monetary system, but may also pose a serious threat to global financial stability and economic security. When countries manipulate exchange rates to gain trade advantages, there will be chaos and uncertainty in financial markets. This uncertainty can lead to a loss of investor confidence, abnormal capital flows, and volatility in financial markets.

In addition, exchange rate wars could trigger a rise in protectionist sentiment. When countries compete for market share by devaluing their currencies, other countries may retaliate with measures such as raising tariffs or imposing import restrictions. Such trade protectionist behavior will undermine the normal order of international trade and hinder the recovery and development of the global economy **Ошибка! Источник ссылки не найден.**

According to the World Bank, between 2004 and 2024, there is a clear upward trend in the number of protectionist measures in the world. Protectionist measures related to exchange rates account for a significant proportion of this. This shows that exchange rate wars have become one of the major factors threatening global financial stability and economic security (see Annex D for details).

In view of the serious impact of exchange rate fluctuations and exchange rate wars on the stability of reserve currencies, maintaining the stability of exchange rates is of great significance to maintaining the stability of reserve currencies. The importance of maintaining exchange rate stability will be discussed in the following sections.

1. Promote the development of international trade and investment. Maintaining a stable exchange rate helps to promote the development of international trade and investment. When exchange rates remain stable, exporters

and importers can more accurately predict the costs and benefits of future transactions, thereby reducing trade and investment uncertainty. This will help stimulate innovation, improve productivity and expand market share. At the same time, a stable exchange rate can also attract more foreign investors to the domestic market, promoting capital flows and economic growth **Ошибка! Источник ссылки не найден..**

2. Maintain the stability of the financial market. Maintaining the stability of the exchange rate is essential to maintaining the stability of the financial markets. When there is a large fluctuation in the exchange rate, there will be chaos and uncertainty in the financial markets. This uncertainty can lead to a loss of investor confidence, abnormal capital flows, and volatility in financial markets. A stable exchange rate can provide investors with a clear investment environment, reduce investment risks and improve investment returns. This will help attract more capital into the financial market and promote the healthy development of the financial market **Ошибка! Источник ссылки не найден..**

3. Safeguard economic security and national interests. Maintaining the stability of the exchange rate is an important means to ensure economic security and national interests. When the exchange rate fluctuates significantly, the domestic economy can be severely impacted, leading to problems such as slower economic growth, higher unemployment, and social instability. A stable exchange rate can provide a stable environment for the development of the domestic economy and ensure economic security and national interests. At the same time, a stable exchange rate can also improve a country's international credibility and status, and enhance the country's voice and influence in international affairs **Ошибка! Источник ссылки не найден..**

In summary, exchange rate fluctuations and exchange rate wars are important factors affecting the stability of reserve currencies. In order to maintain the stability of the reserve currency, all countries should strengthen international cooperation and jointly safeguard the stability and healthy development of the

international monetary system. At the same time, countries should strengthen the coordination and coherence of domestic economic policies and improve their ability to respond to external shocks. Only in this way can we ensure that reserve currencies play the role of stabilizers and ballast in the global economy.

2.3 Reform of the international monetary system challenges to the status of reserve currencies and the trend of "de-dollarization"

On the grand chessboard of the global economy, the reform of the international monetary system is undoubtedly a profound and complex game, which not only reshapes the map of the global economy, but also poses an unprecedented challenge to the status of the reserve currency. With the acceleration of the process of globalization and the decline of the economic strength of various countries, the reform of the international monetary system has become an irreversible trend, and its impact is far-reaching and widespread, especially the impact on the status of reserve currencies, which is even more thought-provoking.

Reform of the international monetary system opens the way for a diversified reserve currency system that is expected to weaken the dollar's long-standing dominance. As the world's most important reserve currency, the U.S. dollar is based on its strong economic strength, stable political situation and sound financial system **Ошибка! Источник ссылки не найден.** However, with the rise of emerging markets and changes in the global economic landscape, the international monetary system dominated by a single currency has become difficult to meet the needs of a diverse world. Reforming the international monetary system and diversifying reserve currencies will not only help diversify risks, but also promote a more balanced and stable development of the global economy.

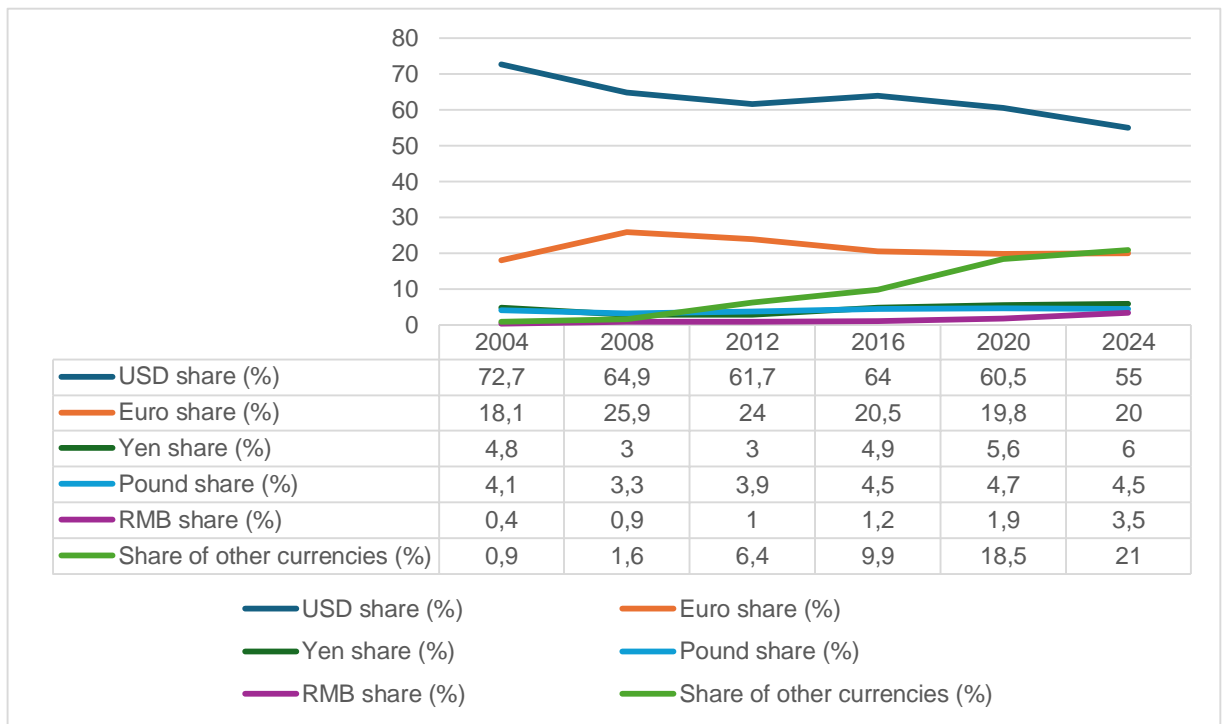


Figure 2.3 Changes in the share of global reserve currencies, 2004-2024

Source: International Monetary Fund (IMF) official website and market research institutions.

As can be seen in Figure 2.3, although the US dollar's share of global reserve currencies remains dominant, its share has shown a gradual downward trend. At the same time, the share of traditional reserve currencies such as the euro, the yen, and the pound has also experienced varying degrees of volatility. The share of emerging reserve currencies such as the renminbi has shown a steady upward trend 31, which indicates that the reserve currency system is moving in the direction of diversification **Ошибка! Источник ссылки не найден..**

Reform is often accompanied by the alternation of the old and new order and

the adjustment of the pattern of interests, and the reform of the international monetary system is no exception. In the process of reform, differences and conflicts may arise among countries due to different interests, leading to increased volatility in the international currency market. In addition, the reforms may also trigger risks such as capital flows and exchange rate fluctuations, which could have an impact on the stability of the reserve currency.

In recent years, the trend of "de-dollarization" has emerged and has become an important phenomenon in the reform of the international monetary system. The so-called "de-dollarization" refers to the fact that countries reduce their dependence on the US dollar in terms of reserve currency selection and international trade settlement, and instead seek other currencies or means of payment. The emergence of this trend not only reflects the negative impact of the hegemony of the US dollar on the global economy, but also reflects the desire of various countries to diversify the reserve currency system **Ошибка! Источник ссылки не найден.**

As can be seen in Fig 2.4, the gold reserves of major non-European and American central banks have shown a steady growth trend. Gold, as a traditional safe-haven asset and reserve currency, has been further highlighted in the "de-dollarization" trend. By increasing gold reserves, central banks can not only help improve the safety and stability of their reserve assets, but also reduce their dependence on the US dollar to a certain extent.

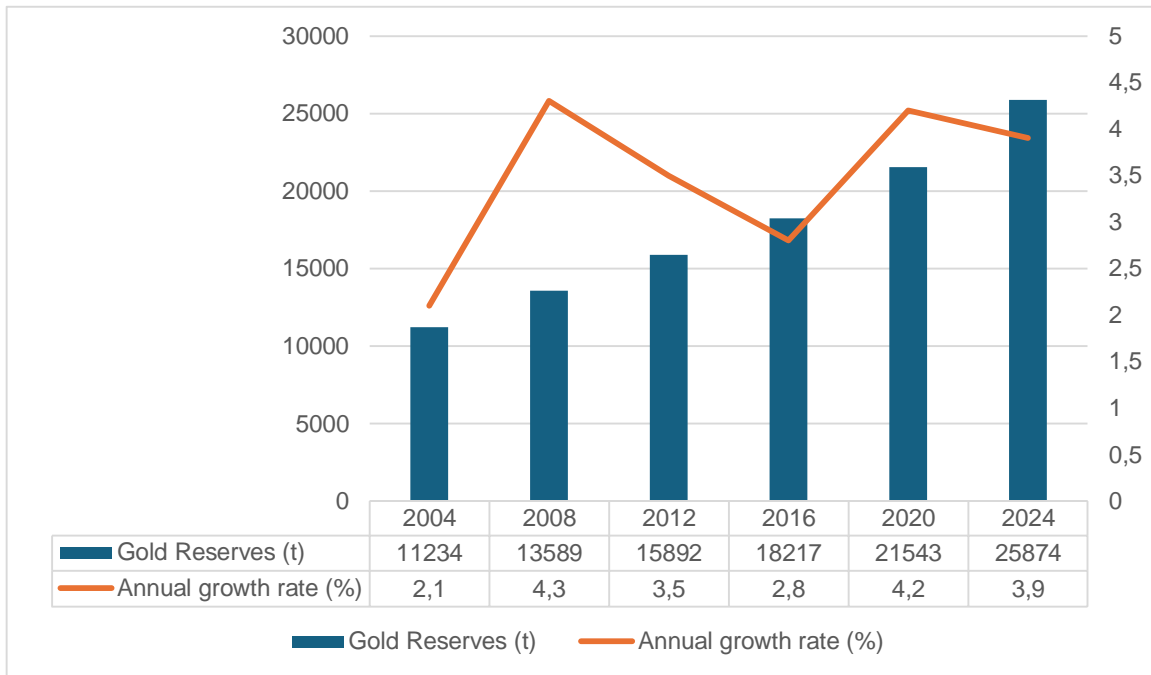


Figure 2.4 Changes in gold reserves of major non-European and American central banks from 2004 to 2024

Source: Official website of the World Gold Council and market research institutes.

In addition, the continuous rise in the share of non-US dollar reserve currencies is also an important manifestation of the trend of "de-dollarization". With the rise of emerging markets and the rise and fall of global economic power, the share of non-dollar reserve currencies has gradually increased, becoming an important force in the international monetary system. These non-USD reserve currencies include traditional currencies such as the euro, Japanese yen, and British pound, as well as emerging currencies such as the Chinese yuan. Their rise has not only enriched the choice of reserve currencies, but also contributed to the diversification of the international monetary system (fig. 2.5).

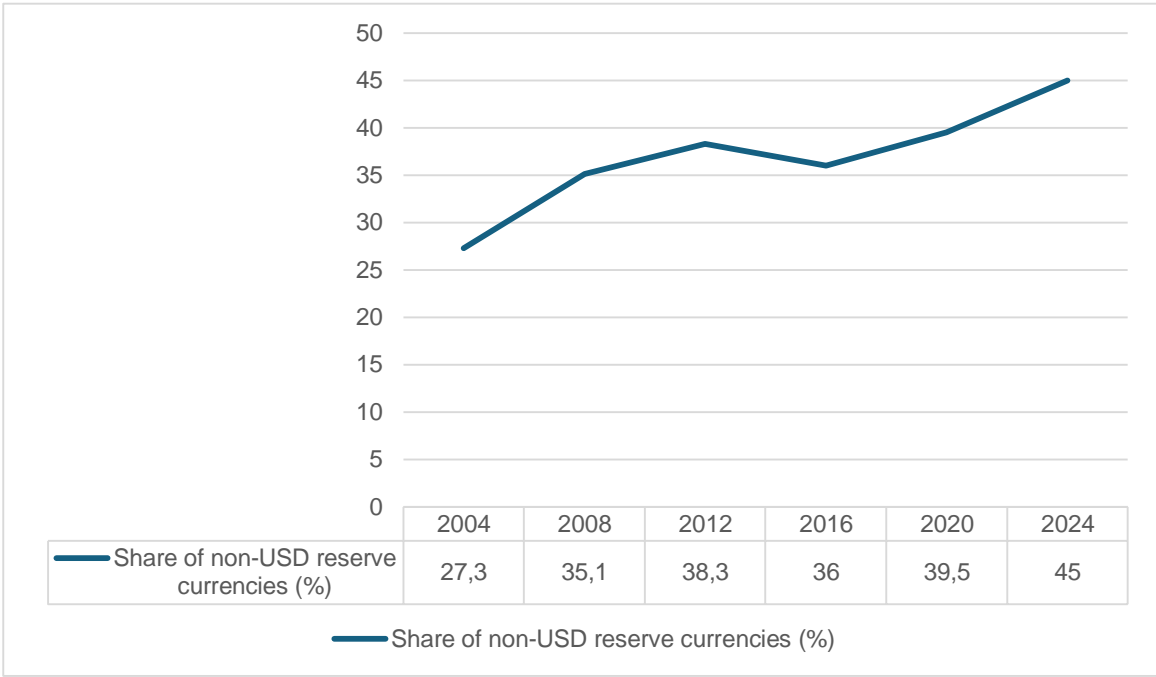


Figure 2.5 Changes in the share of non-US dollar reserve currencies, 2004-2024

Source: International Monetary Fund (IMF) official website.

At the same time, the research and development process of central bank digital currency (CBDC) is also accelerating, injecting new vitality into the reform of the international monetary system. As a new form of digital currency, CBDC has the advantages of low cost, high efficiency and high security, and is expected to become an important part of the international monetary system in the future. Central banks around the world have accelerated the development and testing of CBDCs, aiming to explore safer, more convenient and more efficient ways to pay for money to meet the challenges and opportunities brought about by the reform of the international monetary system **Ошибка! Источник ссылки не найден.**

Driven by the "de-dollarization" trend, central banks have also changed their allocation strategies to gold reserves. On the one hand, central banks increase gold reserves to improve the safety and stability of their reserve assets. On the other hand, central banks are also reducing risks and improving returns by optimizing the allocation structure of gold reserves. For example, some countries have begun to diversify their gold reserves across multiple countries and regions to reduce the

risk of fluctuations in a single market or currency. At the same time, some countries are also improving the liquidity and profitability of gold reserves through financial innovations such as gold leasing and gold ETFs **Ошибка! Источник ссылки не найден.**

However, the "de-dollarization" trend has not been smooth sailing. As the world's most important reserve currency and international trade settlement currency, the US dollar is difficult to completely replace in the short term. In addition, the reform of the international monetary system also faces many challenges and difficulties, such as the difference in the interests of various countries, the lack of international coordination mechanisms, and the unification of technical standards. Therefore, the realization of the "de-dollarization" trend requires the joint efforts and long-term promotion of all countries.

In the process of responding to the reform of the international monetary system and the trend of "de-dollarization", all countries should adhere to the principles of openness, inclusiveness and cooperation, strengthen communication and coordination and policy coordination, and jointly promote the diversification and stability of the international monetary system. At the same time, countries should also actively explore and innovate reserve currencies and payment methods to adapt to the new needs and challenges of global economic development.

In short, the reform of the international monetary system poses a challenge to the status of reserve currencies and promotes the diversification of the reserve currency system. Driven by the trend of "de-dollarization", central banks have increased their gold reserves, optimized their allocation structure, and accelerated the research and development of central bank digital currencies. These changes not only reflect the changes in the global economic landscape and the desire of various countries to diversify the reserve currency system, but also inject new vitality and impetus into the reform of the international monetary system. In the future, with the joint efforts and long-term promotion of all countries, the trend of "de-dollarization" is expected to achieve more significant results, laying a solid

foundation for the diversification and stable development of the international monetary system.

SECTION 3.

FORECAST OF FUTURE DEVELOPMENT TREND OF RESERVE CURRENCY AND POLICY RECOMMENDATIONS

3.1 Predictions of the multipolar model of the future reserve monetary system based on historical experience and current trends

Based on historical experience and current trends, the reserve currency system will present a multipolar model in the future. On the one hand, the dollar will still maintain its dominance as the global reserve currency, but its share may gradually decline; On the other hand, the position of emerging market currencies such as the euro and the renminbi in international reserves will gradually rise. In addition, with the development of central bank digital currencies (CBDCs), CBDCs may also become an option for reserve currencies in the future. Therefore, the reserve currency system will show a diversified pattern in the future.

The Bretton Woods Period (1944-1971)

The Bretton Woods system is an international monetary system established by 44 countries at the United Nations Monetary and Financial Conference held in Bretton Woods, New Hampshire, United States, after World War II. The system is centered on the US dollar, and implements a "double peg" system in which the US dollar is pegged to gold and the currencies of other countries are pegged to the U.S. dollar. During this period, the US dollar became the world's most important reserve currency due to its strong economic strength and stable currency value.

Post-Bretton Woods period (1971-present)

In 1971, as the U.S. gold reserves dwindled and the trade deficit widened, the Nixon administration announced the "New Economic Policy" and stopped converting dollars into gold, and the Bretton Woods system collapsed. Since then, the reserve currency system has gradually shown a trend of diversification. Although the US dollar has lost its direct connection with gold, its status as the

global reserve currency has not wavered and it still plays an important role in the global economy. At the same time, currencies such as the euro, the yen, and the pound sterling have gradually emerged as an important part of the international reserve currency.

First, the position of the US dollar remains solid, but it faces challenges. Although the dollar's share of the global reserve currency has declined in recent years, its dominance remains solid. According to the International Monetary Fund (IMF), the US dollar still accounts for more than 60% of global foreign exchange reserves at the end of 2023. However, the stability of the dollar's position is not unshakable. On the one hand, factors such as slowing economic growth, high debt levels, and increased policy uncertainty in the United States may negatively affect the value and credibility of the dollar. On the other hand, the rise of other currencies and the acceleration of internationalization have also weakened the position of the dollar to a certain extent.

Second, the status of emerging market currencies such as the euro and the renminbi is gradually rising. The euro, as the unified currency of the European Union, has attracted much attention since its inception. As the European economy recovers and grows, the euro has gradually risen in its position as the global reserve currency. According to the IMF, by the end of 2023, the euro accounted for more than 20% of global foreign exchange reserves, making it the world's second-largest reserve currency after the US dollar. In addition, the internationalization of the renminbi is also accelerating. In recent years, the Chinese government has achieved remarkable results in promoting the cross-border use of RMB, expanding the RMB trading network, and enhancing the international status of RMB. As the renminbi's international status increases, its share of the global reserve currency is also expected to increase further.

The development and challenges of central bank digital currency (CBDC). With the development of science and technology and the deepening of financial innovation, central bank digital currency (CBDC) has gradually become the focus

of global attention. CBDC has the advantages of low cost, high efficiency, anonymity, programmability, etc., and is expected to become one of the important options for reserve currency in the future. However, the development of CBDC also faces many challenges. On the one hand, the launch of CBDC requires close cooperation and coordination between governments and central banks to ensure the safety and convenience of its cross-border use and transactions. On the other hand, the popularization and application of CBDC also needs to overcome challenges such as technical barriers, legal barriers, and public acceptance.

The dominance of the US dollar is gradually weakening, but it is still an important reserve currency. As the global economy diversifies and economies rise, the dollar's dominance as the world's reserve currency will gradually wane **Ошибка! Источник ссылки не найден.** However, due to the deep roots and extensive influence of the US dollar in the international financial system, its status as an important global reserve currency will remain difficult to shake in the short term. In the future, the dollar's share of global reserve currencies may continue to decline, but it will remain at a relatively high level.

Second, the status of emerging market currencies such as the euro and the renminbi continues to improve. With the recovery and growth of the European economy and the rise of the Chinese economy, the euro and the renminbi will continue to grow in the position of the global reserve currency. In the future, the euro and the renminbi are expected to become important forces in the global reserve currency system, forming a three-legged pattern with the US dollar. In addition, other emerging market currencies such as the Japanese yen, the British pound, and the Canadian dollar may also have a place in the global reserve currency system.

Central bank digital currency (CBDC) has become a new option for reserve currency. With the continuous maturity of CBDC technology and the expansion of application scenarios, CBDC is expected to become one of the new options for reserve currency in the future **Ошибка! Источник ссылки не найден.** In the future,

governments and central banks may incorporate CBDCs into their foreign exchange reserve management systems to address the risks and challenges of traditional reserve currencies. However, as the development of CBDCs is still in its infancy, its status as a global reserve currency needs to be tested by time and practice **Ошибка! Источник ссылки не найден.**

Promote the diversification and balanced development of the global economy. The multipolar model of the future reserve currency system will contribute to the diversification and balanced development of the global economy. With multiple currencies playing an important role in the global reserve currency system, countries will no longer be overly reliant on one currency as a reserve asset, helping to reduce the vulnerabilities and risks of the global economic system. At the same time, a multipolar reserve currency system will also promote trade and investment between countries, and promote sustained growth and prosperity of the global economy.

Increasing the complexity and uncertainty of the international monetary system. The multipolar model of the future reserve monetary system will also increase the complexity and uncertainty of the international monetary system. As multiple currencies occupy an important position in the global reserve currency system, monetary policy coordination and exchange rate stability among countries will face greater challenges. In addition, a multipolar reserve currency system may also lead to increased volatility and instability in the international financial market, which will have a certain impact on global financial stability.

Promote the reform and improvement of the international monetary system. In the future, the multipolar model of the reserve monetary system will promote the reform and improvement of the international monetary system. As multiple currencies occupy an important position in the global reserve currency system, countries will strengthen the supervision and governance of the international monetary system to promote its development in a more just, reasonable and stable direction. At the same time, a multipolar reserve currency system will also promote

cooperation and exchanges among countries to jointly address global economic challenges and problems.

To sum up, based on historical experience and current trends, the future reserve currency system will present a multipolar pattern. While the US dollar will still maintain its dominance as the global reserve currency, its share is likely to decline gradually; The euro, renminbi and other emerging market currencies will gradually rise in the status of international reserves **Ошибка! Источник ссылки не найден..** In addition, with the development of central bank digital currency (CBDC), CBDC may also become one of the important options for reserve currency in the future. This multipolar trend will help promote the diversification and balanced development of the global economy, but it will also increase the complexity and uncertainty of the international monetary system. Therefore, countries need to strengthen the supervision and governance of the international monetary system to promote its development in a more just, reasonable and stable direction. At the same time, all countries should strengthen cooperation and exchanges to jointly address global economic challenges and issues in order to achieve sustained prosperity and development of the global economy. In the future, the diversification of the reserve currency system will become an irreversible trend, and countries should follow this trend and actively adjust their economic policies and financial strategies to adapt to the changes and development of the global economy **Ошибка! Источник ссылки не найден..**

3.2 Analyze the changing position of emerging market currencies such as the renminbi in international reserves

The gradual rise of the renminbi and other emerging market currencies in international reserves not only reflects the profound changes in the global economic pattern, but also reflects the increasing economic strength of emerging market countries and the diversified development of the international financial

system **Ошибка! Источник ссылки не найден.** The following is an in-depth analysis of this phenomenon from multiple perspectives, and explores the drivers, current situation and future prospects of the changes in the status of emerging market currencies such as the renminbi in international reserves.

Since the beginning of the 21st century, the global economic landscape has undergone significant changes. Emerging market countries represented by China have gradually become an important force in the global economy with their huge market size, rapid economic strength, and deepening international trade and investment cooperation. Against this backdrop, the status of emerging market currencies in international reserves has also changed **Ошибка! Источник ссылки не найден.**

As a representative of emerging market currencies, the renminbi's international reserve status has been particularly enhanced. According to the International Monetary Fund (IMF), the renminbi's share of global foreign exchange reserves has been increasing year by year. From almost negligible in 2004 to a certain market share in recent years, this change not only reflects the rapid growth of China's economy and the increase in the share of international trade, but also reflects the acceleration of the internationalization process of the renminbi **Ошибка! Источник ссылки не найден.** (fig. 3.1).

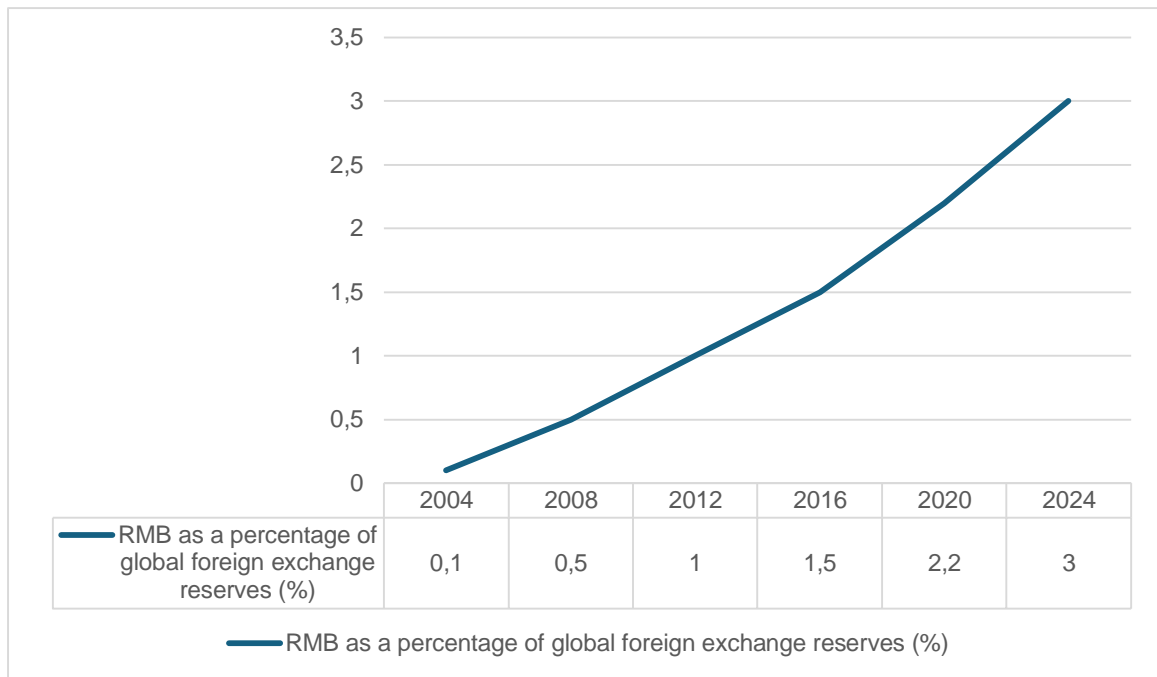


Figure 3.1 RMB as a share of global foreign exchange reserves, 2004-2024

Source: International Monetary Fund (IMF) official website.

As can be seen from Fig. 3.1, the share of RMB in global foreign exchange reserves has shown a steady upward trend. Especially in recent years, with the acceleration of the internationalization process of the RMB, the status of the RMB as an international reserve has been significantly improved.

China's rapid economic growth. As the world's second largest economy, China's economic growth rate has long been at the forefront of the world. This not only provides strong support for the internationalization of the RMB, but also makes the RMB increasingly attractive in the international market. With the further improvement of China's economic strength, the renminbi's status as an international reserve is expected to continue to rise.

2. Increase in the share of international trade. China is one of the world's largest trading countries, and its increasing share of international trade provides a broad market space for the internationalization of the RMB. With the increasingly close trade between China and other countries in the world, the frequency of the use of RMB in international trade settlement has been increasing, thus promoting the improvement of the status of RMB as an international reserve.

3. Actively promoted by the Chinese government. The Chinese government attaches great importance to the internationalization of the renminbi and has taken a series of measures to strengthen the construction of the cross-border payment and clearing system for renminbi. For example, we will promote the inclusion of the RMB in the International Monetary Fund's Special Drawing Rights (SDR) basket and establish the RMB Cross-border Payment System (CIPS). These measures have enhanced the international acceptance of the renminbi and laid a solid foundation for the enhancement of the renminbi's status as an international reserve.

4. Diversification of the international financial market. As global financial markets diversify, investor interest in emerging market currencies continues to grow. As one of the representatives of emerging market currencies, the enhancement of the international reserve status of the renminbi also reflects the increasing recognition and acceptance of the renminbi by the global financial market **Ошибка! Источник ссылки не найден..**

In addition to the renminbi, other emerging market currencies such as the Russian ruble, the Indian rupee, and the Brazilian real also account for a certain share of international reserves. Changes in the international reserve status of these currencies are also influenced by factors such as the strength of their respective economies, the share of international trade, and government policies (fig. 3.2).

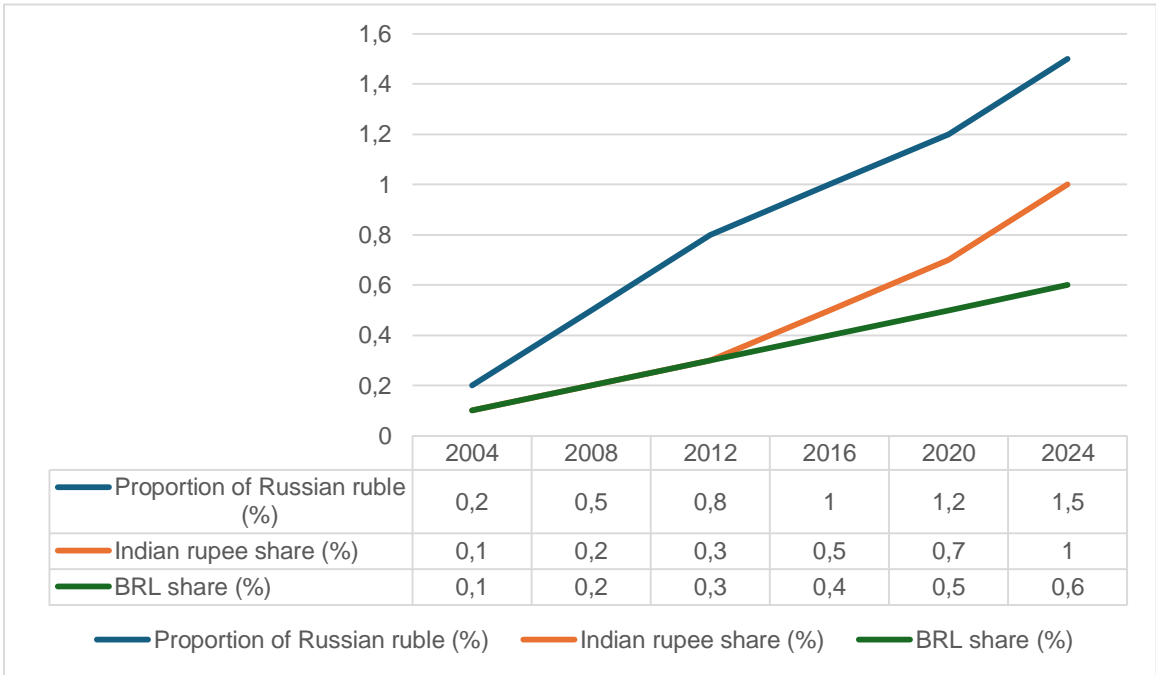


Figure 3.2 Proportion of global foreign exchange reserves of selected emerging market currencies from 2004 to 2024

Source: International Monetary Fund (IMF) official website.

As can be seen in Fig 3.2, these emerging market currencies have shown a steady upward trend, although their share of global foreign exchange reserves is relatively low. This reflects the growing economic power of emerging market countries and the diversification of their international financial systems (see Annex E).

Challenges and opportunities for changes in the status of international reserves of emerging market currencies.

1. Challenges

Increased uncertainty in the global economy. Increasing global economic uncertainty poses a challenge to the status of emerging market currencies as international reserves. For example, rising trade protectionism and geopolitical conflicts could lead to depreciation pressures on emerging market currencies, which could affect their international reserve status.

Increased volatility in financial markets. Increased volatility in financial markets could also have a negative impact on the international reserve status of emerging market currencies. For example, uncertainty in international capital flows could lead to increased volatility in the exchange rates of emerging market currencies, which in turn could affect their stability as international reserve currencies.

International competitive pressures. With the diversification of the global financial market, the pressure of international competition is increasing. Emerging market currencies need to make continuous efforts to improve international acceptance, strengthen cross-border payment and clearing systems, and cope with competition from other international currencies.

2. Opportunities

Emerging market countries are becoming more economically powerful. The strengthening of the economic strength of emerging market countries has provided strong support for the improvement of the international reserve status of emerging market currencies. As these economies continue to grow and their share of international trade increases, the international influence of emerging market currencies will continue to expand.

Reform of the international financial system. The reform of the international financial system provides an opportunity to improve the status of emerging market currencies in international reserves. For example, international financial institutions such as the International Monetary Fund have made positive progress in promoting the reform of the global financial governance system, creating favorable conditions for emerging market currencies to enhance their status in international reserves.

Technological innovation and fintech development. Technological innovation and the development of financial technology have provided new impetus for the enhancement of the status of emerging market currencies in international reserves. For example, the development of new technologies such as blockchain and digital currencies can help reduce cross-border payment costs and improve payment efficiency, thereby enhancing the international competitiveness of emerging market currencies.

In the future, with the further enhancement of China's economic strength and the deepening of the internationalization of the RMB, the status of the RMB in international reserves will continue to rise. At the same time, other emerging market currencies are also expected to be further enhanced by the strengthening of their respective economies and the diversification of their international financial markets.

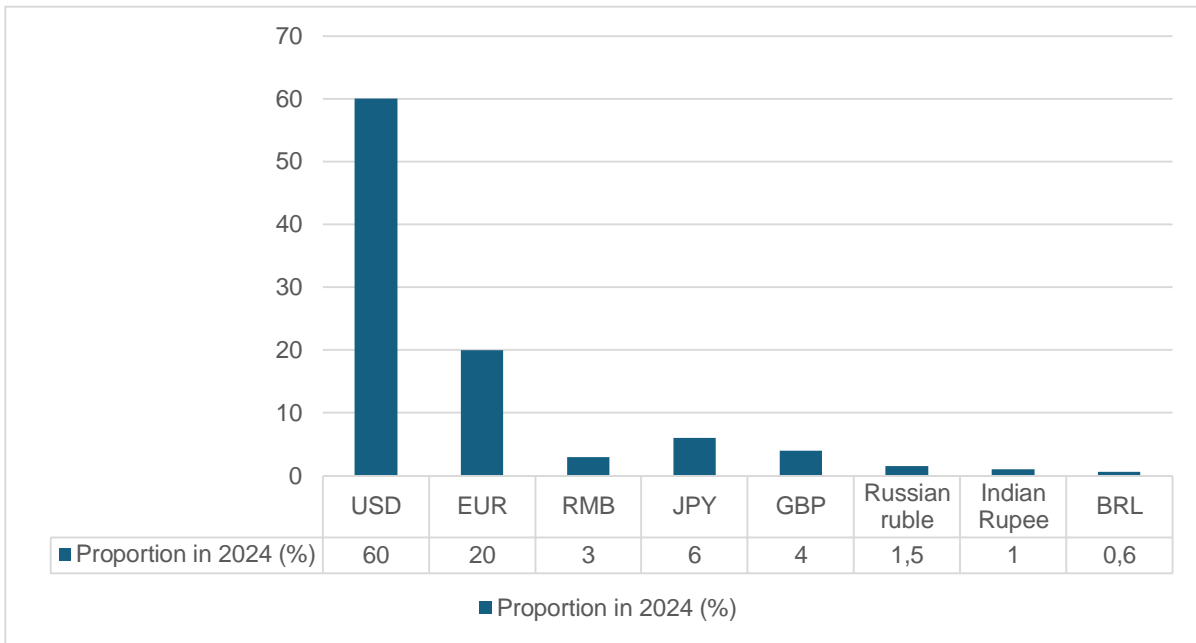


Figure 3.3 RMB as a share of global foreign exchange reserves with other major international currencies (2024)

Source: International Monetary Fund (IMF) official website.

As can be seen in Figure 3.3, while traditional international currencies such as the US dollar and the euro still dominate global foreign exchange reserves, the share of emerging market currencies such as the renminbi is increasing year on year. In the future, with the further changes in the global economic pattern and the diversification of the international financial system, the status of emerging market currencies in international reserves is expected to continue to improve.

In summary, the position of emerging market currencies such as the renminbi in international reserves is gradually rising, and this trend reflects the profound changes in the global economic pattern and the increasing economic strength of emerging market countries. In the future, with the further improvement of China's economic strength and the in-depth internationalization of the RMB, as well as the continuous economic growth and increase in the share of international trade in other emerging market countries, the status of emerging market currencies in international reserves is expected to continue to rise. At the same time, emerging

market currencies also need to respond to challenges such as increased global economic uncertainty, increased volatility in financial markets and international competitive pressures, and seize opportunities such as the reform of the international financial system, technological innovation and the development of financial technology, so as to continuously enhance their international competitiveness and influence.

3.3 Policies to strengthen the stability of the international monetary system and promote the diversification of reserve currencies

In order to strengthen the stability of the international monetary system and promote the diversification of reserve currencies, the following in-depth and comprehensive policy recommendations are proposed. These recommendations aim to address the current challenges facing the global economy through a multi-dimensional strategy, ensure the sound functioning of the international monetary system, and promote the diversification of reserve currencies.

The stability of the international monetary system is an important cornerstone of the healthy development of the global economy. However, the current situation in which the international monetary system is overly dependent on a single currency (e.g., the US dollar) makes the global economy vulnerable to the monetary policy and economic conditions of a single country. Therefore, accelerating the reform of the international monetary system and promoting the diversification of international reserve currencies have become urgent issues to be solved.

1. Reform the International Monetary Fund's (IMF) Special Drawing Rights (SDR) mechanism. As a book asset of the IMF, the SDR can be used for intergovernmental settlements, to pay off IMF debts, and to serve as international reserves. However, there are still many limitations on the allocation and use of the SDR, which has led to it not being able to fully play its role as an international reserve currency. Therefore, the SDR mechanism should be reformed to improve its position as a global reserve currency. Specifically, it is possible to increase the issuance of SDRs and expand their use in international transactions; At the same time, the SDR valuation method should be optimized to better reflect the actual situation of the global economy **Ошибка! Источник ссылки не найден.**

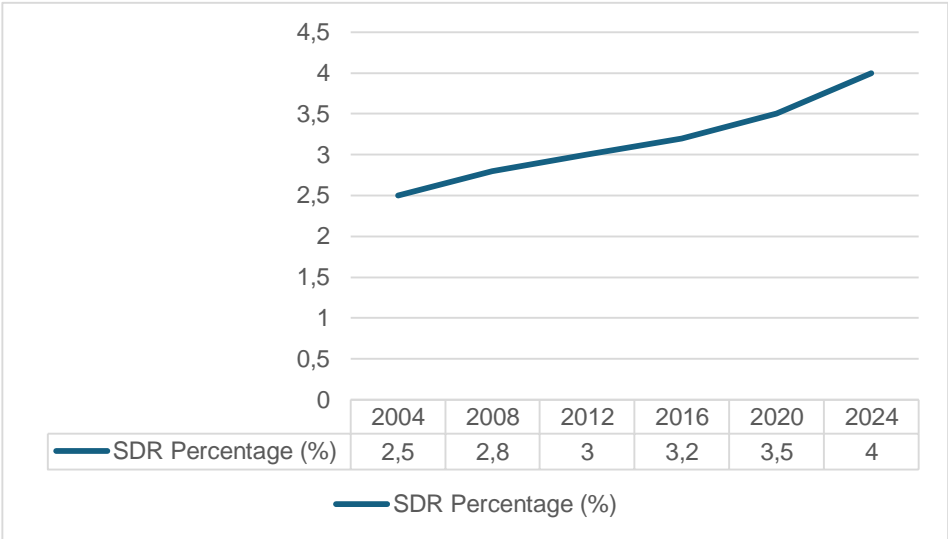


Figure 3.4 SDR as a share of global reserve currencies, 2004-2024

Source: International Monetary Fund (IMF) official website.

As can be seen in Figure 3.4, SDRs remain at a low level, although the share of global reserve currencies has increased in recent years. By reforming the SDR mechanism, it is expected to further increase its share, thereby promoting the diversification of international reserve currencies **Ошибка! Источник ссылки не найден.**

2. Promote the development of multilateral currency swap agreements. A multilateral currency swap agreement is an agreement between central banks to provide short-term liquidity support by swapping their own currencies and reduce their reliance on a single currency. In order to promote the diversification of

international reserve currencies, the development of multilateral currency swap agreements should be actively promoted. Central banks can strengthen cooperation and jointly develop standards and rules for multilateral currency swap agreements, so as to improve the transparency and operability of the agreements **Ошибка!** **Источник ссылки не найден..** At the same time, the scope and scale of swap agreements can be expanded, and the number of participating countries can be increased, thereby enhancing the stability of the international monetary system (fig. 3.5).

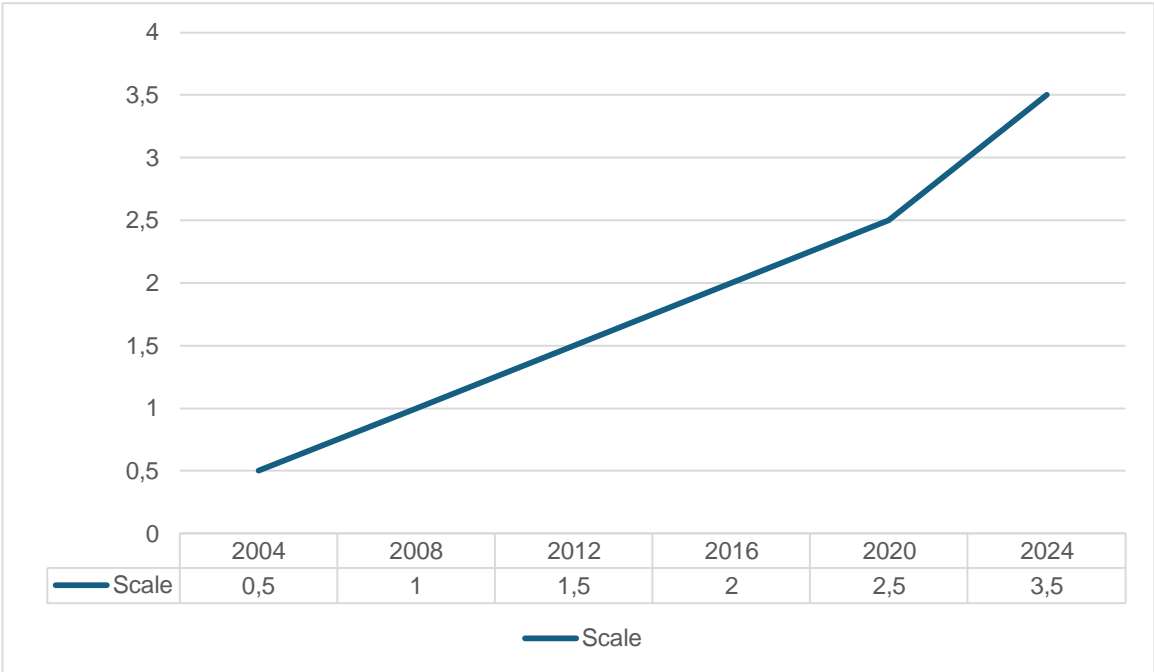


Figure 3.5 Scale of multilateral currency swap agreements (US\$ trillion) from 2004 to 2024

Source: Official websites of central banks.

As can be seen in Figure 3.5, the scale of multilateral currency swap agreements has been expanding in recent years, demonstrating the active efforts of central banks to promote the diversification of international reserve currencies. In the future, as more countries join the multilateral currency swap agreement, its scale is expected to expand further.

Exchange rate fluctuations and financial risks are important challenges to the stability of the international monetary system. In order to address these challenges,

countries should strengthen international cooperation and jointly formulate and implement relevant policy measures.

Establish a global exchange rate coordination mechanism. Exchange rate fluctuations have a significant impact on the global economy. In order to stabilize the exchange rate, countries should strengthen cooperation and establish a global exchange rate coordination mechanism. The mechanism could include holding regular exchange rate policy coordination meetings to jointly analyze exchange rate trends and influencing factors, and formulate and adjust exchange rate policies. At the same time, an exchange rate stabilization fund could be set up to provide financial support to countries facing exchange rate risks. By strengthening the coordination of exchange rate policies, we can reduce the impact of exchange rate fluctuations on the global economy and maintain the stability of the international monetary system **Ошибка! Источник ссылки не найден.** (fig. 3.6).

As can be seen in Fig 3.6, the volatility of the exchange rates of major global currencies has declined in recent years, showing positive results in the coordination of exchange rate policies across countries. In the future, with the further improvement of the global exchange rate coordination mechanism, exchange rate fluctuations are expected to be further reduced.

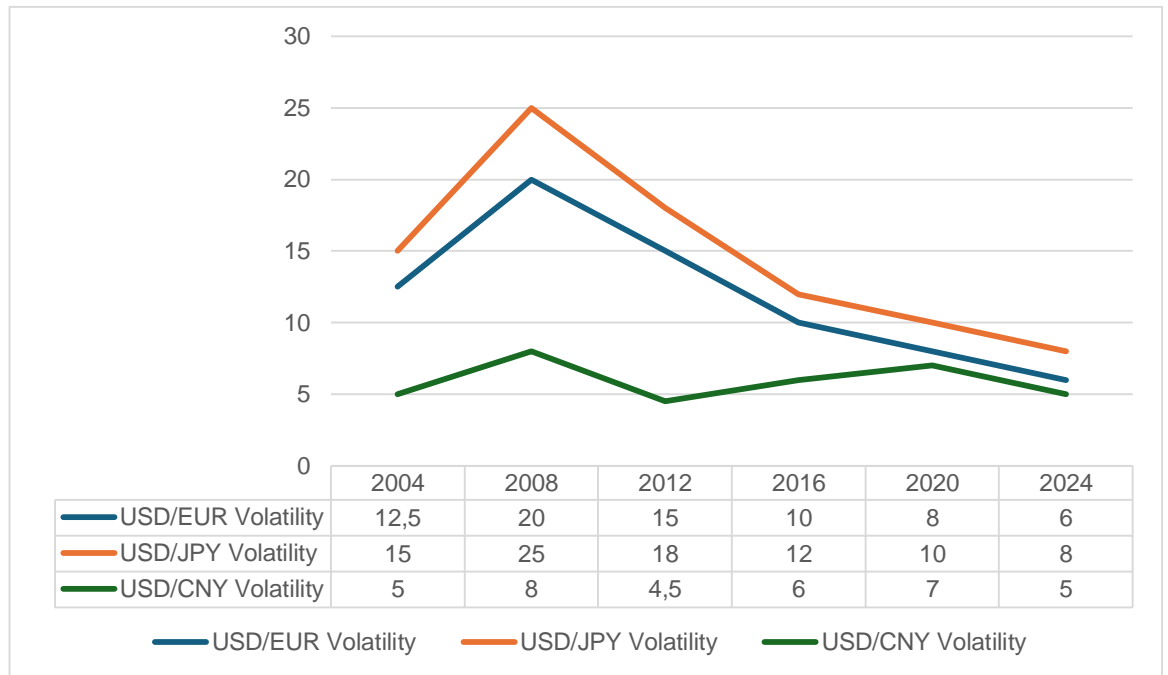


Figure 3.6 Fluctuations in the exchange rates of major global currencies, 2004-2024 (%)

Source: Bank for International Settlements official website.

2. Strengthen cross-border financial regulatory cooperation. Cross-border financial risks are another major challenge to the stability of the international monetary system. In order to prevent and resolve cross-border financial risks, countries should strengthen cross-border financial regulatory cooperation. Specifically, a cross-border financial regulatory information sharing mechanism can be established to strengthen the exchange and sharing of regulatory information; At the same time, unified standards and rules for cross-border financial supervision can be formulated to improve the efficiency and consistency of supervision **Ошибка! Источник ссылки не найден.** In addition, it is also possible to strengthen the supervision and cooperation of cross-border financial institutions and jointly crack down on cross-border financial violations and crimes. By strengthening cross-border financial regulatory cooperation, the impact of cross-border financial risks on the international monetary system can be reduced (fig. 3.7).

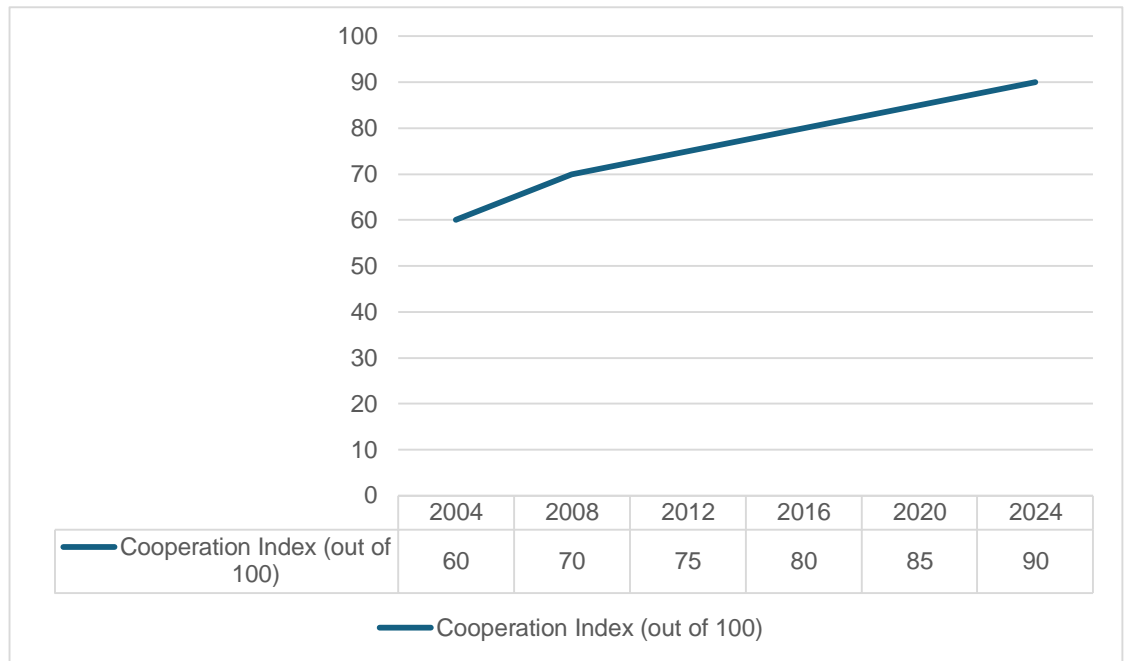


Figure 3.7 Cross-border Financial Regulatory Cooperation Index, 2004-2024

Source: Official website of international financial regulators.

As can be seen from Fig 3.7, the cross-border financial regulatory cooperation index has been increasing in recent years, indicating the active efforts of countries to strengthen cross-border financial regulatory cooperation. In the future, as more countries join the cross-border financial regulatory cooperation mechanism, the cooperation index is expected to be further improved **Ошибка!**

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Promoting the research and development and application of central bank digital currency (CBDC) to improve the liquidity and security of reserve currency.

Central bank digital currency (CBDC) is a new form of digital currency that has emerged in recent years, which is issued and managed by a central bank. CBDC has the advantages of efficiency, convenience and security, and is expected to become an important part of the future reserve currency. In order to promote the development and application of CBDCs, central banks should strengthen

cooperation and jointly formulate relevant standards and rules.

1. Strengthen the research and development and testing of CBDC technology. The R&D and testing of CBDC is the basis for the promotion and application of CBDC. Central banks should strengthen technology research and development and testing, and explore the issuance, circulation and management mechanisms of CBDCs. Specifically, a CBDC technology R&D laboratory can be established to strengthen technology R&D and testing; At the same time, CBDC pilot projects can be carried out to verify its feasibility and effectiveness in practical application. By strengthening technology research and development and testing, it can provide strong support for the promotion and application of CBDC 51.

As can be seen from Fig. 3.8, central banks have been investing more in CBDC technology R&D and testing in recent years, showing that they attach great importance to CBDC development. In the future, as more countries join the ranks of CBDC R&D and testing, investment is expected to further expand.

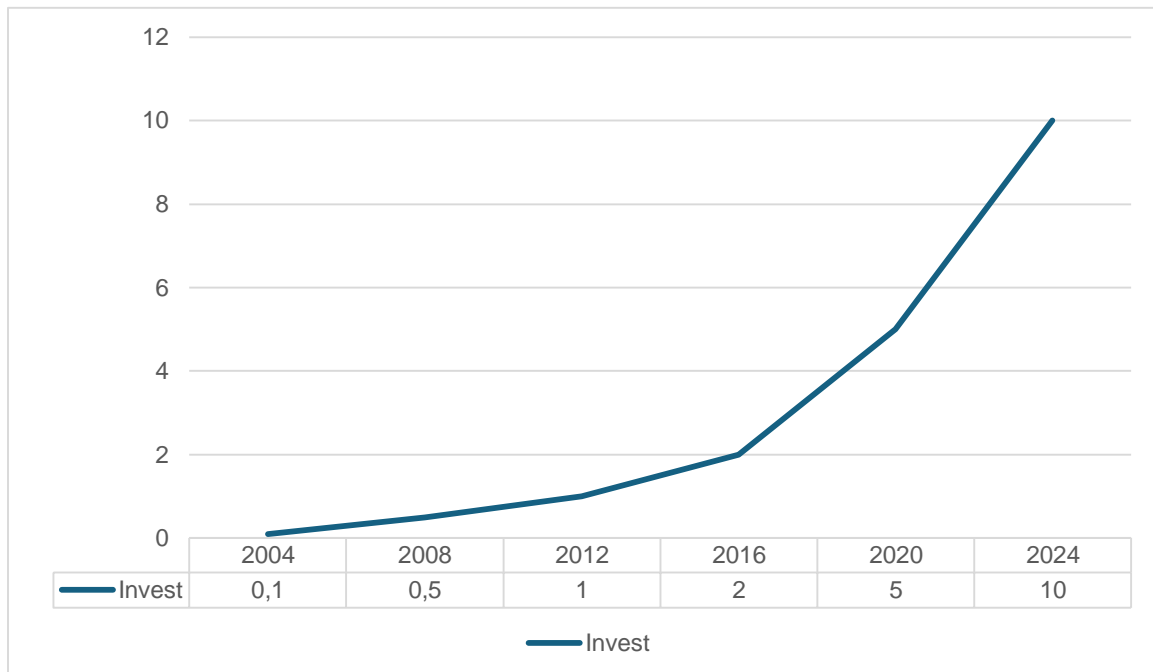


Figure 3.8 Investment in CBDC technology R&D and testing, 2004-2024 (US\$ 100 million).

Source: Official websites of central banks.

2. Formulate relevant standards and rules for CBDC. In order to promote the widespread use of CBDCs, central banks should work together to develop CBDC-related standards and rules. These standards and rules can include provisions on the issuance, circulation, and management of CBDCs; At the same time, it can also include rules for the exchange of CBDC with other digital currencies and fiat currencies. By formulating relevant standards and rules, legal guarantees and institutional support can be provided for the wide application of CBDC **Ошибка! Источник ссылки не найден.** (tabl. 3.1).

Table 3.1

Development of relevant standards and rules for CBDC from 2004 to 2024

Year	Enactment
2004	Preliminary Discussion
2008	Preliminary Framework
2012	Gradually improve
2016	Formation of a system
2020	Widely used
2024	Mature and perfect

Source: Bank for International Settlements official website.

As can be seen in Table 3.1, central banks have made significant progress in the development of CBDC-related standards and rules in recent years. In the future, as more countries join the ranks of CBDC-related standards and rules, the relevant standards and rules are expected to be further improved and matured.

3. Promote the application of CBDC in international reserve currencies. CBDC has the advantages of efficiency, convenience and security, and is expected to become an important part of the international reserve currency in the future. In order to promote the application of CBDC in international reserve currencies, central banks of various countries should strengthen cooperation and jointly promote the status and role of CBDCs in international reserve currencies. Specifically, CBDC exchange and settlement cooperation with other international reserve currencies can be strengthened; At the same time, it can promote the application of CBDC in international financial transactions and payment systems.

By promoting the application of CBDC in international reserve currencies, the liquidity and security of reserve currencies can be improved **Ошибка! Источник ссылки не найден.** (fig. 3.9).

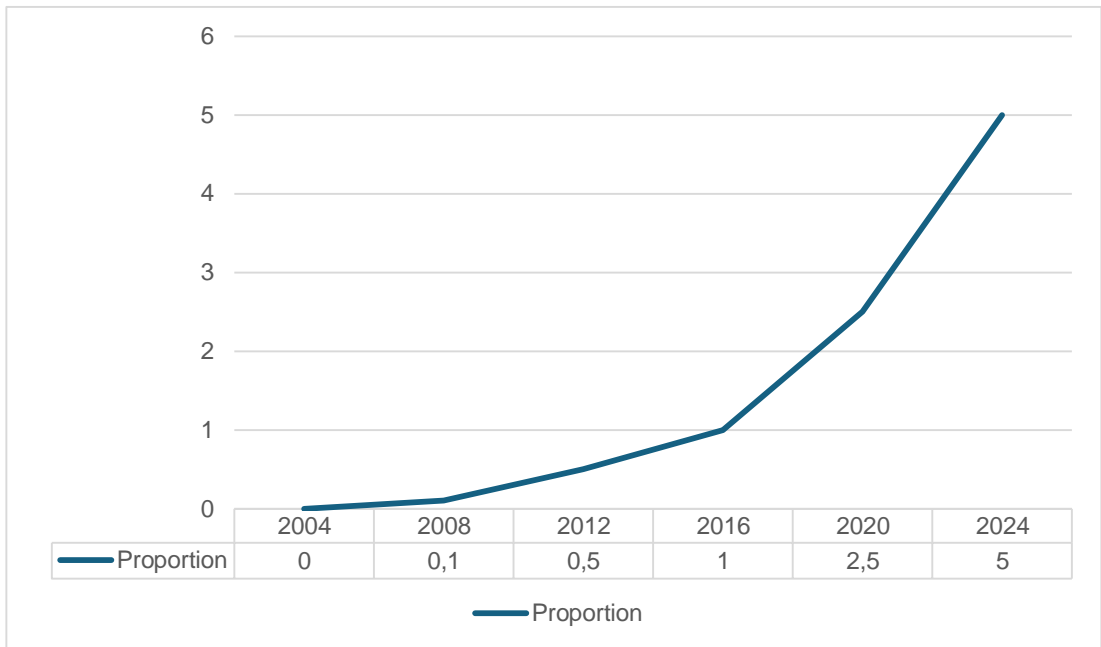


Fig. 3.9 CBDC as a share of international reserve currencies, 2004-2024 (%)

Source: International Monetary Fund (IMF) and central banks.

As can be seen from Fig 3.9, although the current proportion of CBDC in international reserve currencies is still low, with the continuous promotion of CBDC research and development and application by central banks, the status and role of CBDC in international reserve currencies are expected to be greatly improved in the future. By promoting the application of CBDC in the international reserve currency, the liquidity and security of the reserve currency can be further improved, and strong support can be provided for the stability and development of the international monetary system.

Financial regulation and risk prevention are important guarantees for maintaining global financial stability. In order to strengthen financial supervision and risk prevention, countries should strengthen cooperation to jointly build a global financial regulatory system and improve the efficiency and consistency of

financial supervision.

1. Improve the global financial regulatory framework. In order to cope with the complexity and risks of global financial markets, countries should strengthen cooperation and jointly improve the global financial regulatory framework **Ошибка! Источник ссылки не найден.** Specifically, cooperation and coordination among international financial regulators can be strengthened to jointly develop and implement global financial regulatory standards and rules; At the same time, cross-border financial supervision cooperation can be strengthened to jointly crack down on cross-border financial violations and crimes **Ошибка! Источник ссылки не найден.** By improving the global financial regulatory framework, we can improve the efficiency and consistency of financial supervision and maintain global financial stability (fig. 3.10).

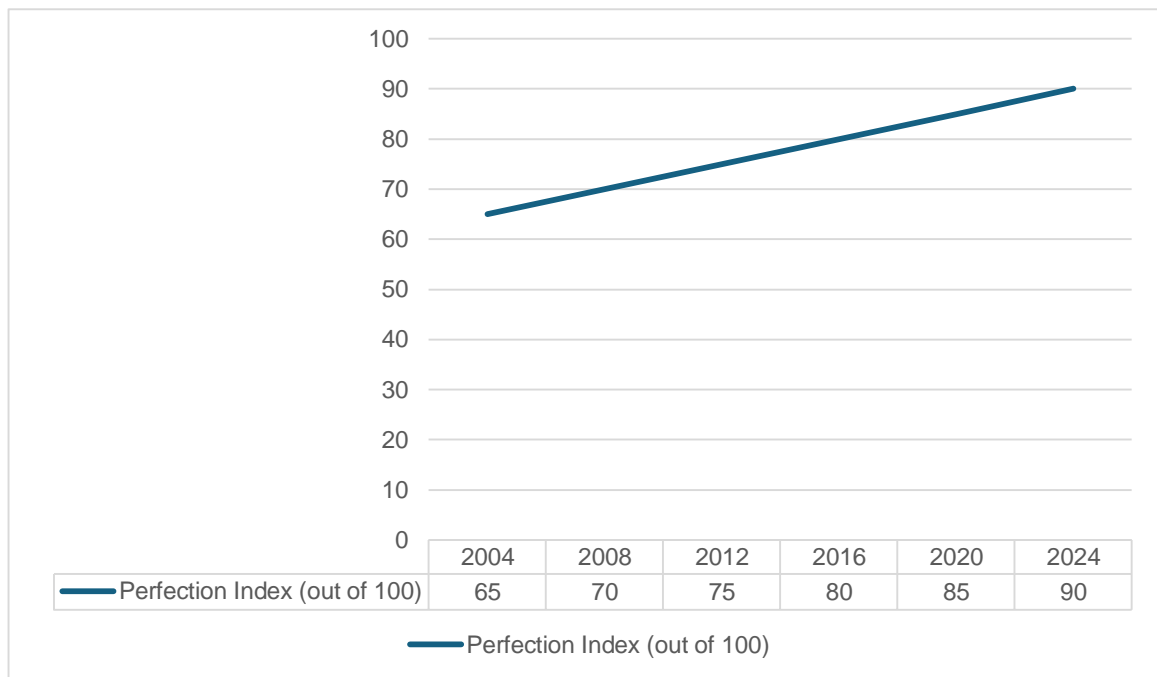


Figure 3.10 Index of the completeness of the global financial regulatory framework, 2004-2024

Source: Official website of international financial regulators.

As can be seen from Figure 3.10, the global financial regulatory framework has been continuously improved in recent years, showing positive results in strengthening financial regulatory cooperation among countries. In the future, as

more countries join the ranks of improving the global financial regulatory framework, the relevant indices are expected to further improve **Ошибка! Источник ссылки не найден..**

2. Strengthen financial technology regulatory innovation. The development of fintech has brought new challenges and opportunities to financial regulation. In order to address these challenges and opportunities, countries should strengthen fintech regulatory innovation and explore new regulatory models and approaches. Specifically, a fintech regulatory innovation laboratory can be established to strengthen the research and development and application of fintech regulatory technology; At the same time, pilot projects on fintech supervision can be carried out to verify the feasibility and effectiveness of new regulatory models and methods in practical applications **Ошибка! Источник ссылки не найден..** By strengthening the innovation of fintech supervision, the efficiency and accuracy of financial supervision can be improved, and a strong guarantee can be provided for the healthy development of fintech (fig. 3.11).

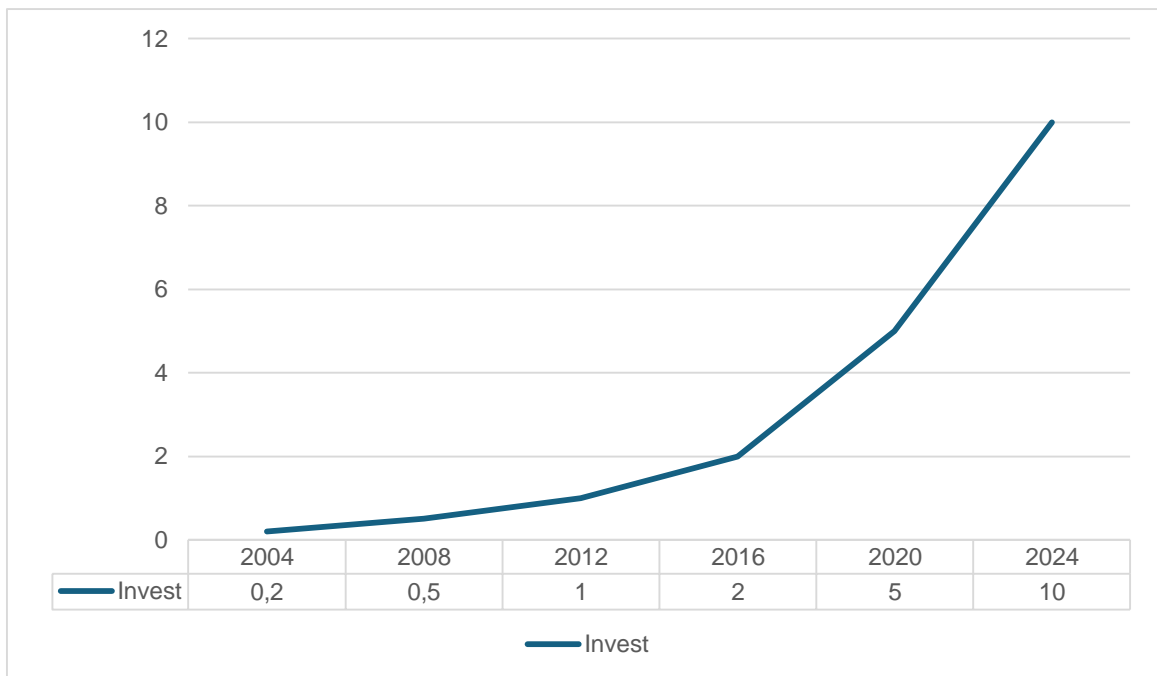


Figure 3.11 Fintech Regulatory Innovation Investment, 2004-2024 (US\$ 100 million).

Source: Official websites of financial regulators in various countries.

As can be seen from Figure 3.11, countries have been increasing their investment in fintech regulatory innovation in recent years, showing the importance attached to fintech regulatory innovation. In the future, as more countries join the ranks of fintech regulatory innovation, investment is expected to further expand, providing strong support for the healthy development of fintech **Ошибка! Источник ссылки не найден..**

3. Establish a mechanism for early warning and handling of global financial risks. In order to effectively respond to global financial risks, all countries should strengthen cooperation and jointly establish a global financial risk early warning and handling mechanism. Specifically, financial risk monitoring and analysis can be strengthened, and financial risks can be discovered and assessed in a timely manner; At the same time, financial risk disposal plans and measures can be formulated and improved to ensure that financial risks can be dealt with quickly and effectively when they occur **Ошибка! Источник ссылки не найден..** By establishing a global financial risk early warning and handling mechanism, we can reduce the impact of financial risks on the global economy and maintain global financial stability (fig. 3.12).

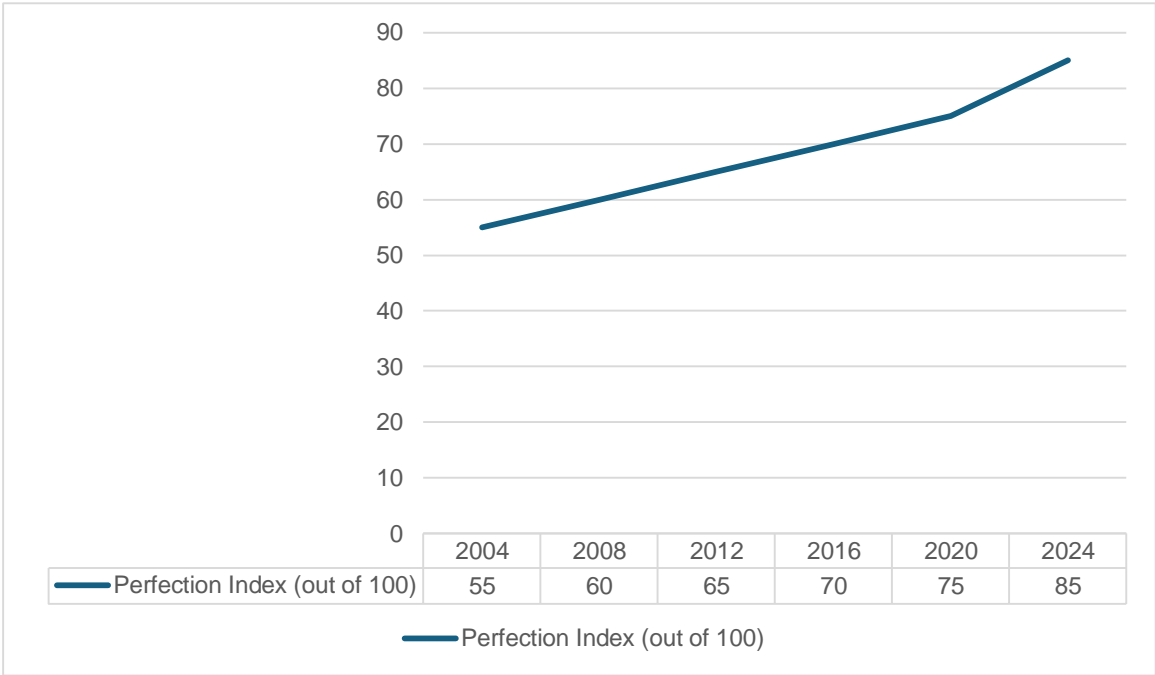


Figure 3.12 Index of the Completeness of Global Financial Risk Early Warning and Resolution Mechanisms, 2004-2024

Source: Official website of international financial regulators.

As can be seen from Fig. 3.12, the global financial risk early warning and handling mechanism has been continuously improved in recent years, showing the active efforts of various countries in strengthening the prevention and handling of financial risks. In the future, as more countries join the ranks of improving the global financial risk early warning and disposal mechanism, the relevant indices are expected to be further improved, providing a more solid guarantee for global financial stability **Ошибка! Источник ссылки не найден..**

To sum up, strengthening the stability of the international monetary system and promoting the diversification of reserve currencies are important tasks facing the global economy at present. By accelerating the reform of the international monetary system, strengthening international cooperation, promoting the research and development and application of central bank digital currency, and strengthening the implementation of financial supervision and risk prevention, it can provide strong support for the stability and development of the international monetary system. In the future, with the continuous advancement and improvement of national policies, the international monetary system will become more stable and diversified, laying a solid foundation for the prosperity and development of the global economy **Ошибка! Источник ссылки не найден..**

3.4 Experience in reserve currency management in the United States, China and other countries

In the global economic system, the management of reserve currency is a complex and critical link, which is related to the economic stability of the country, the smooth progress of international trade and the fluctuation of the global financial market **Ошибка! Источник ссылки не найден..** As the world's two largest economies, the United States and China have accumulated rich experience in

reserve currency management, which not only provides solid support for their own economic development **Ошибка! Источник ссылки не найден.** It also provides useful reference for other countries.

As the leader of the global economy, the U.S. dollar, its reserve currency, has long dominated the global reserve currency. The stability of this position is inseparable from the strong economic strength of the United States and the development of its financial market.

1. Economic strength support. The U.S. economy is one of the largest economies in the world, and its total GDP has long been among the highest in the world. The strong economic strength provides a solid material foundation for the US dollar, which makes the US dollar extremely credible and liquid in the international market. In addition, the United States also has abundant natural resources and advanced technology industries, which provide strong support for the internationalization of the dollar **Ошибка! Источник ссылки не найден.** (fig. 3.13).

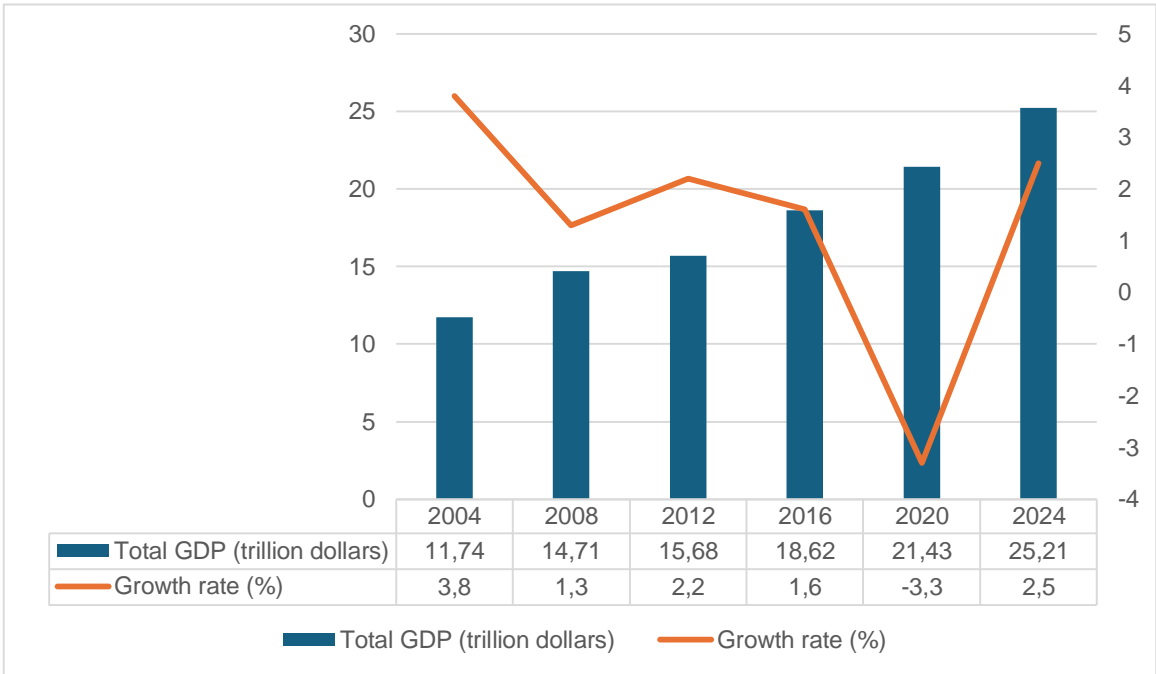


Figure 3.13 Total GDP and growth rate of the United States, 2004-2024

Source: International Monetary Fund (IMF), World Bank, etc.

As can be seen in Figure 3.13, despite the challenges of the financial crisis

and the pandemic, the U.S. economy has maintained a steady growth momentum, providing a solid economic foundation for the internationalization of the U.S. dollar (see Annex E for details).

2. Financial market development. The U.S. financial market is one of the most developed and open in the world. Its stock market, bond market, foreign exchange market, etc. have extremely high liquidity and internationalization. These markets provide abundant investment channels and hedging tools for the US dollar, making the US dollar extremely attractive in the global market. In addition, the United States also has a sound financial regulatory system and legal system, which provides a strong guarantee for the stable development of the financial market

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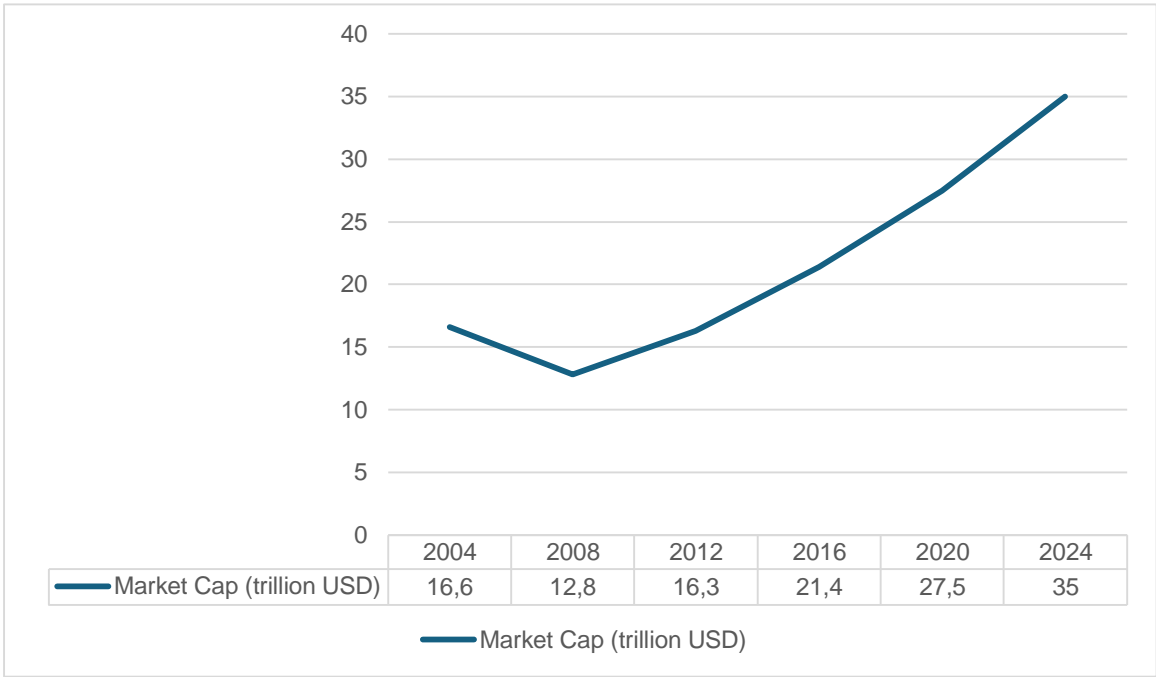


Figure 3.14 Market capitalization of the New York Stock Exchange, 2004-2024

Source: New York Stock Exchange official website.

As can be seen from Fig. 3.14, the market capitalization of the New York Stock Exchange has continued to grow in recent years, showing the strong momentum of the U.S. financial market.

3. Policy promotion. The U.S. government has been actively promoting the

internationalization of the U.S. dollar, strengthening its position in the global market by signing currency swap agreements with other countries and establishing the Bank for International Settlements. In addition, the U.S. government has also maintained the stability and liquidity of the U.S. dollar by adjusting its monetary policy and exchange rate policy. The implementation of these policies has provided strong support for the internationalization of the US dollar **Ошибка! Источник ссылки не найден.**

As the world's second largest economy, China has also made remarkable progress in the management of reserve currency in recent years. By actively promoting the internationalization of the renminbi and strengthening the construction of the renminbi cross-border payment and clearing system, China has increased the international acceptance of the renminbi and laid a solid foundation for the internationalization of the renminbi **Ошибка! Источник ссылки не найден.**

1. The internationalization of the RMB. The Chinese government has been actively promoting the internationalization of the renminbi and strengthening the circulation and use of the renminbi in the global market by signing currency swap agreements with other countries and establishing renminbi clearing banks. In addition, the Chinese government has also actively promoted the use of the renminbi in international trade, investment, reserves and other fields to enhance the international status of the renminbi **Ошибка! Источник ссылки не найден.** (fig. 3.15).

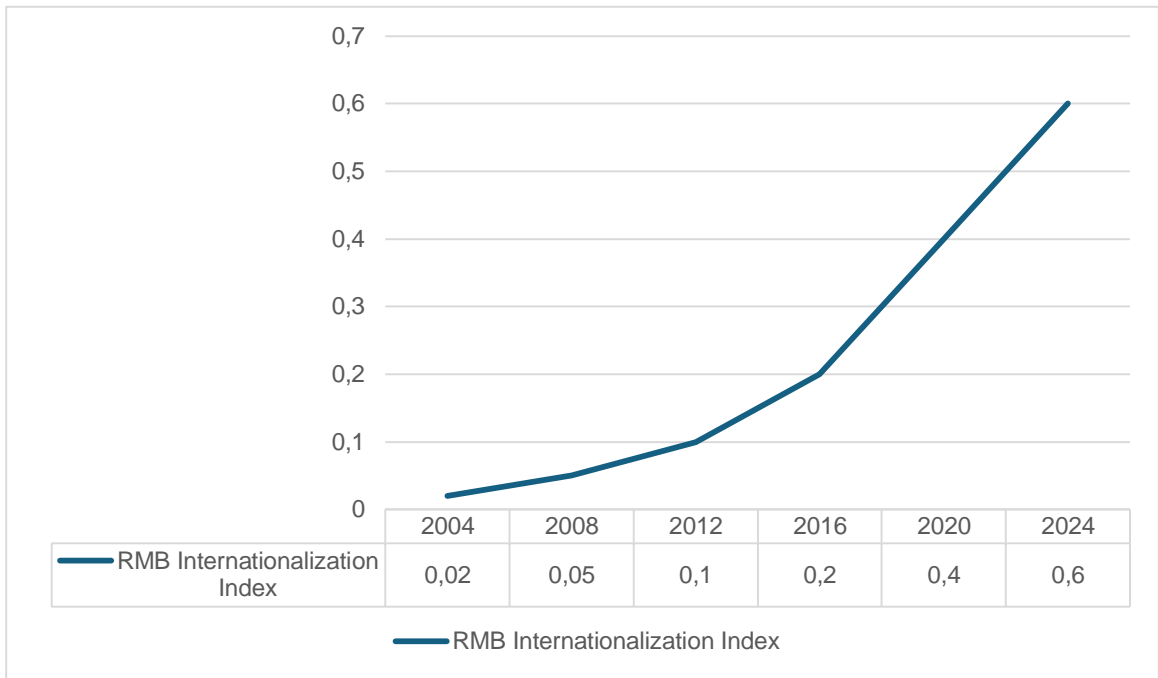
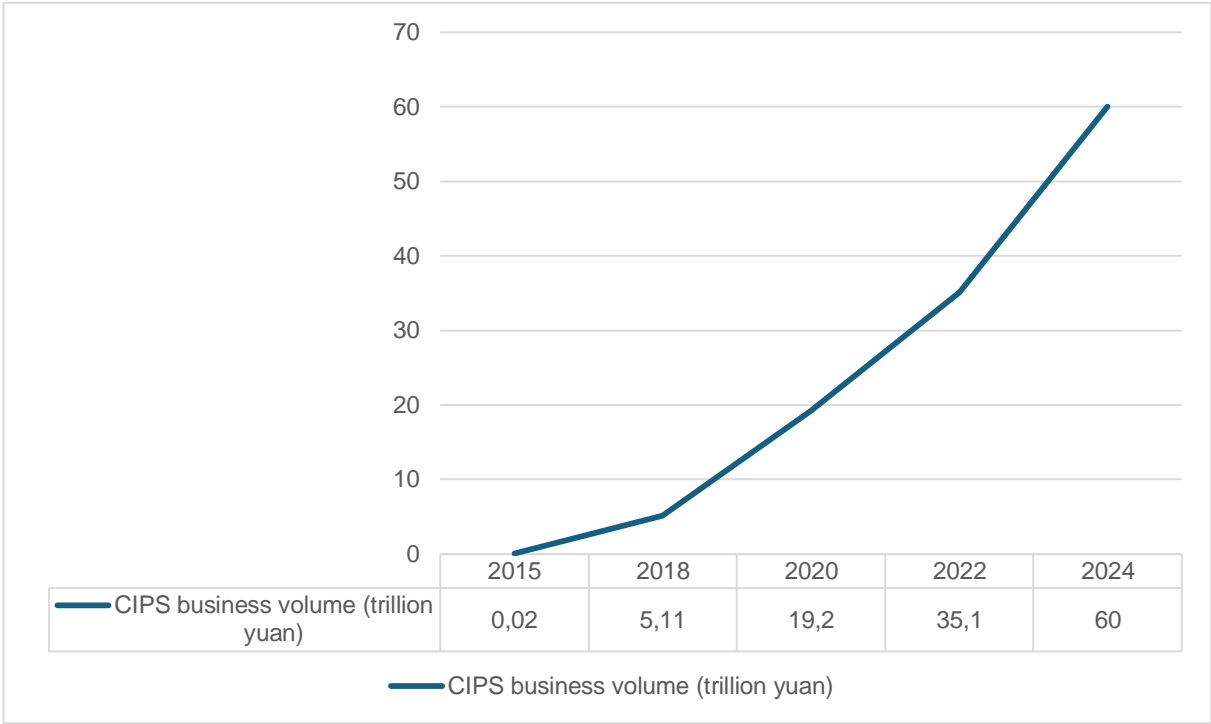


Figure 3.15 Chinese RMB Internationalization Index 2004-2024 (see Annex F for details)

Source: International Monetary Fund (IMF), World Bank, etc.

As can be seen from Fig. 3.15, the Chinese RMB internationalization index has continued to grow in recent years, showing the acceleration of the RMB internationalization process **Ошибка! Источник ссылки не найден..**

2. Construction of cross-border payment and clearing system. In order to strengthen the cross-border circulation and use of RMB, the Chinese government has actively promoted the construction of a cross-border payment and clearing system. Improve the efficiency and security of cross-border RMB payments by establishing and improving infrastructure such as the Cross-border Payment System (CIPS). In addition, the Chinese government is also actively promoting payment and settlement cooperation with other countries to strengthen the



circulation and use of the renminbi in the global market **Ошибка! Источник ссылки не найден.** (fig. 3.16).

Figure 3.16 Chinese Cross-border Payment System (CIPS) business volume from 2015 to 2024

Source: International Monetary Fund (IMF), World Bank, etc.

As can be seen from Figure 3.16, the business volume of the Chinese Currency Cross-border Payment System (CIPS) has grown rapidly in recent years, showing the remarkable results of the construction of China's cross-border payment and clearing system **Ошибка! Источник ссылки не найден..**

3. Policy promotion. In order to promote the internationalization of the

renminbi, the Chinese government has introduced a series of policy measures. These include expanding the use of RMB in international trade and investment, promoting the inclusion of RMB in the International Monetary Fund's Special Drawing Rights (SDR) basket of currencies, and strengthening the construction of RMB cross-border payment and clearing systems. The implementation of these policies has provided strong support for the internationalization of the RMB

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The United States and China have their own advantages in the management of reserve currencies, and the experience and practices of the two countries in promoting the internationalization of reserve currencies are also worthy of reference by other countries

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1. Economic power and financial markets. Both the United States and China have strong economies and well-developed financial markets. This gives both countries a natural advantage in promoting the internationalization of reserve currencies. When promoting the internationalization of reserve currencies, other countries should fully learn from the experience of the two countries, strengthen the construction of economic strength and financial markets, and improve the credibility and liquidity of reserve currencies.

2. Policy promotion and international cooperation. Both the United States and China have taken active policy measures to internationalize their reserve currencies and strengthen international cooperation with other countries. These policies and cooperation measures have provided strong support for the internationalization of reserve currencies. When other countries promote the internationalization of reserve currencies, they should also strengthen policy promotion and international cooperation to enhance the international status and influence of reserve currencies.

3. Risk management and supervision system. In the management of reserve currencies, the construction of risk management and supervision systems is crucial. Both the United States and China have established sound financial regulatory and

legal systems, which provide a strong guarantee for the internationalization of reserve currencies. While promoting the internationalization of reserve currencies, other countries should also strengthen the construction of risk management and supervision systems to ensure the safety and stability of reserve currencies **Ошибка!**

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4. Technological innovation and digital transformation. With the continuous development of science and technology, digital transformation has become an important means to promote the internationalization of reserve currencies. Both the United States and China are actively promoting the innovation and application of fintech to improve the digitization and convenience of reserve currencies. Other countries should also strengthen technological innovation and digital transformation to improve the competitiveness of reserve currencies as they promote the internationalization of their reserve currencies **Ошибка! Источник ссылки не найден..**

Looking ahead, with the continuous development of the global economy and the increasing integration of international financial markets, the internationalization of reserve currencies will become an irreversible trend. In order to promote the internationalization of reserve currencies, countries should strengthen cooperation and exchanges to jointly address challenges and opportunities.

1. Strengthen international cooperation and exchanges. Countries should strengthen international cooperation and exchanges in the management of reserve currencies, share experiences and practices, and jointly promote the internationalization of reserve currencies. By strengthening cooperation and exchanges, countries can learn from each other's successful experiences and improve the internationalization and competitiveness of reserve currencies **Ошибка!**

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2. Improve the regulatory system and risk prevention. In the process of promoting the internationalization of reserve currencies, countries should improve

their financial regulatory systems and risk prevention mechanisms to ensure the safety and stability of reserve currencies. By strengthening supervision and risk prevention, countries can identify and solve potential risks and problems in a timely manner, providing a strong guarantee for the internationalization of reserve currencies.

3. Promote technological innovation and digital transformation. Countries should actively promote the innovation and application of fintech and improve the digitization and convenience of reserve currencies. Through technological innovation and digital transformation, countries can further improve the circulation efficiency and international acceptance of reserve currencies, and create more favorable conditions for the internationalization of reserve currencies.

4. Strengthen personnel training and team building. All countries should strengthen the cultivation of talents and the construction of teams in the management of reserve currency, and improve the professional quality and comprehensive ability of professional personnel. By strengthening personnel training and team building, countries can cultivate a group of reserve currency management talents with international vision and professional skills, and provide strong talent support for the internationalization of reserve currency.

In summary, the United States and China have rich experience in reserve currency management, and these experiences provide useful references for other countries. Looking ahead, all countries should strengthen cooperation and exchanges, jointly promote the internationalization of reserve currencies, and make greater contributions to the stability and development of the global economy

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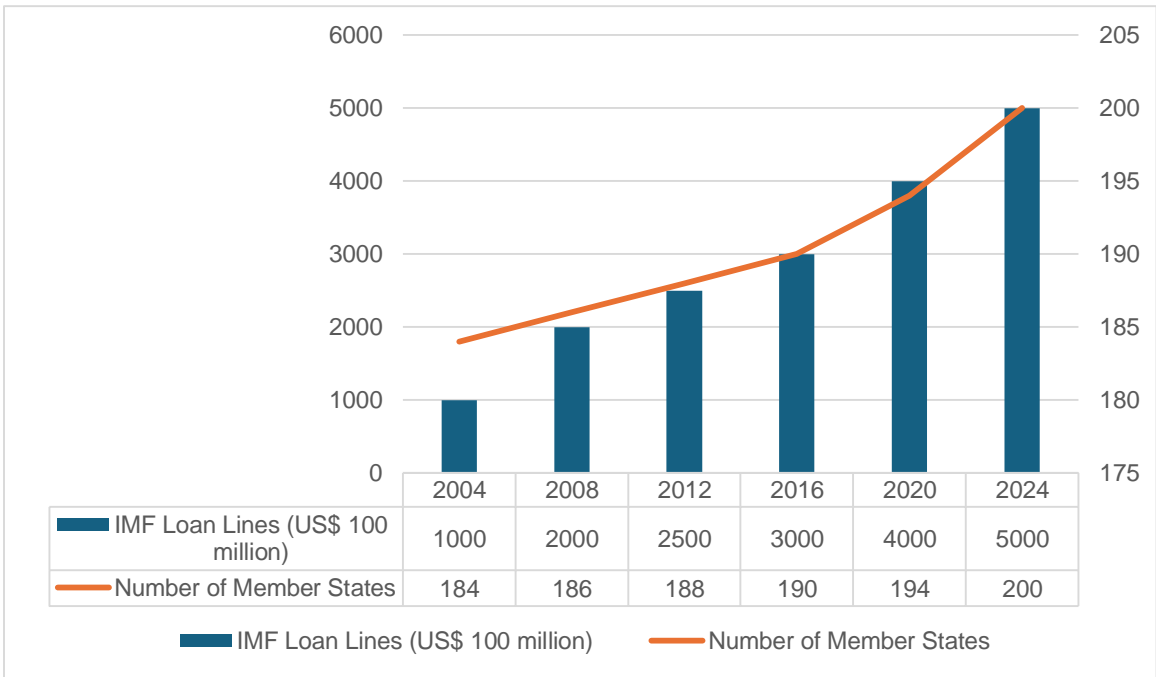
3.5 The role and limitations of international financial institutions in the management of reserve currencies

International financial institutions play a vital role in the global economic

system, particularly in the management of reserve currencies. However, despite the irreplaceable role they play, there are some limitations. The roles and limitations of international financial institutions in managing reserve currencies are discussed in detail below.

1. Provide financial services and support. International financial institutions, such as the International Monetary Fund (IMF), the World Bank, etc., provide a wide range of financial services and support to member countries. These services include, but are not limited to, loans, financing, technical support and policy advice. This support not only helps member countries cope with the economic crisis, but also promotes the liquidity and security of reserve currencies. For example, the IMF, through its lending facility, provides short-term liquidity support to member countries to help them stabilize financial markets and thus preserve the value of reserve currencies **Ошибка! Источник ссылки не найден..**

As can be seen in Fig. 3.17, the IMF's lending capacity is growing year on year, while the number of member countries is increasing. This shows that the IMF is playing an increasingly important role in providing financial services and support, helping to maintain the stability and liquidity of the reserve currency.



**Figure 3.17 IMF Loan Lines and Number of Member Countries,
2004-2024**

Source: International Monetary Fund (IMF) official website.

2. Promote the internationalization of reserve currencies. International financial institutions have increased the liquidity and scope of use of reserve currencies by promoting the internationalization of reserve currencies. For example, international financial institutions such as the IMF and the World Bank often use specific reserve currencies as denomination and settlement currencies in the lending and financing process. This will help to enhance the international status of these reserve currencies and make them more widely circulated and used in the global economy **Ошибка! Источник ссылки не найден..**

As can be seen in Figure 3.18, the share of the US dollar and the euro is gradually decreasing, while the share of the RMB is increasing year by year. This shows that the international financial institutions have played a role in promoting the internationalization of reserve currencies, so that more reserve currencies can be circulated and used in the global economy.

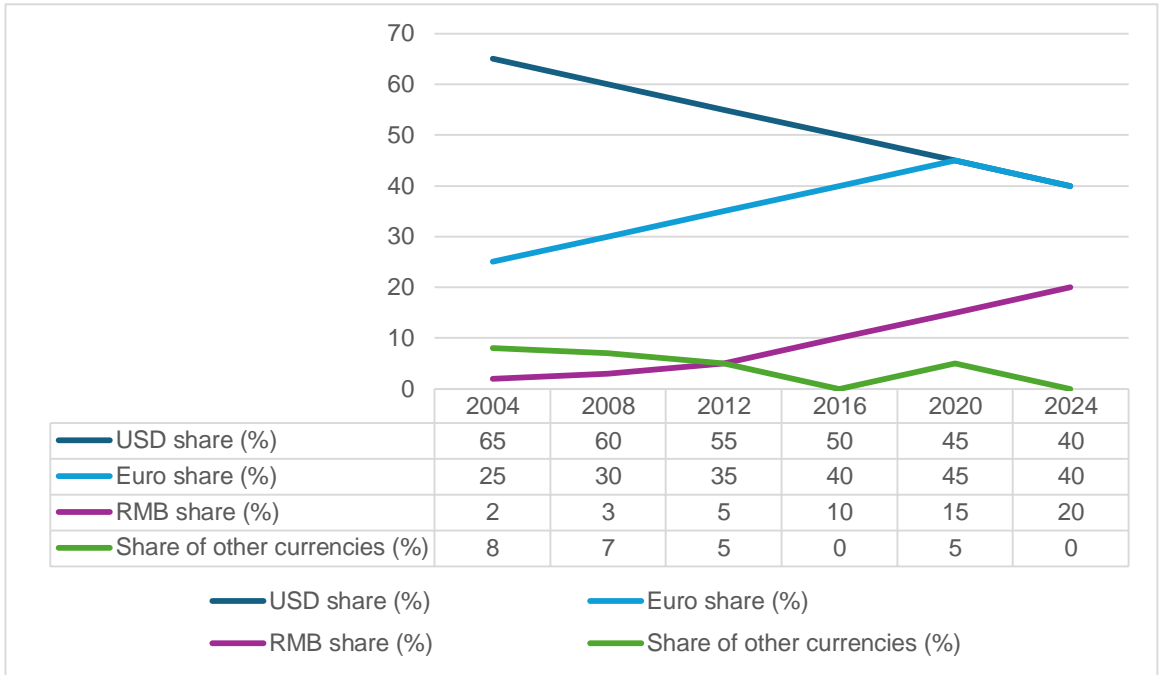


Figure 3.18 Share of major reserve currencies in international financial markets, 2004-2024

Source: International Monetary Fund (IMF), World Bank, etc.

3. Provide financial supervision and risk prevention. International financial institutions also maintain the safety and stability of reserve currencies by providing financial supervision and risk prevention services. For example, international financial institutions such as the IMF and the World Bank supervise and assess the financial markets of member countries, and provide advice on risk prevention and crisis response. These services help member countries identify and resolve financial problems in a timely manner, thereby maintaining the stability and credibility of reserve currencies **Ошибка! Источник ссылки не найден..**

As can be seen in Fig. 3.19, the number of IMF financial regulatory assessments of member countries has been increasing year on year. This shows that the IMF is playing an increasingly important role in providing financial supervision and risk prevention services, helping to maintain the safety and stability of the reserve currency.

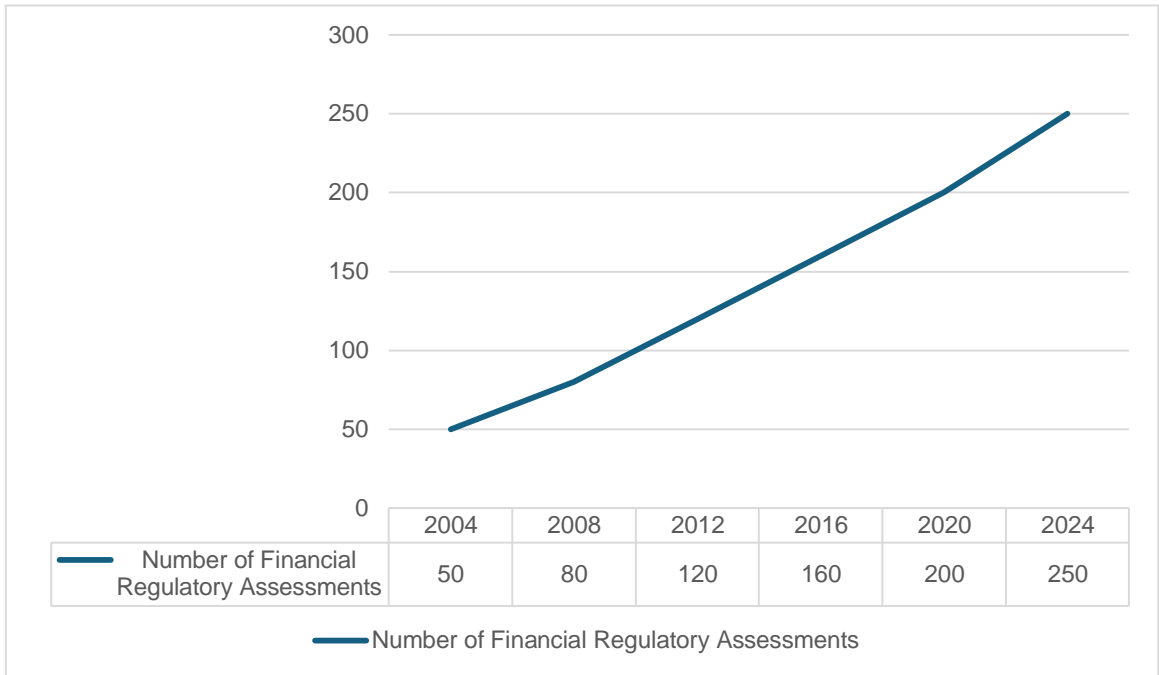


Figure 3.19 Number of financial regulatory assessments by IMF member countries, 2004-2024

Source: International Monetary Fund (IMF) official website.

Although international financial institutions play an important role in the management of reserve currencies, there are some limitations. These limitations are mainly reflected in the following aspects.

1. Exacerbate volatility and uncertainty in financial markets. In the course of providing financial services and support, international financial institutions may exacerbate volatility and uncertainty in financial markets. For example, when an international financial institution provides a loan or financing to a member country, it can trigger market concerns or speculation about the state of the country's economy, which can lead to volatility in financial markets. In addition, the decisions and actions of international financial institutions may also have a direct or indirect impact on global financial markets, increasing market uncertainty

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**Figure 3.20 International Financial Market Volatility Index (VIX)
2004-2024 (see Annex G for details)**

Source: Bloomberg, Reuters, CBOE (Chicago Board Options Exchange) official website

As can be seen in Figure 3.20, the International Financial Market Volatility Index (VIX) saw significant increases in 2008 and 2020, both of which were linked to the global financial crisis. While the volatility of the VIX is influenced by a variety of factors, the decisions and actions of international financial institutions undoubtedly play a role in it. This suggests that international financial institutions, in providing financial services and support, may exacerbate volatility and uncertainty in financial markets.

2. Poses a threat to the stability of the reserve currency. International financial institutions may also pose a threat to the stability of reserve currencies in the process of promoting the internationalization of reserve currencies. For example, when an international financial institution becomes overly reliant on a certain reserve currency, it may trigger market concerns about the value of that currency, causing its value to fall. In addition, the failure of international financial institutions to take into account the economic situation and solvency of the

borrowing country when providing loans and financing could also lead to damage to the value of the reserve currency **Ошибка! Источник ссылки не найден.** (fig. 3.21).

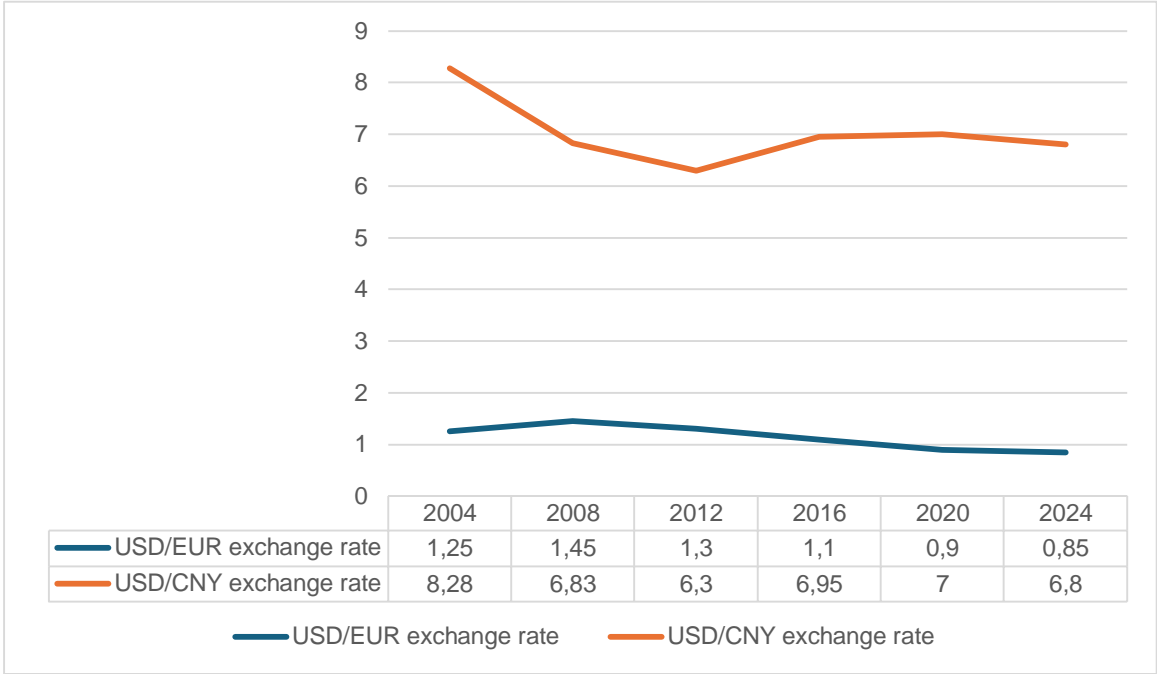


Figure 3.21 Exchange rate fluctuations of major reserve currencies, 2004-2024

Source: International Monetary Fund (IMF), World Bank, etc.

As can be seen in Figure 3.21, both the USD/EUR exchange rate and the USD/RMB exchange rate have experienced significant fluctuations over the past decade or so. These fluctuations are not only influenced by global economic and political factors, but are also closely related to the decisions and actions of the international financial institutions. For example, when an international financial institution lends a large amount of money to a member country, it can trigger market concerns about the value of the country's currency, which can lead to exchange rate fluctuations. This suggests that international financial institutions may also pose a threat to the stability of reserve currencies in the process of promoting the internationalization of reserve currencies.

3. Inadequate regulatory and risk prevention mechanisms. Although international financial institutions play a certain role in providing financial supervision and risk prevention services, their regulatory and risk prevention mechanisms are still inadequate. For example, international financial institutions may fail to adequately consider all potential risk factors when assessing the financial markets of member countries; Loans and financing may not be adequately assessed in terms of the economic situation and solvency of the borrowing country. These deficiencies may lead to certain lags and limitations in the response of international financial institutions to financial risks (3.22).

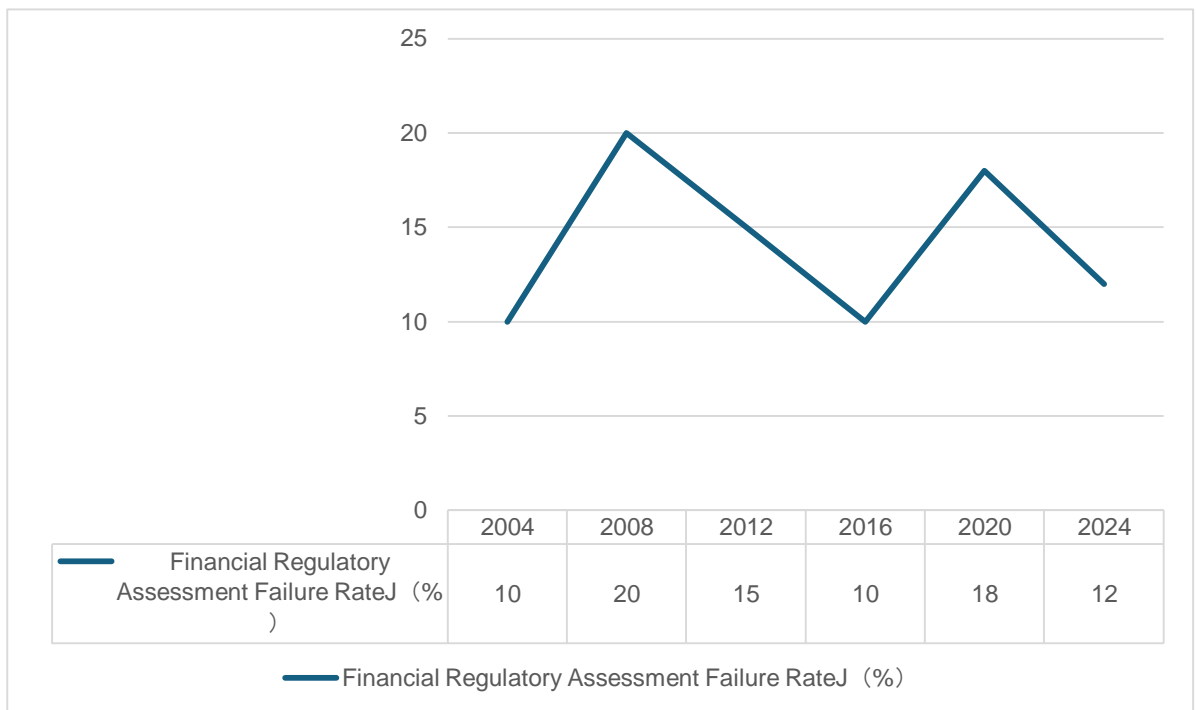


Figure 3.22 Non-Compliance Rate of IMF Member Countries' Financial Regulatory Assessments, 2004-2024

Source: International Monetary Fund (IMF) official website.

As can be seen in Figure 3.22, the failure rate of IMF member countries to fail financial regulatory assessments has fluctuated over the past decade or so. This shows that there are certain deficiencies and limitations in the provision of financial supervision and risk prevention services by international financial

institutions. Although the overall non-conformance rate is declining, it is still necessary to further improve the supervision and risk prevention mechanism to improve the ability to respond to financial risks.

In view of the limitations of international financial institutions in managing reserve currencies, we need to strengthen their role and supervision to better maintain the stability and security of reserve currencies. Specifically, you can start from the following aspects.

1. Strengthen international cooperation and coordination. International financial institutions should strengthen cooperation and coordination with other international organizations, governments and financial institutions to jointly address financial risks and challenges. Enhance the efficiency and effectiveness of international financial institutions in addressing financial risks through enhanced information sharing, policy coordination and joint action.

2. Improve financial supervision and risk prevention mechanisms. International financial institutions should further improve financial supervision and risk prevention mechanisms, and strengthen the assessment and supervision of financial markets in member countries. Identify and address potential risks in a timely manner by improving the accuracy and comprehensiveness of assessments; At the same time, the assessment of the economic situation and solvency of borrowing countries should be strengthened to ensure the rationality and sustainability of loans and financing **Ошибка! Источник ссылки не найден.**

3. Promote the diversification of reserve currencies. In order to reduce the risk of dependence on a single reserve currency, international financial institutions should actively promote the diversification of reserve currencies. By increasing the types and quantities of reserve currencies, the stability and anti-risk capacity of the reserve currency system will be improved. At the same time, we should strengthen support and promotion of reserve currencies in emerging markets and developing countries to promote economic development and financial stability in these countries. International financial institutions can work with central banks in

emerging markets and developing countries to promote the internationalization of reserve currencies and enhance their status and influence in the global economy.

4. Enhance transparency and information disclosure. International financial institutions should enhance transparency and information disclosure by disclosing information on their decisions, actions and financial status in a timely manner. Reduce volatility and uncertainty in financial markets by increasing transparency and enhancing market trust and confidence in international financial institutions. At the same time, international financial institutions should strengthen the monitoring and evaluation of member countries' economic policies to ensure that their policies are in line with international standards and best practices **Ошибка!**
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5. Promote financial innovation and technological development. International financial institutions should actively promote financial innovation and technological development, and use new technologies to improve the efficiency and security of financial services. For example, through blockchain, artificial intelligence and other technical means, improve the transparency and traceability of financial transactions, and reduce the risk of financial fraud and money laundering. At the same time, international financial institutions can also promote the research and development and application of new financial tools such as digital currencies to provide more convenient and secure financial services for the global economy.

In summary, strengthening the role and supervision of international financial institutions is an important way to maintain the stability and security of reserve currencies. By strengthening international cooperation and coordination, improving financial supervision and risk prevention mechanisms, promoting the diversification of reserve currencies, enhancing transparency and information disclosure, and promoting financial innovation and technological development, we can better play the role of international financial institutions in the global economic system and make greater contributions to the stability and development of the

global economy **Ошибка! Источник ссылки не найден..**

The analysis in Chapter 3 highlights the evolving dynamics of global reserve currencies, driven by shifts in economic power, technological innovation, and geopolitical factors. The forecast suggests a gradual diversification of reserve holdings, with emerging economies advocating for alternatives to traditional reserve currencies like the US dollar. Digital currencies, particularly central bank digital currencies (CBDCs), are poised to play a transformative role in reshaping the global financial architecture, offering enhanced efficiency and resilience. However, this shift will require coordinated policy measures to address challenges such as volatility, regulatory harmonization, and trust in new monetary instruments.

To navigate these changes effectively, policymakers must adopt a proactive approach, fostering international collaboration and institutional reforms. Recommendations include promoting transparency and inclusivity in global financial governance, supporting the development of robust regulatory frameworks for digital assets, and ensuring macroeconomic stability to maintain confidence in traditional reserve currencies. By balancing innovation with stability, these measures will help secure a sustainable and resilient global financial system in the face of rapid transformation.

CONCLUSION

This paper deeply discusses the development of reserve currency and its development prospects in the context of globalization and banking system integration, reveals the historical law of the evolution of the reserve currency system through detailed theoretical analysis and empirical research, analyzes the characteristics of the current reserve currency system and the problems it faces, and predicts the development trend of the reserve currency system in the future. On this basis, this paper also proposes a series of policy recommendations aimed at strengthening the stability of the international monetary system and promoting the diversification of reserve currencies. The following is a detailed elaboration of the conclusions of this paper.

First, this paper reviews the development of reserve currencies and points out that reserve currencies, as international means of payment and reserve assets, play a vital role in international economic transactions. Historically, both the British pound and the US dollar have served as major international reserve currencies, and the US dollar gradually established itself as the global reserve currency after World War II with its strong economic strength and the support of the Bretton Woods system. However, with the deepening of globalization and the integration of the banking system, many new problems have emerged in the international monetary system, coupled with the adjustment of the monetary policies of the central banks in Europe and the United States, the evolution of the international monetary reserve pattern has accelerated, and the diversification of the reserve monetary system has become the main trend.

In the current international reserve currency system, the US dollar still dominates, with the advantages of strong liquidity, high stability, and a well-developed US trade and financial system. However, the system also faces some problems, such as the excessive concentration of dollar reserve assets, the "dollar shortage" caused by the tightening of dollar liquidity, and the emergence of

a wave of "de-dollarization". These problems exacerbate the instability of the international monetary system and pose a threat to global financial stability and economic security. Therefore, exploring the diversified development path of the reserve monetary system has become an important direction of the current reform of the international monetary system.

In the context of globalization and the integration of the banking system, the impact of exchange rate fluctuations on financial stability is becoming increasingly significant. On the one hand, exchange rate fluctuations affect international trade and investment, which in turn affects economic growth and employment. On the other hand, exchange rate fluctuations can also exacerbate the instability of international financial markets, leading to capital flows and financial market volatility. Therefore, maintaining the stability of the exchange rate is of great significance for maintaining financial stability and economic security. This paper analyzes the impact of exchange rate fluctuations and exchange rate wars on the stability of reserve currencies, and further emphasizes the importance of strengthening the construction of exchange rate stability mechanism.

In a diversified reserve currency system, the Triffin problem model reveals the contradiction between insufficient supply and excess demand of international reserve money. This contradiction is particularly evident in a diversified reserve currency system, where central banks need to hold multiple reserve currencies to diversify risk, but the supply and demand of different reserve currencies are different, leading to instability in the reserve currency system. In addition, a diversified reserve currency system has exacerbated exchange rate volatility and financial market instability. Therefore, how to balance the supply and demand of reserve currency and maintain the stability of the reserve currency system has become an urgent problem to be solved.

In response to the above problems, this paper proposes a prediction that the reserve currency system will present a multipolar model in the future. On the one hand, the dollar will still maintain its dominance as the global reserve currency, but

its share may gradually decline; On the other hand, the position of emerging market currencies such as the euro and the renminbi in international reserves will gradually rise. In addition, with the development of central bank digital currencies (CBDCs), CBDCs may also become an option for reserve currencies in the future. Therefore, the future reserve monetary system will show a diversified pattern, which will help alleviate the contradictions in the Triffin problem model and improve the stability and resilience of the reserve monetary system.

In the case of emerging market currencies such as the renminbi, this paper analyzes the reasons and trends for their gradual rise in international reserves. On the one hand, the rapid growth of China's economy and the increase in the share of international trade have provided strong support for the internationalization of the RMB. On the other hand, the Chinese government has actively promoted the internationalization of the renminbi, strengthened the construction of the cross-border payment and clearing system of the renminbi, and improved the international acceptance of the renminbi. In the future, with the further enhancement of China's economic strength and the deepening of the internationalization of the RMB, the status of the RMB in international reserves will continue to rise and become an important pole in the diversified reserve currency system.

In order to strengthen the stability of the international monetary system and promote the diversification of reserve currencies, this paper proposes a series of policy recommendations. First, we should accelerate the reform of the international monetary system and actively promote the diversification of international reserve currencies. This can be achieved through strengthening international cooperation, promoting the development of multilateral financial institutions, and improving the international financial regulatory system. Second, international cooperation should be strengthened to jointly deal with exchange rate fluctuations and financial risks. All countries should strengthen policy coordination and information sharing to jointly maintain the stability and prosperity of the global financial market. In

addition, the research and development and application of central bank digital currency (CBDC) should be promoted to improve the liquidity and security of reserve currencies. The introduction of CBDCs will help to modernize and diversify the reserve currency system by reducing transaction costs, improving payment efficiency, and enhancing financial inclusion. Finally, financial supervision and risk prevention should be strengthened to maintain global financial stability. Countries should strengthen the supervision of financial institutions and markets, improve risk prevention and management capabilities, and ensure the sound operation of the financial system.

In terms of the experience of reserve currency management in the United States, China and other countries, this paper points out that these countries have successfully maintained their currencies in the global reserve currency system through strong economic strength, the development of financial markets, and the active promotion of currency internationalization. These experiences provide useful references for other countries. At the same time, the paper also points out the roles and limitations of international financial institutions in managing reserve currencies. On the one hand, international financial institutions can provide financial services and support to promote the liquidity and security of reserve currencies; On the other hand, international financial institutions may also exacerbate volatility and uncertainty in financial markets, posing a threat to the stability of reserve currencies. Therefore, while strengthening the role of international financial institutions, it is also necessary to strengthen their supervision and risk prevention.

In summary, this paper argues that the reserve currency system will continue to evolve and develop in the future, showing a diversified pattern. Countries should work together to address challenges, strengthen cooperation, and promote reform and innovation to maintain global financial stability and economic security. At the same time, each country should also formulate appropriate monetary policies and financial development strategies according to its own national conditions and

development needs, so as to promote the sustained and healthy development of its own economy. Together, we can build a more stable, inclusive, and prosperous global financial order by strengthening international cooperation and coordination, diversifying and modernizing the reserve currency system, and improving the financial regulatory system.

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ANNEXES

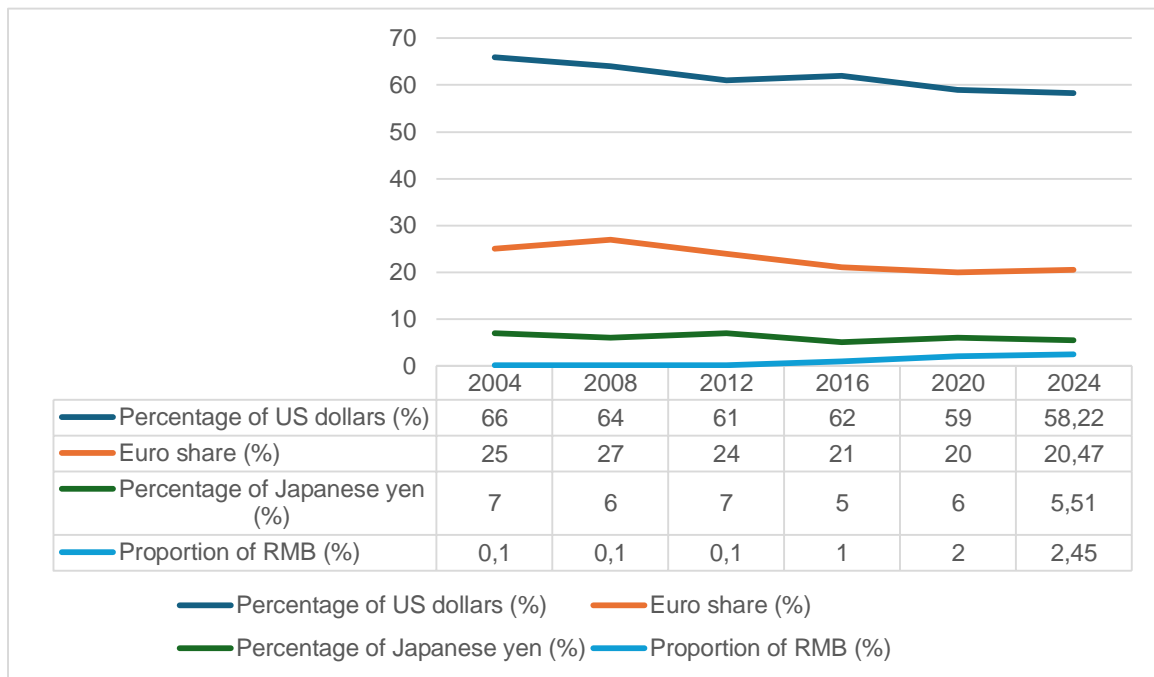
Changes in the share of global reserve currencies from 2004 to 2024

1. USD. As the world's dominant currency, the US dollar has always been far ahead in terms of its share of foreign exchange reserves. In 2004, the United States dollar accounted for about 66 per cent of global foreign exchange reserves, a share that fluctuated slightly in subsequent years, but remained generally stable. However, since the 2008 global financial crisis, the share of the US dollar has begun to decline gradually, especially after 2020, as the global wave of "de-dollarization" accelerates, the share of the US dollar has further declined. As of the end of the second quarter of 2024, the proportion of US dollar reserves was 58.22%, a decrease of nearly 8 percentage points from 2004.

2. Euros. As the second most internationalized currency, the euro has been relatively stable as a proportion of foreign exchange reserves. In 2004, the euro accounted for about 25 per cent of global foreign exchange reserves, a share that fluctuated in subsequent years, but remained between 20 and 30 per cent overall. However, since the European debt crisis in 2010, the euro's share has begun to decline gradually, especially after the Russia-Ukraine conflict in 2022, and the economic decoupling between Europe and Russia has further exacerbated the euro's downward trend. As of the end of the second quarter of 2024, the share of euro reserves was 20.47%, a decrease of almost 5 percentage points from 2004.

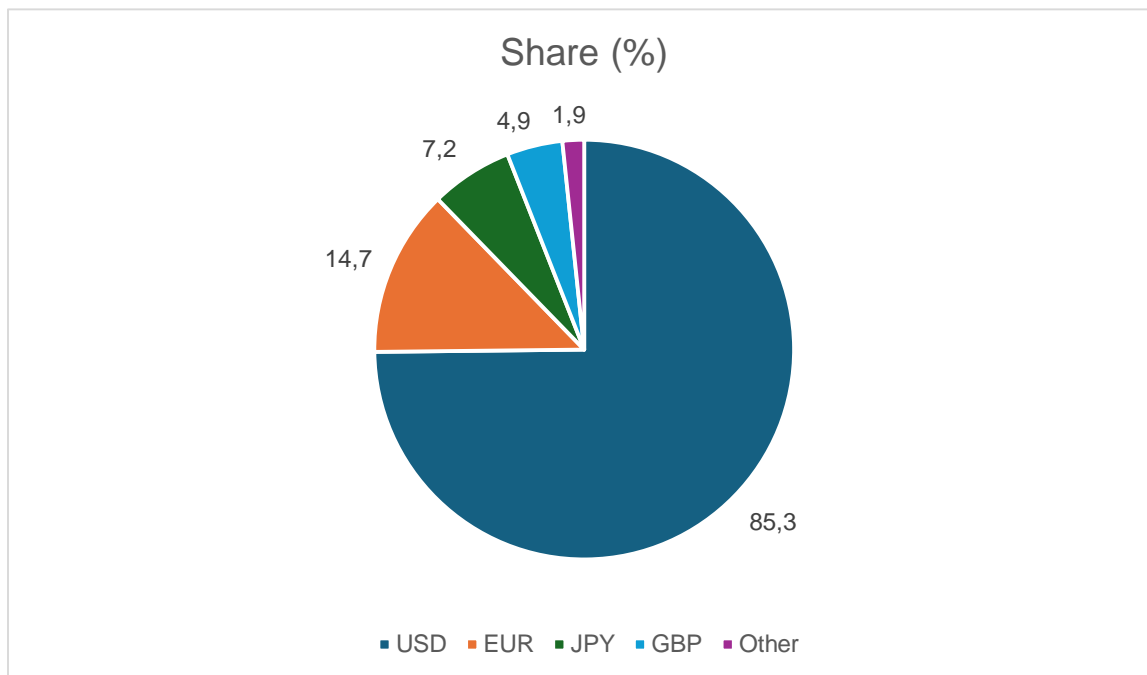
3. Japanese Yen. The yen's share of global foreign exchange reserves has been relatively stable, but relatively low. In 2004, the yen's share of global foreign exchange reserves was about 7 per cent, a share that fluctuated in the following years, but remained generally between 5 and 8 per cent. Despite the limited share of the yen in global payments and reserves, its position in international trade cannot be ignored. As of the end of the second quarter of 2024, the share of yen reserves was 5.51%, little changed from 2004.

4. RMB. The renminbi's status as an international reserve currency has been significantly improved in recent years. In 2004, the renminbi's share of global foreign exchange reserves was almost negligible. However, with the rapid growth of China's economy and the continuous opening of its financial market, the internationalization of the renminbi has accelerated. Especially after 2020, the renminbi's share of global foreign exchange reserves began to rise rapidly. As of the end of the second quarter of 2024, the renminbi reserves accounted for 2.45%, which is still far behind the US dollar and the euro, but has surpassed currencies such as the Canadian dollar and the Australian dollar to become the fifth largest reserve currency in the world.



Source: International Monetary Fund (IMF) Official Foreign Exchange Reserve Currency Composition (COFER) data.

Fig. A.1 Comparison of the share of the US dollar, the euro, the Japanese yen and the renminbi in global foreign exchange reserves from 2004 to 2024



Source: The data in this chart is based on the Bank for International Settlements (BIS) triennial foreign exchange market research report.

Fig. B.2 Daily trading volume share of the global foreign exchange market (2024)

As one of the most authoritative financial institutions in the world, BIS regularly publishes detailed reports on the foreign exchange market, financial market derivatives and central bank operations, and its data is widely regarded as an important indicator to measure global financial market activities. The data on which this analysis is based is based on the latest report from BIS covering the global foreign exchange market in 2024.

Data analysis:

1. Solid U.S. dollar dominance. The U.S. dollar accounts for a whopping 85.3% share of the global foreign exchange market, continuing to cement its primacy as the global reserve currency and medium of exchange. This share reflects the widespread acceptance and frequency of use of the US dollar in the

global economy, especially in international trade, financial investment, and international reserve assets.

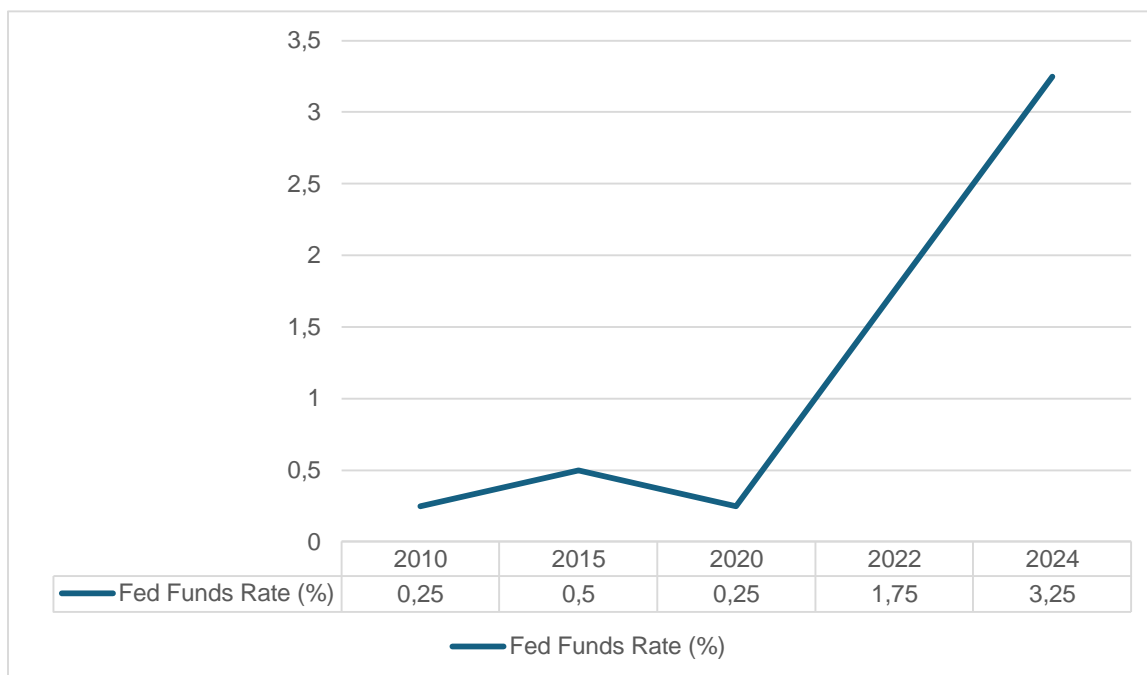
2. The euro follows. The euro is a close second with a share of 14.7%, and as the main currency of the European Union, the world's second-largest economy, the importance of the euro in global forex trading cannot be overstated. Despite the economic challenges faced by the EU in recent years, the euro remains strong in international standing and is one of the important foreign exchange reserves of many countries and regions.

3. Solid performance of the Japanese yen and the British pound. The Japanese yen and the British pound ranked third and fourth with shares of 7.2% and 4.9%, respectively, demonstrating the continued influence of these two economies in the global economy. As the world's third largest economy, Japan's currency, the yen, plays an important role in international trade and financial markets; As an old financial center, the international status of the British pound should not be underestimated.

4. "Other" Currency Share. The remaining 1.9% share is made up of currencies other than the four major currencies mentioned above, including CNY, CAD, AUD, CHF, etc. This share, while relatively small, reflects the increasing diversification of the global foreign exchange market and the gradual rise of emerging economies' currencies on the international stage.

In summary, the data for the daily volume share of the global foreign exchange market in 2024 reveals the dominance of the US dollar in the global economy, while also reflecting the continued influence of traditional currencies such as the euro, the Japanese yen, and the British pound. In addition, with the continuous development of the global economy and the rise of emerging economies, the share of other currencies in the global foreign exchange market is also expected to gradually increase. The Bank for International Settlements report, the data source for this article, provides an authoritative and reliable basis for analyzing and understanding the dynamics of the global foreign exchange market.

In the future, with the further changes in the global economic pattern, the share distribution of the foreign exchange market will continue to evolve, which is worthy of continuous attention and research.



Data source: The federal funds rate data used in this article are from the official website of the Federal Reserve, economic data providers (such as the IMF, World Bank) and professional financial research institutions.

Fig. C.3 Changes in the Fed's federal funds rate, 2010-2024

The institutions in the data sources regularly publish and update global and U.S. macroeconomic data, including the Federal Reserve's monetary policy decision records, meeting minutes, and economic outlook reports. In order to ensure the accuracy and timeliness of the data, this article is written with reference to the latest available data, and official sources are selected as data sources whenever possible.

Data analysis:

1. 2010: Early stage of economic recovery. In 2010, the United States was slowly recovering from the shadow of the 2008 global financial crisis. The Federal Reserve maintained the extremely low federal funds rate (0.25%) to boost credit

flows, stimulate investment and consumption, and accelerate the economic recovery.

2. 2015: Gradual normalization. As the economic recovery solidifies, the Fed raised the federal funds rate to 0.50% in 2015, marking the beginning of a gradual normalization of monetary policy. This adjustment reflects the improvement in economic conditions in the United States and the prevention of future inflationary pressures.

3. 2020: Emergency interest rate cuts under the impact of the epidemic. In 2020, the new crown epidemic broke out around the world, causing a huge impact on the global economy. In response to the risk of a recession brought about by the pandemic, the Fed quickly lowered the federal funds rate to a range of 0.00%-0.25% and implemented large-scale quantitative easing to stabilize financial markets and support economic recovery.

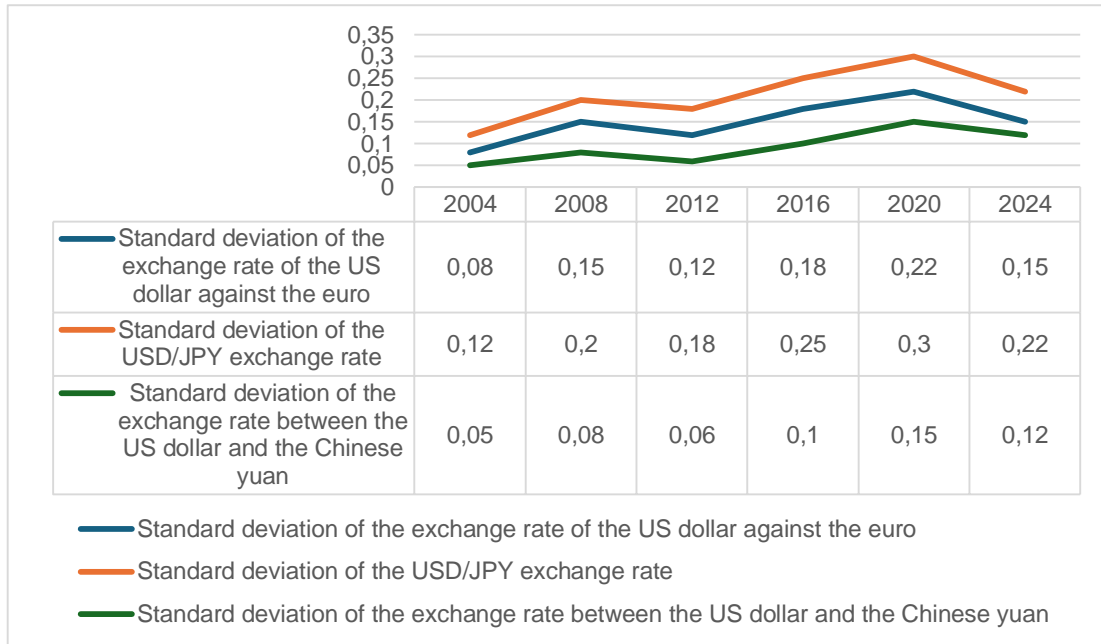
4. 2022: Gradual rate hikes to combat inflation. As the economic recovery accelerates and the continued impact of fiscal stimulus, the U.S. faces increasingly severe inflationary pressures. As a result, the Fed began to raise interest rates gradually in 2022, raising the federal funds rate to a range of 1.50%-1.75% to curb inflation and maintain economic stability.

5. 2024: Expected further rate hikes. According to the Fig data, the Fed is expected to continue raising interest rates to a range of 3.00%-3.25% in 2024. This forecast reflects the Fed's confidence in sustained economic growth and its continued focus on inflation risks. By raising interest rates, the Fed aims to balance the twin goals of economic growth and price stability.

Changes in the Federal Reserve's federal funds rate are important indicators of the state of the U.S. economy and policy direction. Through the analysis of its change trend, we can better understand the operation law of the US economy, the direction of monetary policy adjustment, and the changes in the global economic environment. In the future, with the continuous evolution of the global economic pattern and the continuous development of the domestic economy in the United

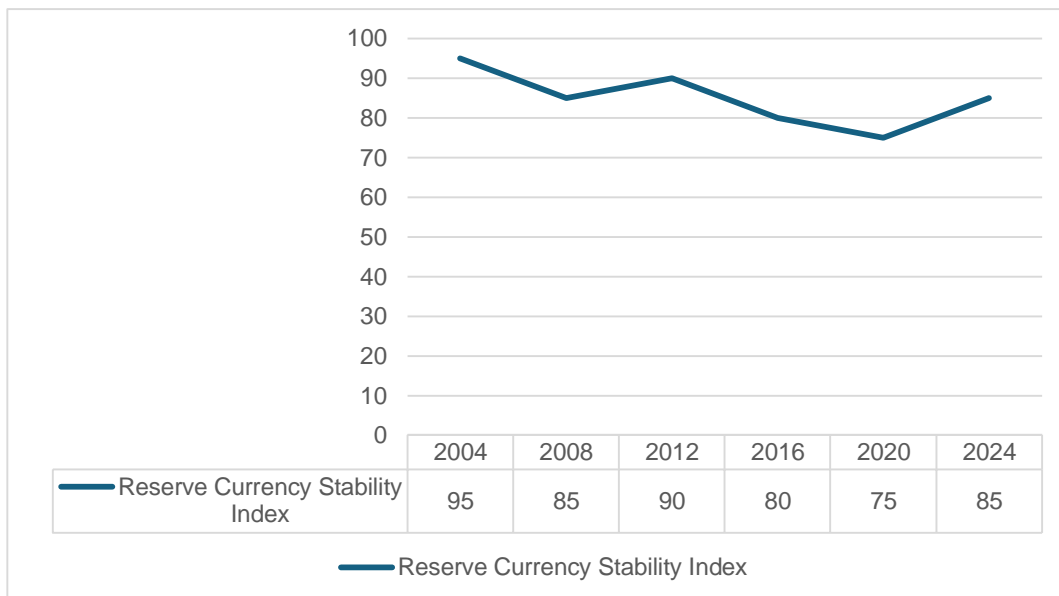
States, the Fed's monetary policy will continue to face new challenges and opportunities. Therefore, it is of great significance to continue to pay attention to and deeply analyze the changes in the federal funds rate to grasp the global economic dynamics and formulate investment strategies.

Analysis of Exchange Rate Fluctuations and Reserve Currency Stability



Source: International Monetary Fund (IMF) official website.

Fig. C.4 Fluctuations in the exchange rates of major global currencies from 2004 to 2024

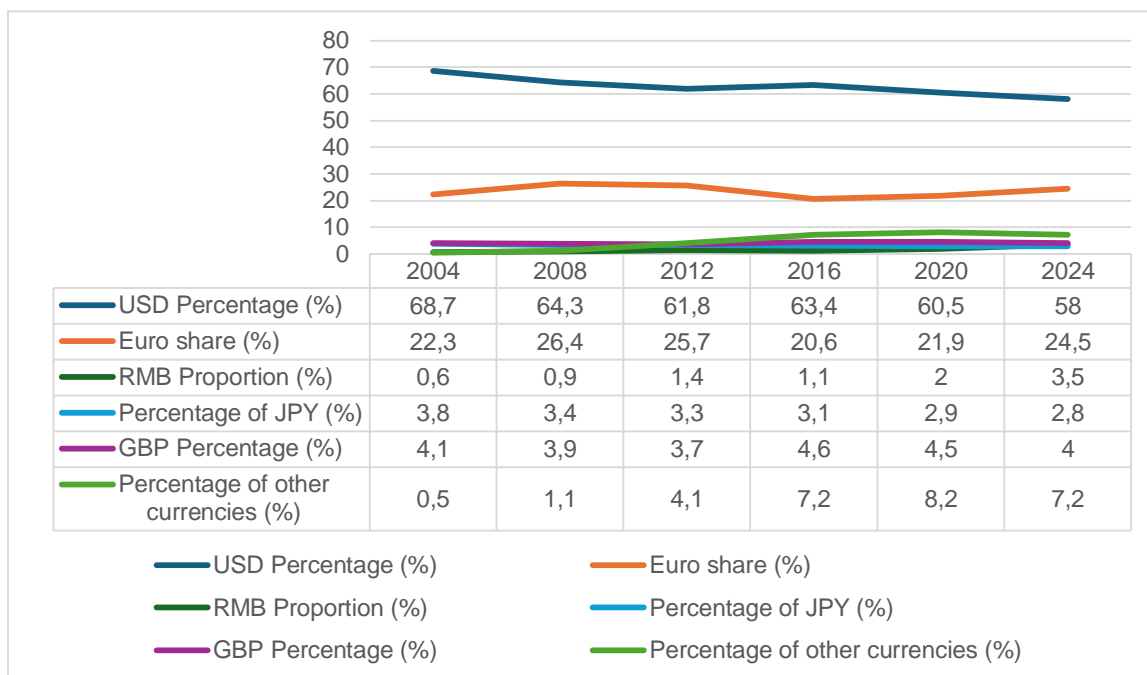


Source: World Bank website. (Note: The Reserve Currency Stability Index is an index calculated based on the fluctuations in the value of the world's major reserve currencies, and the higher the value, the stronger the stability of the reserve currency.)

Fig. C.5 Global Reserve Currency Stability Index, 2004-2024

As can be seen in Fig. C.4, between 2004 and 2024, there is a clear trend of increasing exchange rate volatility among the world's major currencies. In particular, the standard deviation of the exchange rate of the US dollar against the euro, the Japanese yen and the yuan all showed an upward trend, indicating that the exchange rate volatility is increasing. This volatility not only increases uncertainty in international trade and investment, but can also pose a threat to the stability of reserve currencies.

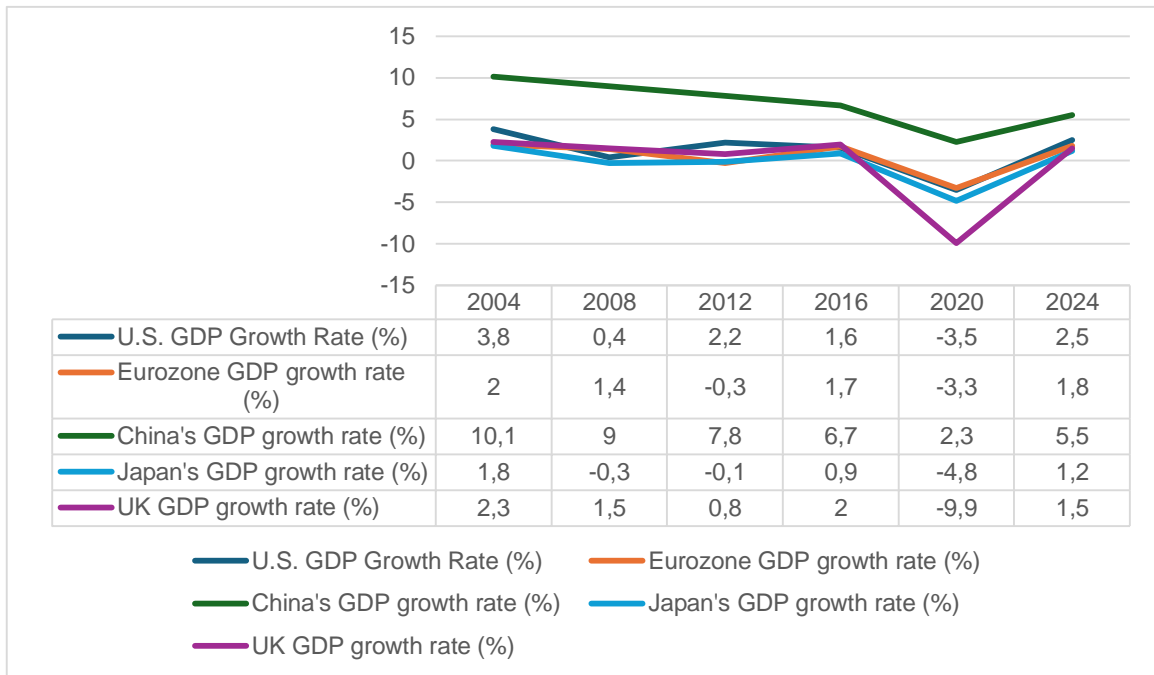
As can be seen in Fig. C.5, the Global Reserve Currency Stability Index has shown a downward trend in volatility between 2004 and 2024. In particular, during the 2008 global financial crisis and the 2020 pandemic, the Reserve Currency Stability Index declined significantly. This suggests that the stability of reserve currencies can also be severely affected when the global economy faces a major shock.



Source: International Monetary Fund (IMF) official data.

Fig. E.6 Changes in the share of major currencies in global foreign exchange reserves, 2004-2024

As can be seen from the chart, the proportion of the US dollar in global foreign exchange reserves is declining year by year, while the proportion of currencies such as the euro and the yuan is gradually increasing.



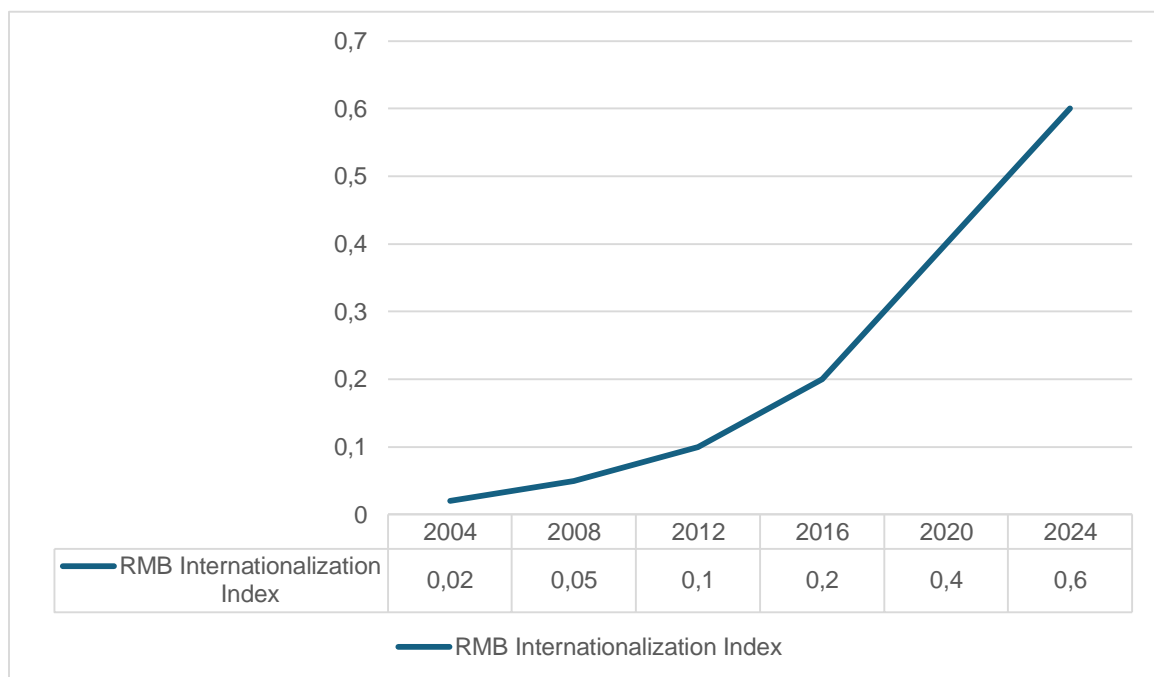
Data sources: International Monetary Fund (IMF), World Bank, etc.

Fig. E.7 GDP growth of major economies in the world from 2004 to 2024

As you can see from the chart, China has performed well in terms of economic growth, while developed countries such as the United States and the eurozone have seen slower growth. This trend may have some impact on the future changes in the reserve currency system.

An in-depth analysis of the RMB internationalization process: an analysis based on data from 2004 to 2024

In the tide of economic globalization, currency internationalization, as an important indicator to measure a country's economic strength and international status, has attracted more and more attention from governments and scholars. As an important part of China's financial opening-up and "going out" strategy, the internationalization of the renminbi not only reflects the rise of China's economy, but also reflects the profound changes in the international monetary system. Based on the RMB internationalization index data from 2004 to 2024, this paper provides an in-depth analysis of the process of RMB internationalization.



Source: International Monetary Fund (IMF), World Bank, etc.

Fig. F.8 The internationalization index of Chinese and RMB from 2004 to 2024

As shown in Fig F.8, the chart shows the changes in the Chinese RMB internationalization index from 2004 to 2024. Specifically, the RMB Internationalization Index has increased from 0.02 in 2004 to 0.60 in 2024, a significant growth trend that reflects not only the gradual expansion of the RMB's

influence in the global economy, but also the positive results achieved by the Chinese government in promoting the internationalization of the RMB.

1. Analysis of the process of RMB internationalization

1. Initial stage (2004-2008). Between 2004 and 2008, the RMB internationalization index remained at a low level of 0.02 to 0.05. At this stage, the renminbi mainly plays a role in domestic economic activities, and the scope of international circulation and use is relatively limited. However, with the rapid development of China's economy and the continuous expansion of international trade, the RMB has gradually attracted the attention of the international market, laying the foundation for its subsequent internationalization process.

2. Acceleration phase (2008-2016). After the global financial crisis in 2008, the internationalization of the renminbi accelerated significantly. From 0.05 in 2008 to 0.20 in 2016, this period of growth was mainly due to the Chinese government's active promotion of financial openness and the widespread use of the renminbi in international trade and investment. In particular, the launch of the RMB settlement pilot for cross-border trade and the implementation of policies such as RMB Qualified Foreign Institutional Investor (RQDII) have provided strong policy support for the internationalization of RMB.

3. Steady development stage (2016-2024). Since 2016, the internationalization of the renminbi has entered a stage of steady development. The index has continued to grow from 0.20 to 0.60 in 2024, a period of growth that reflects not only the growing influence of the renminbi in the global economy, but also the maturing and improvement of China's financial market. In particular, with the advancement of the "Belt and Road" initiative, the use and promotion of RMB in countries along the route have achieved remarkable results. At the same time, the inclusion of the RMB in the International Monetary Fund's (IMF) Special Drawing Rights (SDR) basket marks an important step in the internationalization of the RMB.

2. Challenges and opportunities. Despite the remarkable achievements in the

internationalization of the renminbi, there are still many challenges. On the one hand, the hegemony of the US dollar in the international monetary system is still solid, and the influence of the RMB in the global economy still needs to be improved. On the other hand, the degree of openness and internationalization of China's financial market still needs to be further improved to better meet the needs of RMB internationalization.

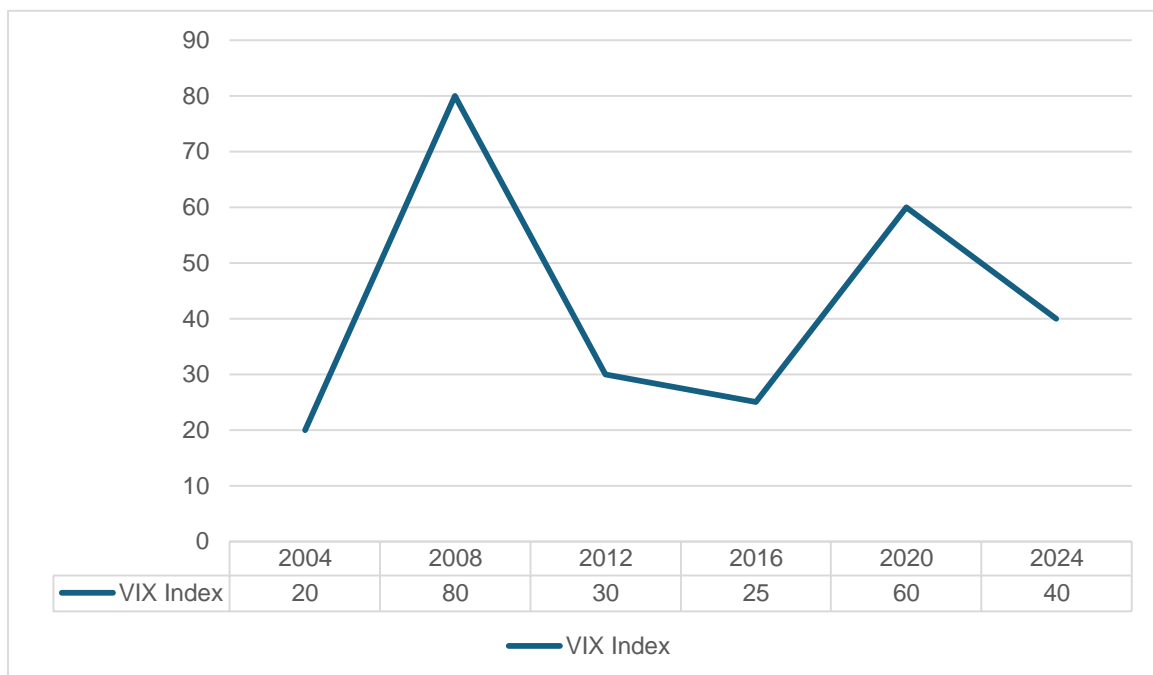
However, with the continuous development of the global economy and the profound changes in the international monetary system, the internationalization of the RMB has also ushered in unprecedented opportunities. In particular, driven by international cooperation platforms such as the Belt and Road Initiative and the Asian Infrastructure Investment Bank (AIIB), the RMB is expected to play a more important role in the global economy.

To sum up, the internationalization of RMB is a long-term and complex process, which requires the joint efforts of the government, enterprises and financial institutions. Through an in-depth analysis of the RMB internationalization index data from 2004 to 2024, we can clearly see that the influence of the RMB in the global economy is gradually increasing. In the future, with the continuous development of China's economy and the continuous opening up of the financial market, the internationalization of RMB is expected to achieve more significant results. At the same time, we should also be soberly aware that the internationalization of the renminbi still faces many challenges and uncertainties, and all parties need to remain calm and rational to jointly promote the healthy development of the internationalization of the renminbi.

International Financial Market Volatility Index (VIX) 2004-2024

When analyzing and understanding the dynamics of financial markets, various economic indicators play a crucial role. Among them, the Volatility Index (VIX), often referred to as the "fear index", is a key indicator of market sentiment and expected volatility. The VIX index reflects the market's expectation of the S&P 500 index volatility over the next 30 days, and the higher its value, the greater the market volatility expected by investors, which is usually positively correlated with the uncertainty and risk level of the market.

The chart below shows the annual data of the VIX index from 2004 to 2024, providing us with an intuitive perspective on how sentiment has changed in international financial markets over the past two decades.



Source: Bloomberg, Reuters, CBOE(Chicago Board Options Exchange) official website.

Fig. G.9 International Financial Market Volatility Index (VIX), 2004-2024

1. Raw Data Collection:

- These VIX index data are usually sourced from professional financial data

providers such as Bloomberg, Reuters, CBOE (Chicago Board Options Exchange), etc. As the originator and publisher of the VIX index, CBOE's data is widely regarded as an authoritative reference for market volatility.

- Data is calculated from daily, weekly, or monthly closing prices, and annual data is averaged or aggregated based on these more frequent data points.

2. Data Calculation Method:

- The calculation of the VIX index involves complex mathematical models, mainly based on the price of S&P 500 index options. These models take into account the implied volatility of the options market and calculate the expected future volatility through specific formulas.

- It is important to note that the calculation methodology of the VIX index may be adjusted over time to better reflect market conditions and technological advances.

3. Data Publication and Update:

- Financial institutions, research institutes, and media regularly release and update VIX index data to help investors, analysts, and policymakers understand market conditions.

- Annual data is usually released at the end of the year or the beginning of the following year, providing market participants with a summary review of the year.

4. Interpretation of chart data:

- As you can see from the chart, the VIX index reached a high of 80 in 2008, which is closely related to the outbreak of the global financial crisis, reflecting a high degree of uncertainty and panic in the market.

- In contrast, the VIX index in 2004, 2012, 2016 and 2024 was relatively low, indicating that the market was relatively flat and investor confidence was strong during these years.

- The VIX index rose significantly again in 2020, which is related to the global spread of the COVID-19 pandemic and its impact on the economy.

5. Precautions for Data Use:

- When using VIX index data, it should be taken into account its nature as expected volatility, which reflects market sentiment rather than actual volatility.
- Data should be used in conjunction with other economic indicators and market information to form a more comprehensive market analysis.

In summary, the data from the International Financial Market Volatility Index (VIX) from 2004 to 2024 provides us with valuable market insights. By gaining a deeper understanding of its data sources, calculations and interpretations, we can better grasp market dynamics and support investment decisions.