CKN China Kennisnetwerk

Internationalization of the RMB: Status, Options and Risks

Bert Hofman

Johannes Petry

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> "An international currency is one that is used and held beyond the borders of the issuing country, not merely for transactions with that country's residents, but also, and importantly, for transactions between non-residents. In other words, an international currency is one that is used instead of the national currencies of the parties directly involved in an international transaction, whether the transaction in question involves a purchase of goods, services or financial assets."
>
> Peter B. Kenan

> "How did you internationalize the RMB? Two ways—first gradually, then suddenly."
>
> Adapted from Ernest Hemingway in *The Sun Also Rises*

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Cover photo: String of Chinese coins, found in Indonesia, displayed in the National Museum Indonesia, Jakarta. The display states: "Medium of exchange: these copper coins and silver coins were the medium of exchange used by the people of Lombok in the 19th century." Photo by Bert Hofman.

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The Netherlands Institute of International Relations 'Clingendael' is a leading independent think tank and academy on international relations. The LeidenAsiaCentre is an independent research centre affiliated with Leiden University. It serves as a hub for applied academic knowledge on modern Asia.

About the authors

Bert Hofman is adjunct professor at the East Asian Institute (EAI) of the National University Singapore (NUS). He was director of EAI and Professor of Practice at the Lee Kuan Yew School of NUS 2019-2023. He is also an Honorary Senior Fellow at the Asia Society Policy Institute, Senior Fellow at MERICS, and Fellow of the World Association for China Studies. Before joining NUS in 2019, he worked with the World Bank for 27 years, 22 of which in Asia, and 12 of which on China. Mr. Hofman was the World Bank Country Director for China and Chief Economist for the East Asia and Pacific region. His current interests include China's future growth trajectory, technology, geo-economics and global supply-chain shifts.

Johannes Petry is a Senior Researcher at Goethe University Frankfurt (Germany) and a Research Fellow at the Centre for the Study of Globalisation & Regionalisation, University of Warwick (UK). He is a political economist researching the changing dynamics of financial globalization, with a focus on the internationalization of China's financial system, the politics of financial infrastructures, as well as post-crisis transformations within the global financial system such as the growing importance of the BRICS or East Asia, contestation of the liberal international economic order, and the impact of geopolitics on global finance. Find out more at: www.johannespetry.com.

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Executive Summary

The internationalization of the Renminbi (RMB) is a long-term project that has evolved gradually through a series of policy initiatives, infrastructure developments, and external shocks over the past few decades. This report aims to answer three sets of questions: (i) What key push and pull factors explain the increasing internationalization of the Chinese Renminbi (RMB) and how has the global monetary and financial context developed? (ii) How does this increase relate to China's wider monetary and financial policies? What infrastructure is being put in place? What scenarios can be envisaged? And (iii) What are key consequences of this increase for the Dutch/European economic security and the Euro area monetary sovereignty? The research was implemented under the purview of the LeidenAsiaCentre and commissioned by the China Knowledge Network of the Government of the Netherlands. Conclusions and opinions are solely those of the authors.

The main conclusion of the report is that the international use of the RMB has seen only modest progress in the past 15 years, but that China has substantially expanded the institutional infrastructure that underpins this internationalization. Internationalization could accelerate in several ways: (i) through policy changes that render the RMB a more attractive currency to invest, fund or trade in; (ii) by increased international demand for the RMB as an alternative to the USD; and (iii) as a means to provide a safety net for international transactions in a more adversarial world. With changing economic interests and growing international tensions, China's authorities are now at a crossroad with respect to internationalization of the RMB.

The international use of the RMB still falls well short of China's importance in the world economy, in international trade, and in international finance. As of 2024, the RMB constitutes 2 percent of international reserves, and less than 5 percent of payments through SWIFT are denominated in RMB. Some 2.4 percent of cross-border loans and 2 percent of international debt outstanding are denominated in RMB. The RMB is faring better in China's own cross-border transactions, more than half of which are now denominated in RMB. From a historical perspective, this slow progress is not surprising: even the USD took some 50 years to become the dominant currency after it had become the largest economy in the world. Japan's policy driven attempts to increase the international use of the Yen had largely stalled by the 1990s.

At the same time, China's authorities have made considerable progress in the institutional framework and creating the infrastructural arrangements for further internationalization. It has established an RMB-based international payment system, opened several channels to enable international investment in RMB, and enabled growing access to RMB funding by foreign parties.

A central pillar in this infrastructure is the development of specialized payment systems. The establishment of offshore RMB clearing banks and the creation of the Cross-Border Interbank Payment System (CIPS) have significantly streamlined cross-border settlements. By allowing global banks to clear RMB transactions directly—bypassing traditional, USD-dominated systems—China has reduced transaction costs and increased the efficiency and reliability of

cross-border payments. These systems are designed to work in tandem with domestic platforms such as the China Foreign Exchange Trade System (CFETS), which has enabled direct trading of the RMB against a growing basket of currencies. Cooperation with other countries like in the mBridge project – a multi-CBDC trading platform – further highlight the potential of this development. Together, these mechanisms have led to noticeable growth in the use of the RMB for trade settlement, with Chinese cross-border transactions increasingly being cleared in RMB rather than in dollars.

Access to RMB investment opportunities is another critical aspect of internationalization. Over time, China has relaxed previously stringent capital controls by gradually opening up its domestic capital markets to foreign investors through programs like the Qualified Foreign Institutional Investor (QFII) and its offshore variant, the Renminbi Qualified Foreign Institutional Investor (RQFII). These schemes, together with initiatives such as Stock Connect—which links mainland stock markets with those in Hong Kong—have improved market liquidity and facilitated cross-border investment flows. Although the share of foreign portfolio investment in China remains modest relative to other major markets, these channels have contributed to a slow but steady increase in international participation in the Chinese financial system.

RMB funding mechanisms have been a third aspect of this development. Instruments such as panda bonds (RMB-denominated bonds issued by foreign entities onshore) and dim sum bonds (issued offshore) allow non-residents to access RMB-denominated financing. Additionally, bilateral currency swap lines arranged by the People's Bank of China (PBC) have provided liquidity support and enhanced the international credibility of the RMB. These developments have helped create an ecosystem in which the RMB is not only used for transactional purposes but also becomes a viable instrument for long-term finance. While these channels remain small in volume relative to the vast dollar markets, their accelerated growth underscores the rising demand for RMB denominated liabilities.

The financial infrastructures that China has created to advance the potential international use of the RMB are distributed geographically unevenly. These arrangements for payments, investments and funding are increasingly geared towards non-Western countries, such as the BRICS, ASEAN and other BRI countries. This aligns with China's growing economic ties with the emerging economies and the relative decline of those ties with western economies.

Despite important changes, such as the inclusion of the RMB in the currency basket of the IMF's Special Drawing Rights, progress in RMB internationalization has been slow in part due to a reluctance of China's policy makers to more rapidly open the capital account and allow for more flexibility in the exchange rate. This reluctance was reinforced by volatility in financial markets following financial sector and international payments system reforms of the early 2010s.

In recent years, in particular since Russia's invasion of Ukraine and the growing use of sanctions in the dollar-based international payments system, interests in RMB internationalization have grown. The policy debate in China has shifted from risk management to the conditions under which China can become an international financial center of importance, and RMB

internationalization is seen as part of this. The experience with Russian sanctions, in particular with secondary sanctions, demonstrated the challenges of internationalization in confrontation with the dollar-based system, and a “side by side” development is seen as the preferable alternative. Moreover, RMB internationalization is not a solution for the vulnerability of China’s international dollar reserves.

In the academic debate, some see the slow and steady, largely demand driven route to internationalization as preferable. Others see a more policy driven, rapid route to internationalization as feasible. A third group of thinkers focuses on the “safety net” function of an RMB-based international payments system, to be used in case China’s access to the dollar-based system were to be cut short. The “weaponization of the dollar” is seen by some academics as an opportunity for more rapid internationalization.

Despite notable progress, several challenges remain, and the current international use of the RMB still falls short of its potential. Key hurdles include the persistence of capital controls, underdeveloped domestic financial markets, and the inherent risks associated with a managed exchange rate system. Additionally, while financial infrastructures have been substantially upgraded, they are still evolving in comparison to the longstanding and deeply entrenched US-dollar system. RMB internationalization is best understood not as a quest to displace the US dollar but as a strategic move to enhance China’s financial autonomy and reduce its vulnerability to external shocks. Progress has been modest but significant.

This report does not make predictions on the direction that RMB internationalization will take from here. Instead, it envisions several scenarios for future RMB internationalization. These are based on fundamental drivers of internationalization, including external and domestic ones. The scenarios assume that for the authorities, the balance of cost and benefits of internationalization in the end determine the path they pursue, though success in the end depends on the international acceptance of the RMB.

Among the domestic factors that tilt towards more RMB internationalization are the declining importance of trade in GDP, China’s growing role in global supply chains, and the growing benefit of an independent monetary policy that comes with more flexibility in the currency. Internationally, the predominant driving force is the reliability of the dollar-based system for China and for its main economic partners. China’s growing role as a source of international finance, due to its persistent savings surpluses, also offers more opportunities for a larger international use of the RMB in financing and international reserves. Demand for RMB reserves could also grow because of a declining trust in the United States policies and institutions.

Considering both domestic policies and evolving international dynamics, four broad scenarios emerge: from a rapid, transformative rise and a gradual, steady evolution to a reactive ‘great leap’ prompted by external pressures, to a controlled safety-net strategy prioritizing safety of international payments over swift liberalization. Each carrying distinct implications for China and its currency’s global role.

Four scenarios for RMB Internationalization.

External Environment / ***Domestic Policies***	*reformist*	*conservative*
benevolent	Rapid Rise	Slow Ascent
adversarial	Great Leap	Safety Net

Source: Chapter 3.

- In a **Rapid Rise** scenario, China would take the necessary steps to accelerate RMB internationalization within a benevolent external environment. This would require significant policy shifts, including the broadening of financial market access for qualified foreign investors, allowing greater flexibility in exchange rate management, as well as further developing CIPS and its messaging network, making it a more viable alternative to SWIFT for global transactions.
- In a **Slow Internationalization** scenario, China would maintain its current cautious and incremental approach toward RMB internationalization. This is basically the current track, and the policy we have seen in the past decade or so. The government would likely prioritize regional initiatives, like CMIM and BRI), to promote RMB adoption without making a full commitment to financial liberalization.
- In a **Safety Net** scenario, China's policymakers would adopt a defensive approach in an adversarial environment, focusing on maintaining the country's ability to conduct international transactions while limiting exposure to external financial pressures. This approach would emphasize the development and reinforcement of China's payment infrastructure—particularly CIPS—ensuring that it remains a viable alternative in case of disruptions to traditional USD-based systems.
- In a **Great Leap** scenario, necessity rather than strategic planning would become the driver of the policy moves that would lead to a wider use of the RMB. This scenario would take place in a more adversarial external environment, possibly in response to a major geopolitical event, such as financial sanctions imposed on China by Western powers and China's potential exclusion from the USD-based financial system.

These scenarios each have distinct implications for the euro and European monetary sovereignty. In a 'rapid rise' scenario, accelerated RMB expansion might divert capital and challenge the Euro's international role, while a 'slow internationalization' would allow Europe time to adjust and reinforce its capital markets. A 'great leap' driven by geopolitical pressures could destabilize European financial systems by forcing firms and financial institutions to choose between competing currency blocs, whereas a 'safety-net' model would likely limit

immediate disruptions but still impose higher transactional and regulatory costs on European institutions. Ultimately, the impact on the Euro hinges on China's pace of reform and the evolving geopolitical environment, with Europe's further integration and strategic adaptability playing key roles in mitigating risks.

1. Chapter 1: Progress in the internationalization of the RMB

1.1 Introduction

The international use of China's currency, the Renminbi (RMB), has seen slow and uneven progress since the start of China's internationalization attempts. Initial interest stemmed from the problems of international liquidity in times of crisis, such as the 2007-2009 Global Financial Crisis (GFC). Following the GFC, China undertook steps to internationalize the RMB, culminating in the RMB's inclusion in the IMF's basket of Special Drawing Rights (SDR) in 2016. The financial market turbulence that occurred in 2015 and 2016 caused a slowdown in internationalization, and a reversal in some respects. Recently, growing international tensions have triggered renewed interest in alternatives to the dollar, including in China and other emerging economies. China has also built up an array of financial infrastructures to facilitate the broader use of the RMB. However, the international use of the RMB for transactions, finance and reserves remains limited, aside from cross-border transactions with China.

China's leadership has been reluctant to undertake the steps needed to achieve wider international use of the RMB, but political attitudes are changing. The desire for control of the currency and capital flows has trumped the interest in a greater use of the RMB in international transactions. Only in 2022, at the 20th National Party Congress, did the Communist Party of China (CPC) secretary general, Xi Jinping, express support for internationalization for the first time, with a brief sentence: "We will promote the internationalization of the RMB in an orderly way…." (Xi, 2022). Before the 2022 National Party Congress, the term internationalization had first been used in October 2019 during the 4th plenum of the 19th Central Committee. The 14th Five Year Plan 2021-25 mentions the intention to "stably and prudentially promote RMB internationalization" (NDRC, 2021). These developments seem to indicate a changing attitude with respect to the currency's internationalization.

The growing interest of China's senior leaders in the internationalization of the RMB follows the sanctions on Russia after its invasion of Ukraine. China, and other emerging economies, are increasingly concerned by what they call a weaponization of the US dollar (McDowell, 2023). The exclusion of Iran from the international payments system (Society for Worldwide Interbank Financial Telecommunications, or SWIFT) and especially the exclusion of Russia in 2022 and the freezing of its international dollar and euro reserves raised concerns in China, and sparked renewed interest in the topic of RMB internationalization. Aside from this renewed interest by China, other non-Western countries are also developing a greater interest in alternative payments systems to the USD-based system. The BRICS group has been discussing this for some time, and in its latest leaders' statement of October 2024, it agrees to study an alternative international payments system (BRICS, 2024).

Meanwhile, the international use of the RMB has been increasing slowly. As of 2024, it constitutes a modest 2 percent of international reserves, and less than 5 percent of payments through SWIFT are denominated in RMB. The RMB still plays a limited role in international finance, with 2.4 percent of cross-border loans denominated in RMB, and 2 percent of international debt outstanding. The RMB is faring better in China's own cross-border transactions, part of which use China's own Cross-Border Inter-Bank Payments System (CIPS), and thus the numbers differ from the SWIFT numbers. According to numbers from the State Administration of Foreign Exchange (SAFE), now more than half of cross-border transactions in China are denominated in RMB, although the USD is still the second largest transaction currency. The majority of these transactions are related to investments (portfolio and direct investments), but the People's Bank of China (PBC) reported that around half of China's trade is now denominated in RMB (PBC, 2024).

Notably, China has gradually developed the institutional and operational infrastructure that allows for a potentially larger role for the RMB as an international currency (Chapter 2). Qualified foreign investors now have full access to the onshore capital markets, without a previously imposed quota, and can invest the RMBs they acquired abroad. Since 2014, China has developed its own international clearance and settlement CIPS as an alternative to SWIFT and the Clearing House Interbank Payments System (CHIPS), which is the US-led international clearance and settlement system. The PBC has also been granting granted more licenses for banks abroad to function as RMB settlement center and has agreed to a growing number of currency swaps with countries around the world, especially as part of the Chiang Mai agreement. Furthermore, a growing number of currencies and commodity contracts are directly traded on China's financial markets. Foreign actors are also allowed to issue RMB-denominated bonds both in China and abroad. Meanwhile, the digital RMB might offer further avenues for internationalization by reducing cross-border transaction costs. This is currently being developed in the mBridge project, and BRICS Pay, which is currently at the concept stage, might become another one.

Despite this progress, and not surprisingly, the RMB-based infrastructure is still far inferior to that of the USD-based infrastructure built up in the past century. Aside from the infrastructure, China's policy makers do not seem ready for a rapid increase in the role of the RMB in international finance. This is in part because of concerns regarding the volatility of capital flows that come along with this, and in part because of concerns about the possible economic effects of such a greater role on the value of the RMB, and on the resulting competitiveness of China's exports. However, given the declining importance of trade for China's economy and the changing role that China plays in global supply chains, the possible economic costs of a larger role are diminishing. At the same time, with growing international tensions and a growing demand for alternatives to the dollar among several large economies in the world, the benefits of a larger role are increasing.

This report explores the question how a further internationalization of the RMB may proceed. It reviews progress in internationalization thus far, the development of the infrastructure supporting this internationalization, and the domestic policy debate on internationalization. Finally, the report discusses various scenarios by which RMB internationalization could proceed, and what

the implications for the international financial system and European monetary sovereignty might be. The report offers two main conclusions:

(i) While progress in RMB internationalization has been modest, China has been building the financial infrastructures needed to enable an accelerated use of the RMB internationally. In contrast to existing narratives, we find that today RMB is much more a question of demand than supply; and

(ii) It is better to think about RMB internationalization in terms of autonomy rather than influence. China does not seek to replace the USD based system; instead, RMB internationalization can best be viewed as a form of defensive financial statecraft that the Chinese government is pursuing to reduce vulnerabilities within an evolving international context.

The remainder of this chapter reviews the progress in internationalization thus far in more detail, and reviews the evolving Chinese domestic political debate on RMB internationalization. Chapter 2 examines in detail the financial infrastructure and functionality that China has been building in the past decades to foster the RMB's international use. The final chapter explores several scenarios of RMB internationalization and discusses their implications for the international community.

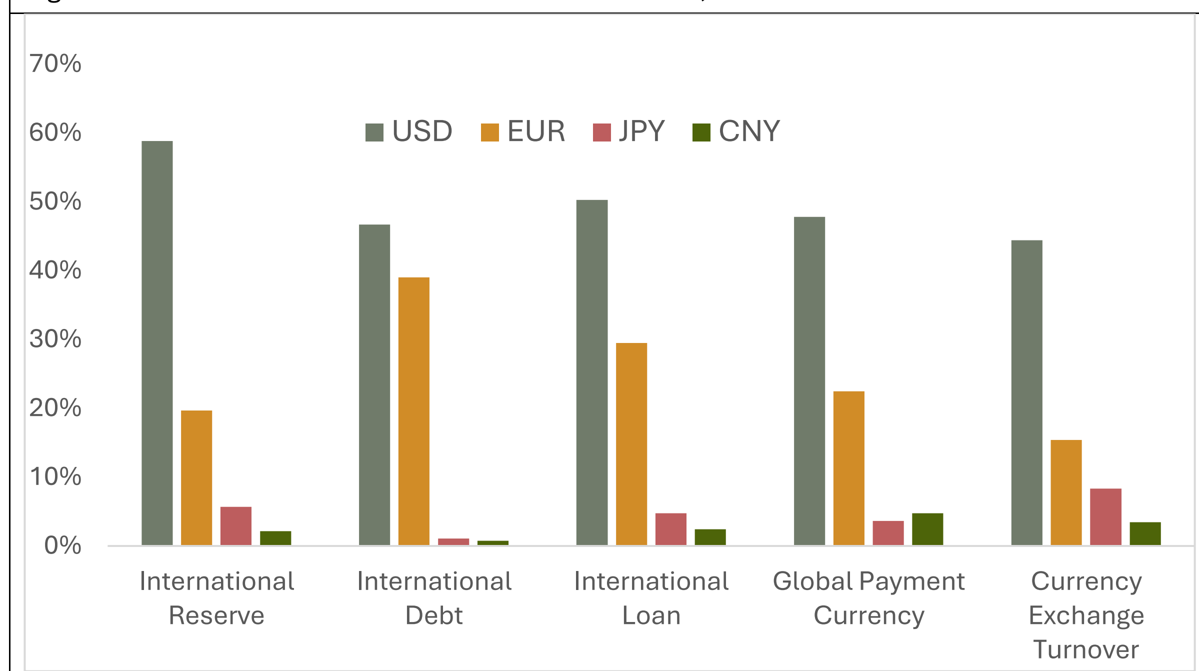
1.2 A very gradual increase in the international use of the RMB

During the Qin dynasty (221-206 BCE), China was among the first countries to issue coins as a means of exchange. These coins, usually copper or brass, were primarily used within the empire, but were also exported to other countries as payment of imports, and sometimes smuggled, as it was later illegal to export coinage under the Song dynasty (960-1279 AD). Chinese coins also circulated in for instance Japan (von Glahn 2016). The Yuan (Mongol) dynasty (1271-1368 AD) was the first to introduce fiat paper money backed by silver. This money was used throughout the Mongol empire, which at its peak stretched from the Pacific to the Baltic. After the collapse of the currency and the Yuan dynasty, the Ming dynasty reverted to copper and brass coins as a means of exchange. Ming Dynasty copper coins, and other coins originating from pre-Yuan days, were used in regional trade and in local use, including in what is now Indonesia (see cover photo). With the closing off to trade after the mid-1400s, the Chinese coins gradually disappeared from international use and were replaced by the Spanish Dollar and Dutch Daalder, among other currencies.

Today, the RMB plays – as of yet – only a modest role as an international currency. Across the functions of trade payments, financing, and international reserves, the role of the RMB stands in stark contrast to the country's importance in the global economy (17 percent of global GDP in current USD) and international trade (10 percent of global trade). The RMB accounts for 4.7 percent of all payments recorded through the SWIFT system; it accounts for 2.4 percent of all cross-border loans and 0.8 percent of international debt outstanding; it accounts for 2.1 percent of international reserves; and the RMB is involved in 6.9 percent of all currency exchanges (Figure

1.1).[1] While respectable, these numbers lag far behind those of the dominant international currency, the US dollar, and well behind the euro and even the Japanese yen. Indeed, the dollar remains dominant in international finance.

Figure 1.1: Use of various currencies across functions, 2024.



Sources: Author's figure updates from ECB, 2023. Data sources: SWIFT RMB Tracker for payment currencies; International loan data sourced from the Bank for International Settlement (BIS) for USD, EUR, JPY and SAFE for CNY; the international debt statistics is adopted from BIS database, with different methodology from ECB, https://www.ecb.europa.eu/press/other-publications/ire/annex/pdf/ecb.ire202406_annex.en.pdf. IMF COFER for international reserves. Note: all data collected as of 2024Q1 except global payment as of 2024/8 and currency exchange turnover as of 2022. Currency exchange turnover scaled to add to 100 (the original source adds up to 200 percent).

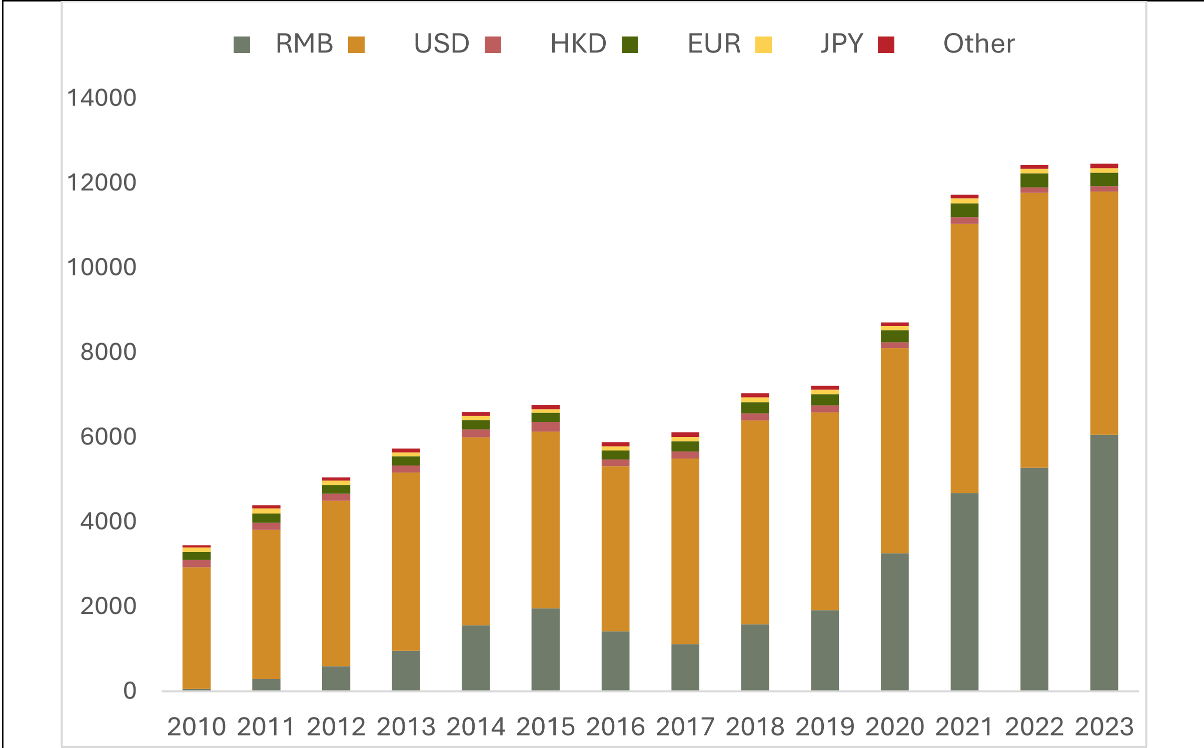
Nevertheless, the international use of the RMB has seen progress in the fifteen years since it became a topic of discussion after the GFC. In the past decade, the PBC's RMB internationalization index (which is a composite index that tracks a variety of RMB use internationally) has seen a gradual increase. Also, the use of RMB saw a marked increase after Western sanctions on Russia following its invasion of Ukraine (Chan, 2024), which drove Russia to switch to RMB (and Indian Rupees, among others) for its trade. According to SWIFT data, in August 2024 the RMB accounted for almost 6 percent of global trade financing, making it the world's second largest trade financing currency (PBC, 2024).

RMB use in payments beyond SWIFT is growing. According to PBC numbers on cross-border payments, China's cross-border payments in RMB now surpass those in USD (Figure 1.2). Part of this is reported by SWIFT, but an unknown part of this is settled through the CIPS, China's own international clearing system, which is playing a growing role in cross-border settlement of

[1] The main countries and regions that conduct foreign exchange spot transactions in RMB include the United Kingdom (40.3 percent), the United States (16.2 percent), France (16.3 percent), Switzerland (16.4 percent), and Hong Kong, China (9.1 percent) (PBC 2024).

RMB transactions. In 2023, the total amount of cross-border RMB receipts and payments on behalf of customers by banks was RMB 52.3 trillion, a year-on-year increase of 24 percent (PBC, 2024). Year-on-year growth in RMB cross-border payments in the first 8 months of 2024 was 21 percent. The RMB has been used more frequently in cross-border trade in the first eight months of 2024 amid the growing presence of the Chinese currency in the global market (PBC, 2024).

Figure 1.2: Renminbi's growing importance in China's cross-border payments, 2010-2023 (billion USD).



Source: author's chart based on SAFE data https://www.safe.gov.cn/en/2019/0919/1561.html Note: the chart shows the sum of receipts and payments.

In 2023 and 2024, cross-border use of the RMB rose sharply. According to the PBC Internationalization Report, in the first eight months of 2024, cross-border RMB payments and receipts in trade of goods accounted for 26.5 percent of the total settlement of local and foreign currencies, up from 24.8 percent in 2023. For trade in services, cross-border RMB use increased 22.3 percent year-on-year to RMB 1.2 trillion, accounting for 31.8 percent of the total. The report also noted improvements in RMB's function in terms of investment and financing. By the end of August, foreign investors held around RMB4.6 trillion of Chinese bonds, accounting for 2.7 percent of the total domestic bonds in custody. Cross-border RMB settlement for major commodities amounted to RMB1.5 trillion in the eight-month reporting period, a 22.7 percent year-on-year increase.

Box 1: CNY and CNH[2]

CNY and CNH are two types of RMB that serve different purposes and operate in distinct markets. The CNY is traded within mainland China and is regulated by the PPBC and SAFE. Its exchange rate is managed within a daily trading band around a reference rate, which is officially set on the basis of a basket of currencies. CNH is the (unofficial) denomination of the offshore version of the RMB, which emerged after 2009, when clearing and settlement of RMB began in Hong Kong (hence the "H"). The CNH is traded outside mainland China, primarily in Hong Kong and other offshore markets. It is influenced more by market forces than the CNY, and is subject to less government control. CNH is more freely convertible and accessible to international investors, making it more attractive for global trade and investment. The offshore market (CNH) allows for greater flexibility in currency trading and provides opportunities for businesses to manage currency risks and take advantage of market fluctuations. The Hong Kong Monetary Authority (HKMA) plays a role in the CNH market by: (i) appointing Primary Liquidity Providers (PLPs) to ensure smooth trading and liquidity; and (ii) enhancing and promoting the offshore yuan market. Other financial regulators in offshore markets like Singapore, London, and Luxembourg also have some influence over CNH trading in their respective jurisdictions.

Only Chinese nationals can hold CNY deposits. They can only be supplied by banks domiciled in China that have access to the onshore China National Advanced Payment System, which settles accounts via reserve balances at the PBC. There are exceptions for foreigners authorized by the government, but generally foreign citizens and institutions do not have unrestricted access to the onshore financial market in mainland China and face strict limits in using CNY. By contrast, foreigners can freely hold, transact and convert CNH. CNH deposits can be issued by foreign banks as well as by Chinese banks that have branches or subsidiaries offshore. There are quotas on exchanging CNH and CNY for purposes of investment, whether into China using the CNY (through the Renminbi Qualified Foreign Institutional Investor program) or out of China using the CNH (through the Qualified Domestic Institutional Investor program). Additionally, households have an annual limit on how much they can transfer between CNH and CNY and vice versa.

Although still small compared to the USD based system, transactions through CIPS are growing rapidly. CIPS processed some USD 17 trillion equivalent in payments in 2023, and USD 23.8 billion in 2024 by means of around 9 million messages. This is still tiny compared to the USD 150 trillion in transactions facilitated through SWIFT's 44.8 million transactions (Kapron, 2023). However, CIPS's growth rates in number of transactions (50 percent in 2023) and value (21 percent) are considerably higher than those of SWIFT. As of January 2025, CIPS has a total of 168 direct participants and 1,461 indirect participants, including 1,072 from Asia, 252 from Europe,

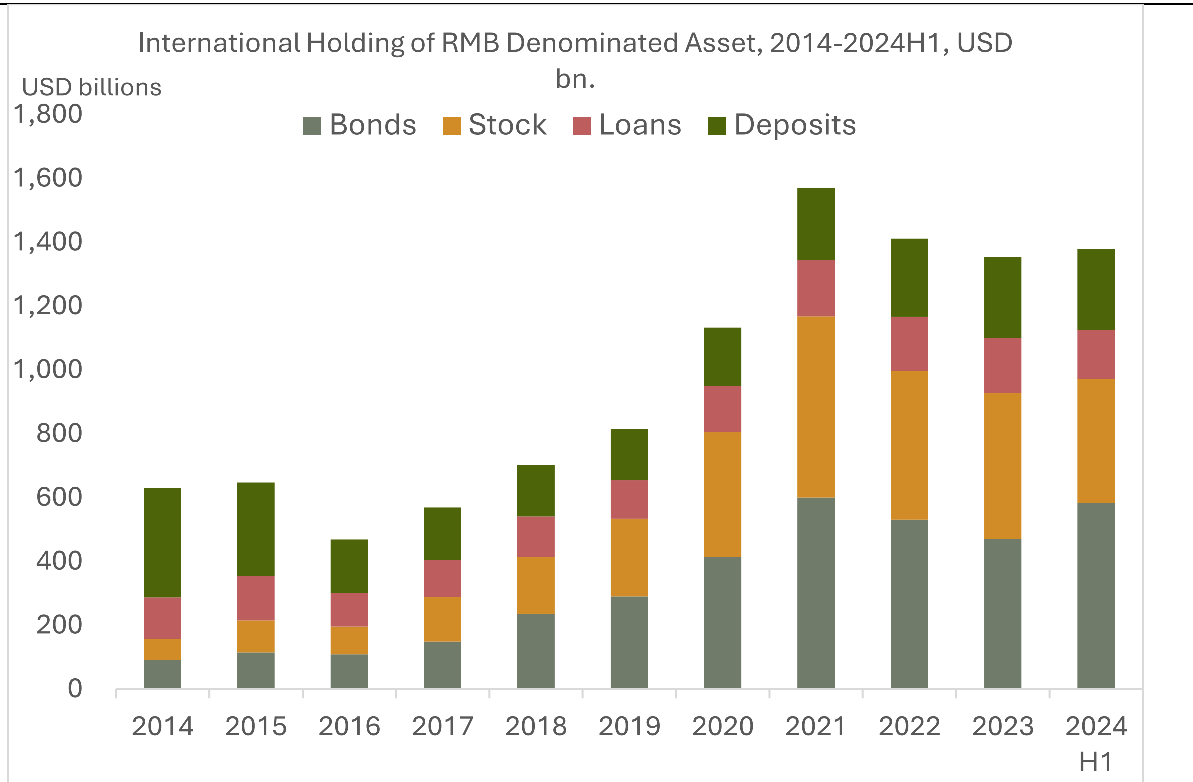
[2] Sources: various financial industry briefing materials and Bahaj, Saleem and Ricardo Reis (2023), *The anatomy of a peg: lessons from China's parallel currencies*, ECB Conference paper. Accessible: https://www.ecb.europa.eu/press/conferences/shared/pdf/20231109_money_markets/Reis_paper.en.pdf

and 56 from Africa (see further in Chapter 2). In October 2024, qualified banks from foreign jurisdictions were also allowed to join CIPS as direct participants (Global Times, 2024).

Foreign interest in RMB assets has been more mixed (Figure 1.3). Holdings, enabled by the QFII scheme in operation since 2001, saw rapid growth until 2015, in part because of the perception at the time that the RMB would continue to appreciate. Turmoil on China's stock market and adjustments in the exchange rate mechanism drove away interest. Growth resumed in 2017, particular in bonds, as, unlike China, most of the advanced economies maintained interest rates close to zero. China's interest rate advantage turned after the COVID-19 pandemic, when the US and Eurozone normalized interest rates. Nevertheless, foreign holdings of RMB assets stabilized rather than disappeared. However, total portfolio investment in China remains modest, at 2.2 percent of the global total, compared to 26 percent for the US, 6 percent for the UK and 4 percent for both Germany and Japan (IMF, 2024).

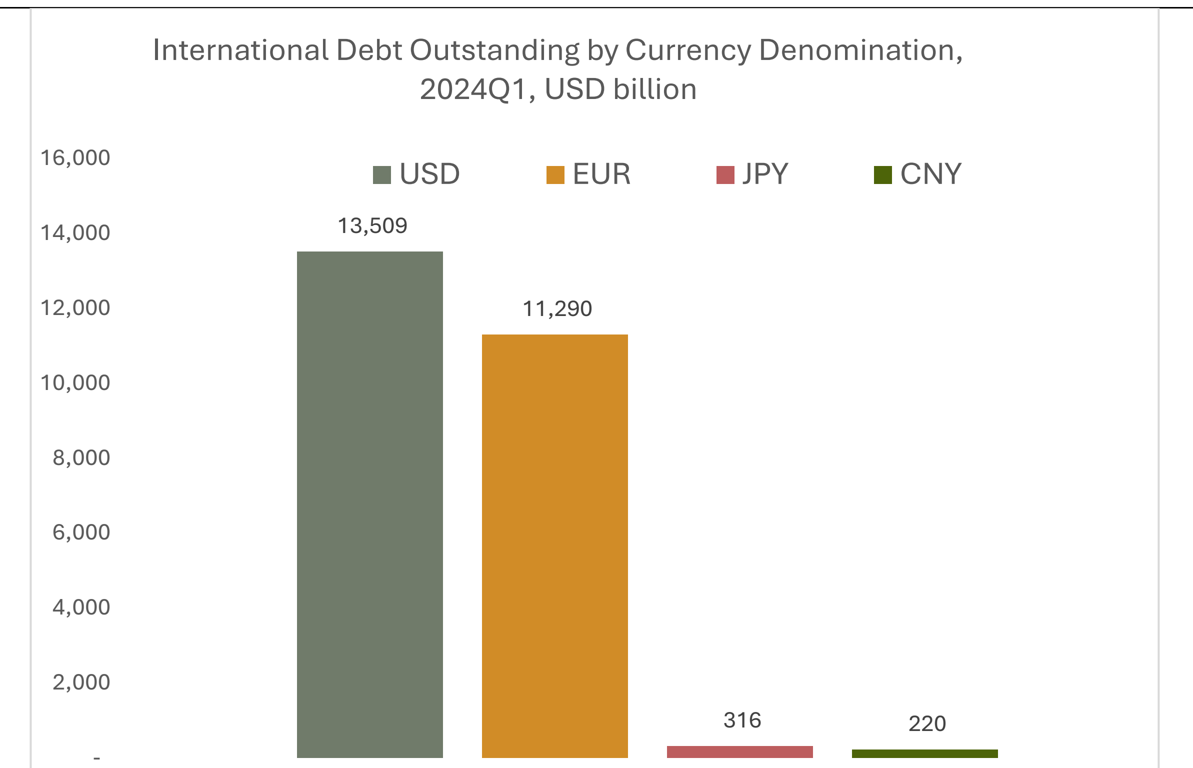
The use of RMB for longer term finance is still modest but has been rising due to favorable interest differentials in recent years. The total stock of outstanding loans denominated in RMB was USD 220 billion according to the BIS. This is less than 2 percent of the amount outstanding in USD, and barely 2 percent of the amount in EUR. Recently, the RMB has gained some momentum as a financing currency due to the US Federal Reserve's (Fed) and European Central Bank's (ECB) rate hike campaign since March 2022, pushing up dollar borrowing costs. Meanwhile, even China's own official finance is usually not denominated in RMB, which, according to one source, is due to reluctance among borrowers to accept RMB denominated loans. According to AidData (2024), in 2021 (the latest data available), less than 10 percent of China's official development assistance (ODA) was denominated in RMB. This is somewhat surprising, as China's Belt and Road Initiative (BRI) would be one vehicle Beijing could use to promote more RMB use. In the case of the Japanese yen, ODA loans ("yen loans") were used to promote the internationalization of the currency.

Figure 1.3: Appetite for RMB assets is growing.



Source: Authors' chart based on PBC data via WIND database. Original Data: http://www.pbc.gov.cn/diaochatongjisi/116219/116319/5225358/5225360/index.html

Figure 1.4: The RMB plays only a small role in international finance.



Source: BIS

1.3 Policy developments

Chinese policy makers' engagement with RMB internationalization has been shaped by three international crises: the Asian Financial Crisis (AFC), the GFC, and Russia's invasion of Ukraine. The AFC made China's leadership reluctant to rapidly open the capital account, whereas the GFC convinced policy makers that the international monetary order needed to be strengthened and that the RMB could play a role in this. Finally, Russia's invasion of Ukraine triggered financial sanctions on the country, which raised the question of China's and other emerging economies' vulnerability to the USD-dominated international financial system. Policymakers attempted to find ways to increase the international use of the RMB, maintaining control over capital movements across borders while maintaining the RMB exchange rate at desirable levels against other major currencies as well as limiting volatility in the value of the currency. Compared to the historical experiences of other currencies, this approach to currency internationalization is unique (Box 1).

Box 2: A brief history of international currencies[3]

Three currencies rose to international status in the 20th century – the US Dollar, the Deutsche Mark (which subsequently formed the core of the euro) and the Japanese yen.[4] The rise of these three as international currencies significantly reduced the role that the British pound sterling had played as the world's dominant international currency until the early 20th century. At the dawn of the 20th century, 60 percent of world trade was invoiced in pound sterling. Nearly two-thirds of the world's foreign currency reserves were denominated in pound sterling – more than twice the total held in Deutsche Mark (D-Mark) and Japanese yen. At that time, the US dollar hardly played a role as a reserve currency or as a unit of account for international trade.

The pound sterling had emerged as the world's dominant trading currency in the 18th century, gradually replacing the Spanish silver dollar and the Dutch guilder. Britain's trade dominance, its growing colonial empire, and the establishment of the Bank of England in 1694, modelled after the Bank of Amsterdam, played a decisive role in establishing this dominance. By the mid-19th century, some 60 percent of world trade was done in sterling (Frenkel, 2011). Part of the success of sterling was its backing by the Bank of England, which maintained liquidity in trade credits through a discount window. By the 1870s, the US had overtaken China as the world's largest economy (the UK never was, although if its colonial possessions were included, it would have been). Between 1913, when the United States established the Federal Reserve in 1918, the US dollar emerged as a major international currency. Crucial steps in the acceptance of the US dollar was the Fed's acceptance of USD-denominated trade credits as discountable material from 1917 onwards (Eichengreen, 2011), which greatly enhanced the liquidity of the USD market, and the establishment of FEDWIRE, the interbank payment system (in 1918), reducing transaction costs in dollar transactions (Eichengreen and Flandreau, 2012). During the First World War, the United States lent large sums to the UK to finance the war, leading to the perception that the US dollar was a good store of value and hence a strong currency. These factors – economic size, deep and liquid financial markets, and role as strong currency, contributed to the US dollar's internationalization.

By the end of the Second World War in 1945, liquid assets held in US dollars were twice that of the pound sterling, the reverse of the situation that had prevailed until shortly before the war. The US dollar was also the only currency still convertible into gold, which made it the de-facto basis for the Bretton Woods system of fixed but adjustable exchange rates that dominated the world until the 1970s. The emergence of the Eurodollar market

[3] Adapted from Srinivas and Chen (2022).

in the 1960s in reaction to US regulation of interest rates further entrenched the USD as the international currency of choice. The transformation of the US dollar into the world's leading international currency was now complete and has largely remained so since. While there are differing opinions on the speed of the US dollar's transformation, estimates range from 10 years to nearly 80 years (Broz, 1999, Schenk, 2010, Lindert, 1969).

The D-Mark's rise began in 1971 after the United States suspended the dollar's convertibility into gold, which ended the Bretton Woods system. Periodic bouts of high inflation in the United States and depreciation over four decades had begun to erode global confidence in the US dollar as a store of value. The share of international reserves held in dollars declined significantly after the late 1970s, with the D-Mark and the yen gaining in share. By contrast, Germany's strong and growing economy and sound economic management contributed to the D-Mark's strength and growing internationalization. By 1989, nearly a fifth of global reserves were held in D-Mark. Subsequently, this share declined as Germany, along with the rest of Europe, focused on the creation of the euro, and Germany also faced slowing economic growth, partly due to the strength of the D-Mark. The share of reserves held in US dollar began to rise again after the Cold War ended in 1991. However, the German authorities and German businesses did not favor the rise of the D-Mark, with concerns for competitiveness and exchange rate volatility overriding the potential benefits.

The Japanese yen also began to take on the role of an international currency after the break-up of the Bretton Woods system in 1973 (Takagi 2011; Frankel 1984). Even though central banks began to hold reserves in yen, as it was seen as a strong currency and its international use gradually increased in the 1980s, not much of global trade was invoiced in yen, nor was much cross-border debt issued in yen. The share of the Japanese yen in international reserves reached a peak of 9 percent in 1991; it declined subsequently as the US dollar regained its primacy. Japan's efforts to liberalize its financial markets in the late 1990s and early 2000s remained an unfinished task. By that time, Japan's real economy had begun its long period of stagnation and the further internationalization of the yen suffered as a result.

After an initial period of indifference, Japanese official policy began to actively promote a greater international role for the yen in the 1990s (Frankel, 2012). Some of the objectives of this shift were similar to what China's objectives are today: to reduce the exchange rate risk for domestic firms and promote Japan as an international financial center. Recognizing the role of a more liberalized financial sector in the internationalization process, the "big-bang" reforms of 1998 were introduced. While these and other efforts continued over the following decade, they remained largely ineffective due chiefly to the "lost decades" in the Japanese economy after the collapse of the stock market and the bursting of real estate bubbles. As the Japanese economy stagnated, so did the international role of the yen.

The gradual internationalization of the RMB has been driven by China's policy development in the past 30 years (Table 1.1). This process is not dissimilar to China's overall "reform and opening up" policies in which they are "feeling the stones to cross the river." China's currency and exchange policies are as of yet still removed from what the standard literature sees as a set of pre-conditions for an international currency: a flexible exchange rate, open capital account, deep financial markets, lender-of-last resort function and rule of law [Eichengreen and Kawai, 2014]. Still, the gradual process of reforms has created China's own path to internationalization, with gradually more conducive exchange rate policies, and a controlled opening up of the capital account for foreign investors via special "channels" for investment that have become wider and more diverse over time.

Arguably, the unification of exchange rates in 1994 laid the basis for internationalization. Before that, China had operated a complex system of multiple exchange rates, including one for exclusive use by foreigners residing in or visiting China. China formally accepted the IMF Article VIII obligations in 1996, which made the RMB convertible for the current account of the balance of payments. The exchange rate itself was pegged to the USD at the time, a system that served the country well at a time when it went through major internal reforms, as well as reforms in the trading system in the run-up to China's WTO entry in 2001. China's capital account was largely closed—with the exception for FDI and for dedicated borrowing channels such as CITIC and GITIC, investment companies, and international financial institutions such as the World Bank and the Asian Development Bank (ADB). The relatively closed capital account served China and the Asia region well during the AFC, when the RMB could avoid the pressures that led to sharp depreciations in other countries. Overexposure to foreign borrowing led GITIC into bankruptcy, however.

China started a gradual process of capital account opening with the establishment of the Qualified Foreign Institutional Investor (QFII) program in 2002. Investors had to be approved by the capital market regulator, the China Securities Regulatory Commission (CSRC) and the foreign exchange regulator, the State Administration of Foreign Exchange (SAFE), and were allowed to invest only up to an approved quota. Over time, this channel grew in terms of number and type of qualified investors, allocated quota, and diversity of instruments in which foreigners could invest, including in onshore RMB products. The RQFII (Renminbi Qualified Foreign Institutional Investor), launched in 2011, added the option of investing offshore RMB in mainland markets. This was then followed by the creation of Stock Connect and similar mechanisms from 2014 onwards (for further details, see Chapter 2).

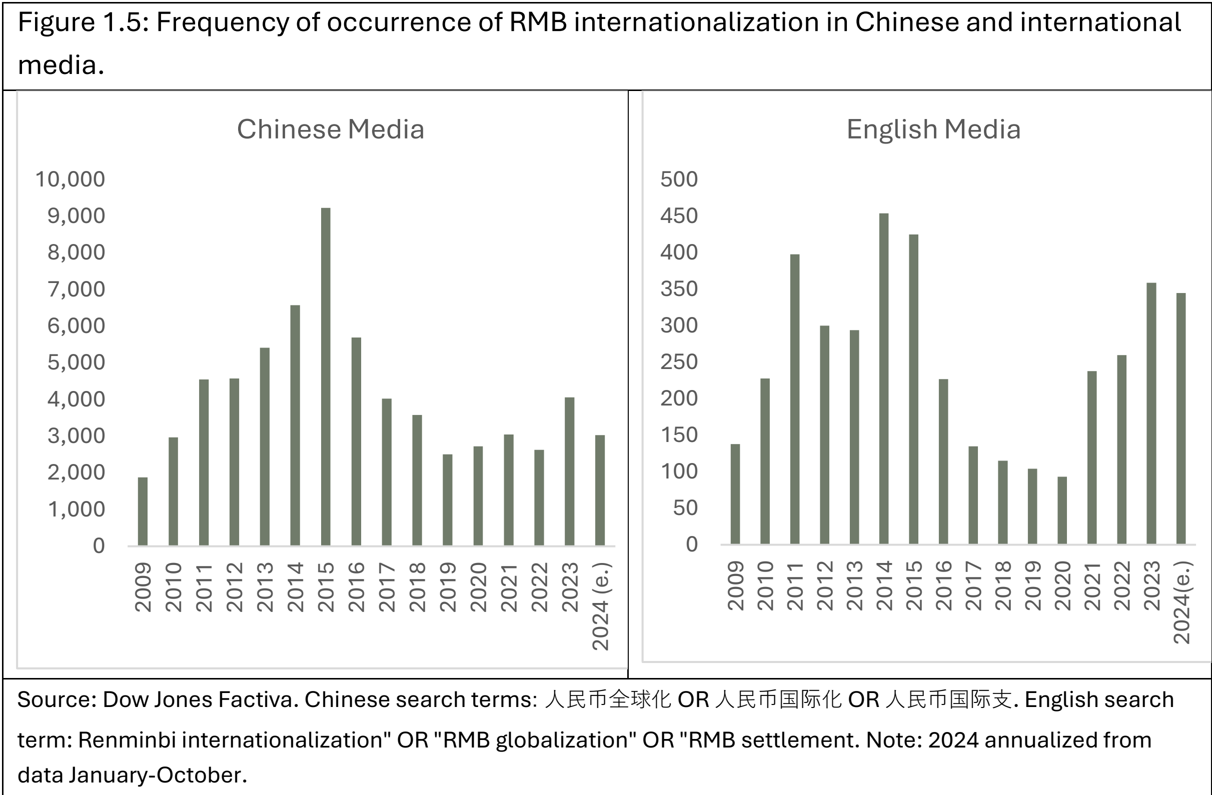
China has made its currency more flexible vis-à-vis others over time. After the exchange rate unification in 1994, China maintained a fixed exchange rate to the dollar for more than a decade (Figure 1.5). Stability of the RMB was seen to be helpful during the AFC at a time when major currencies in the region, including the Hong Kong Dollar, came under intense pressure. However, China's own currency was relatively isolated due to the closed capital account, even though the demise of GITIC, one of the international borrowing windows, caused economic fall-out. After the AFC, China joined the Chiang Mai Initiative (see below), intended to protect regional economies against capital flow volatility.

The growing current account surpluses and large accumulation of foreign exchange after China's entry in the WTO made a change in the exchange rate system inevitable. China announced a move towards a more flexible exchange rate in July 2005. The PBC announced that China was "moving into a managed floating exchange rate regime based on market supply and demand with reference to a basket of currencies" (Das 2019). De facto, the system seemed to have followed a flexible peg to the dollar. The RMB rapidly appreciated in the run-up to the GFC, from 8.1 yuan per USD in July 2005 to 6.9 in July 2008. During the GFC, China kept the exchange rate stable against the dollar until July 2010, after which appreciation resumed, even though the PBC intervened heavily during that period to prevent even faster appreciation. The USD itself appreciated during that period as well, however, and over time markets started to perceive the RMB as overvalued.

Intervention turned from slowing the rise of the RMB to resisting its weakening. On August 11, 2015, the PBC changed the RMB/USD central parity quoting mechanism in an effort to counter the perception of overvaluation. Confusion on the nature of the new mechanism led to further volatility in exchange rate and capital flows and caused a set-back in RMB internationalization.

Internationalization of the RMB as policy objective had come to the forefront in the aftermath of the GFC. During the crisis, China's authorities had become concerned about its USD denominated assets, a concern which it openly expressed in its interactions with the US government (Yu, 2023). At the 2009 London G-20 summit, PBC Governor Zhou Xiaochuan proposed the creation of a new international currency (a "super-sovereign reserve currency") to address the repeated problem of USD scarcity in times of stress on international financial markets (Zhou, 2009). While the Fed countered such stress by providing USD liquidity through currency swaps, these were only offered to a limited number of countries and regions such as the EU, UK, Switzerland and Japan. The PBC proposal was largely ignored (although an additional SDR allocation followed in August 2010). For the PBC, however, the RMB internationalization became an important agenda in order to provide more international liquidity, and to discipline the USD (Yu, 2023). It became also a driving force for domestic financial liberalization and relaxation of capital account regulations, which the PBC saw as desirable.[5] In part these reforms were motivated by creating the conditions for joining the SDR. After Zhou Xiaochuan's London speech in 2009, the topic of RMB internationalization became hotly debated in domestic and international media (Figure 1.5), as well as in the academic literature (see below).

Figure 1.5: Frequency of occurrence of RMB internationalization in Chinese and international media.



Source: Dow Jones Factiva. Chinese search terms: 人民币全球化 OR 人民币国际化 OR 人民币国际支. English search term: Renminbi internationalization" OR "RMB globalization" OR "RMB settlement. Note: 2024 annualized from data January-October.

[5] A Chinese observer noted that this was a personal agenda of the governor, not necessarily supported by the leadership (Beijing Interview 1).

While there was some debate as to whether the RMB actually met the criteria, it became a constituent part of the IMF's SDR in October 2016. This constituted a major step in internationalization. The prevailing requirements for SDR inclusion had been established in 2000. The IMF Board states that the SDR basket is to comprise the currencies of members or monetary unions "whose exports had the largest value over a five-year period, and have been determined by the IMF to be freely usable" (IMF, 2016). According to the IMF, "freely usable," is a currency that "(i) is, in fact, widely used to make payments for international transactions, and (ii) is widely traded in the principal exchange markets”. The RMB received an initial weighting of 10.92 percent in the SDR basket, the third largest after the US dollar and euro, but before the Japanese yen. In 2022, the RMB's share was further increased to 12.28 percent.

Box 3: the role of IMF Special Drawing Rights (SDR)

Special Drawing Rights (SDRs) are an international reserve asset created by the IMF in 1969 to supplement the official foreign exchange reserves of member countries. The value of SDR is determined by a basket of major international currencies, which currently includes the US dollar, euro, Japanese yen, British pound sterling, and – most recently added – the RMB. SDRs are not a currency but can be exchanged among IMF member countries for freely usable currencies to provide liquidity in times of financial distress.
SDR were introduced in response to concerns about the stability of the Bretton Woods system and the reliance on the US dollar as the dominant reserve currency. Initially pegged to gold, its valuation later shifted to a weighted basket of key international currencies. SDR serve as both a unit of account for the IMF and a tool for international monetary cooperation, enabling countries to bolster their reserves and reduce dependency on any single currency.
The RMB's inclusion in the SDR basket marked a significant milestone in China's integration with the global monetary system. It was a recognition of China's growing economic influence and the increasing international use of the RMB. It also signaled confidence in China's financial reforms and commitment to market liberalization. For RMB internationalization, SDR inclusion enhanced its credibility as a global reserve currency, encouraged central banks to hold RMB-denominated assets, and accelerated its acceptance in cross-border trade and investment.

The internationalization of the RMB was included as a policy objective in the 13th Five Year Plan (2016-2020): “We will take systematic steps to realize RMB capital account convertibility, making the RMB more convertible and freely usable, so as to steadily promote RMB internationalization and see RMB capital go global.” Nevertheless, the financial sector turbulence of 2015-2016 meant a setback for the efforts to actually do so; capital flow management was tightened and a stricter link between the RMB and the USD was reinstated.

Russia's invasion of Ukraine sparked renewed interest in RMB internationalization among China's leadership. In response to this development, the topic of RMB internationalization was for the first

time mentioned in the general secretary's report to the 20th National Party Congress (NPC) in November 2022. This was arguably the highest political guideline issued in the People's Republic of China, and signaled a renewed interest in the topic. In his speech at the Party Congress, Xi Jinping argued to "promote the internationalization of the RMB in an orderly way," which probably refers to avoiding the volatility that came with the push for internationalization in the 2010s. The twice-a-decade Central Finance Work Conference in November 2023 (Xinhua 2023) further elaborated on the objective, and placed it within the broader setting of China's "High Quality Development" goal: "Efforts must be made to provide high-quality financial services, expand high-level financial opening up, provide quality services for "go global" strategy and the Belt and Road Initiative, and steadily and cautiously push forward the internalization of RMB." During a study session for the politburo on the financial sector in January 2024, general secretary Xi Jinping called among other things for: "...a strong currency, a strong central bank, strong financial institutions, strong international financial centers..." (Xinhua, 2024). Finally, in July 2024 the third plenum of the Central Committee of the Communist Party, which focused on economic policies, called on the government to "steadily and prudently advance the internationalization of the RMB, and develop the RMB offshore market."

Interest in the international use of the RMB came from outside China as well. The cross-border share of the RMB for trade settlements and financing has risen sharply since 2022, coinciding with Russia's invasion of Ukraine. Russia's increasing use of the RMB to evade US financial sanctions has likely contributed to the rising share of global payment settlements in the Chinese currency. For developing economies, the RMB offers an alternative to the dollar in trade settlements, especially since China has become the largest trading partner for many of them (see Chapter 2). In April 2023, Argentina announced that it will start to transact Chinese imports in RMB and utilize part of its currency swap with China to meet its payment obligations to the International Monetary Fund. Brazil and China reached an agreement in early 2023 to trade in their own currencies, bypassing the need for the US dollar as an intermediary. Further, China and Saudi Arabia in November 2023 signed a three-year currency swap agreement worth RMB 50 billion (USD 7 billion) to boost the use of local currencies in trade and investment (Chan, 2024; see Chapter 2).

The BRICS nations have also expressed an interest in an alternative to the USD-dominated international financial system. The BRICS Cross-Border Payment Initiative (BCPI) was launched in 2018 as a program of research to promote the use of local currencies in international payments. The initiative gained prominence at the 2022 BRICS summit, after Russia's invasion of Ukraine and Russia's subsequent exclusion from the SWIFT system. Not surprisingly, Russia is the strongest supporter of the initiative, but other BRICS members are less supportive. India prefers to focus on the spread of India's own Unified Payments Interface across BRICS nations. China is similarly unsure of the idea and seems to be keen to promote CIPS instead (Freidin, 2024). The separate mBridge project, which aims to bring connectivity between future central bank digital currencies, may be of a different nature, however (see Chapter 2).

The 2024 BRICS summit statement is supportive, although non-committal on BCPI. It noted that: "we welcome the use of local currencies in financial transactions between BRICS countries and their trading partners. We encourage strengthening of correspondent banking networks within

BRICS and enabling settlements in local currencies in line with BCPI, which is voluntary and nonbinding, and look forward to further discussions in this area, including in the BRICS Payment Task Force." (BRICS, 2024). Aside from the mechanics of constructing such a payment system, the governance of such an entity will prove to be challenging:

> "But if the technological problem has been solved, the governance problem remains. Participants would have to agree on who to license as foreign-exchange dealers on the platform, or on the exchange rate at which to execute trades algorithmically. They would have to agree on who was responsible for providing liquidity, and under what conditions. They would have to agree on a dispute-settlement mechanism. They would have to agree on privacy and data-protection laws and practices, and how to guard against cyber threats. They would have to agree on the enforcement of anti-money-laundering rules. They would have to agree on which central banks could join over time. They would have to agree on ownership and voting shares, analogous to ownership and voting shares in SWIFT." (Eichengreen, 2024).

The new president of the United States seems to fear a BRICS currency more than most. During the campaign, as a candidate, Trump had played with the thought of weakening the dollar for competitiveness and re-industrialization. Once elected, however, he threatened the BRICS members with a 100 percent tariff on their exports to the United States if they were to pursue alternatives to the USD (NBC, 2024). Ironically, with his unconventional governance style the president may accelerate de-dollarization, as it has been trust in the institutions of the United States and its commitment to openness and transparency that have been key to the dollar's rise. A more isolated, "America First" could open up a path to a more diversified international system, including in international finance.

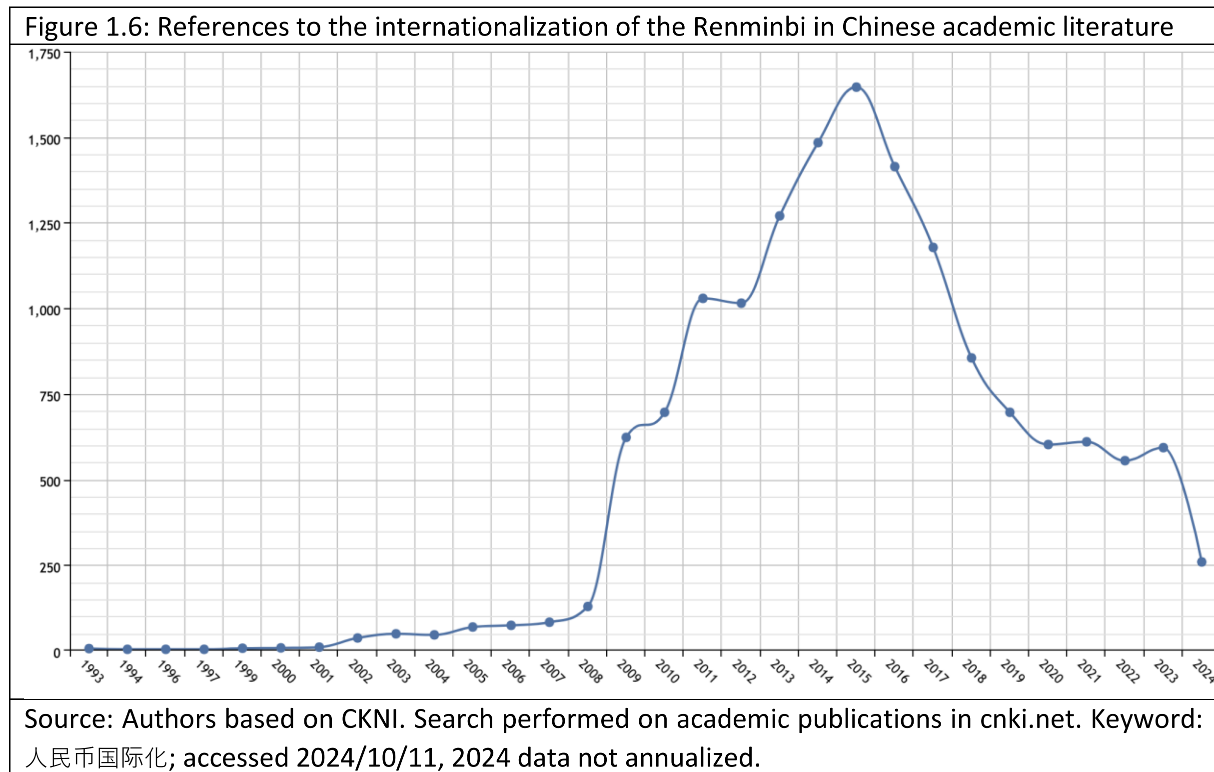
China's policy statements suggest that the topic of internationalization is now a priority for China's leadership. At the same time, a gradual, cautious approach to RMB internationalization while maintaining "stability" remains the preferred objective of China's leadership, barring any sudden changes in the external environment. There is no obvious objective of replacing the USD, let alone the international system with an RMB based system. The objective of providing more liquidity to that system, and to a broader set of countries, remains the same as in 2009. Chinese leaders and officials remain concerned about the dollar, the US indebtedness, and their perception of dysfunctionality in the US governance system, given that they are the largest creditor to the US government, and more than 50% percent of their international reserves is denominated in USD. However, internationalization of the RMB is no solution for this problem: rebalancing China's economy and relying more on domestic demand would be, but that is only indirectly related to the RMB internationalization agenda.

The crucial pre-condition for the internationalization of the RMB is the creation of financial infrastructures that potentially enable its international use. In the next section of this report, we therefore review China's efforts to develop a network of infrastructures to facilitate the RMB's use for payments, investments and funding. Importantly, our findings highlight that the network of financial infrastructures emerging from this process is increasingly geared towards the Global South. This indicates the potential emergence of a parallel RMB bloc to exist alongside the global USD system.

1.4 The Chinese academic debate on RMB internationalization

Although some publications discussed internationalization of the RMB before Zhou Xiaochuan's London G-20 speech, the literature took off in earnest in **2009** (Figure 1.6). Useful overviews of the debate among Chinese academics can be found in Gao (2023), Prakoso et al. (2019), and Bachulska et al. (2024), three publications on which this section in part relies.

Figure 1.6: References to the internationalization of the Renminbi in Chinese academic literature



Source: Authors based on CKNI. Search performed on academic publications in cnki.net. Keyword: 人民币国际化; accessed 2024/10/11, 2024 data not annualized.

Overall, most Chinese scholars view RMB internationalization as an important long-term goal, but analysts differ widely on motivation, speed, and method of internationalization. On China's motivations for internationalizing the RMB, one strand of the literature emphasizes China's aims to change the position of the US dollar and increase the RMB's relative status. A second strand of the literature emphasizes the benefits from trade and finance in one's own currency (Gao, 2018). A third strand emphasizes improvements of the global monetary order as primary goal. The view is that RMB internationalization can benefit China by: a reduced dependence on the US dollar, more economic policy autonomy and consequently more economic stability; and larger international economic influence. In more recent discussions, the issue of national security and vulnerability to sanctions has become more prominent. Some see the RMB eventually challenging dollar dominance, while others argue that the RMB is unlikely to replace the dollar but may become a secondary reserve currency (Prakoso et al., 2019).

While most academics see some kind of benefit in internationalization of the RMB, they also recognize the costs and risks of internationalization (Zhang and Tao, 2015; Chen et al., 2007). The debate highlights several challenges facing RMB internationalization: capital controls, financial market development, and global acceptance of the RMB. Consequently, there are wide differences of opinion on the speed and method of internationalization. The more orthodox view is that it would take full convertibility of the Renminbi on current and capital accounts, a developed domestic financial market, and a stable political regime with rule of law as a basis (Gao and Yu, 2010; Zhang, 2024). This would predominantly require domestic reforms and a gradual, market-based acceptance of the RMB (Yu Yongding). Others consider a more rapid internationalization to be feasible through a more aggressive

pursuit of international use of the RMB in China's trade, international finance, and international policy engagement (see, e.g. Zhang Falin 2019 and 2022).

Chinese academics have debated the best approach to pursuing RMB internationalization. Some argue that a regional approach, e.g. via the Belt and Road Initiative, the Chiang Mai arrangement or greater use of the RMB within ASEAN and other trade arrangements (Xu, 2022; Gao, 2022), could be an avenue for internationalization. Others see a more global approach as viable, in particular through the use of the RMB in China's overseas financing (Zhang, 2024).

More recent debates focus on the risks emanating from dollar dominance and how China can protect itself against sanctions in the dollar system, or the 'weaponization" of the dollar (Xiong and Zhao 2022; Zhang 2022; Yu, 2022). This line of thought centers on a "safety net" for financial resilience. Others see the sanctions on Russia as an opportunity. Zhang and Wang (2022) state: "*China should take effective measures to turn crisis into opportunity and boost RMB's international status on the basis of stable economic growth and sustainable financial development.*"

Table 1.1: Major steps in RMB internationalization, 1994-2024.

Time	Event name
1994/08	PBC unifies multiple currency exchange rates, abolishes foreign exchange certificate
1996/12	China accepts the obligations of IMF Article VIII (current account convertibility)
2000/05	Chiang Mai Initiative established committing members to provide liquidity support to each other. Members are: China, Japan, Korea, and the ASEAN countries
2002/11	CSRC, PBC and SAFE launch QFII scheme, allowing international institutional investors to invest in Chinese stock and bond market
2003/12	Bank of China (Hong Kong) appointed by PBC as the first overseas RMB clearing bank
2005/07	China replaces peg to the USD with a managed float exchange rate system with reference to a basket of currencies
2005/09	International Finance Corporation and ADB issue first panda bond
2006/12	CSRC launches QDII scheme, allowing domestic institutional investors to invest in overseas stock market
2007/07	The first Dim Sum Bond issued by China Development Bank
2008/12	China signs its first bilateral swap agreement with the Republic of Korea
2009/03	PBC Governor Zhou Xiaochuan proposes reform of international monetary system at London G20 summit
2009/07	State Council approves pilot operation of RMB cross-border settlement
2010/03	Multilateralization of the Chiang Mai Initiative, CMIM
2010/08	PBC initiates a pilot program for select overseas participants to invest in China Interbank Bond Market (CIBM)
2010/08	CFETS launches direct currency pair trading between the RMB and other currencies
2011/03	12th Five Year Plan includes plan to “push forward” RMB convertibility on the capital account and “support Hong Kong development to the off-shore RMB business center”
2011/08	CSRC, PBC and SAFE launch RQFII scheme, allowing international institutional investors to invest in Chinese stock and bond market using offshore RMB
2012/01	PBC extends cross-border RMB payment system to all of China and trading partners worldwide, allowing the use of RMB for all types of current account transactions
2012/06	State Council expands RMB cross-border settlement to all regions and all scenarios
2012/09	HKEx launches USD/CNH futures in 2012 as the world’s first deliverable RMB currency futures product quoted, margined, and settled in RMB

2014/11	CSRC launches SH-HK Stock connect, allowing Shanghai and Hong Kong investors mutual access to these stock markets
2015/10	CIPS starts operation of a dedicated system for RMB cross-border payment with built-in messaging function (Phase 1)
2015/08	PBC reforms exchange rate regime from crawling peg to the USD to a managed float around a basket of currencies; the confusion surrounding the announcement triggers financial market volatility and slows RMB internationalization
2016/03	Internationalization of the RMB included in the 13th Five Year Plan
2016/02	PBC launches CIBM Direct, allowing investments directly through banks holding a Bond Settlement Agent license in mainland China
2016/08	Stock Connect aggregate quotas are abolished, removing an important hurdle for allowing large investment flows into China's stock market
2016/10	IMF includes RMB in SDR basket, increasing global recognition of RMB as reserve asset
2016/12	CSRC launches SZ-HK Stock connect, allowing Shenzhen and Hong Kong investors mutual access to these stock markets
2017/05	PBC adds "anti-cyclical factor" to exchange rate mechanism
2017/07	PBC launches Bond connect, allowing mainland and Hong Kong investors mutual access to bond markets
2018/03	Shanghai International Energy Exchange (INE) launches RMB denominated crude oil futures
2018/05	CIPS starts to include financial market transactions alongside trade and FDI (Phase 2)
2018/05	China A shares included in the MSCI Emerging Markets
2019/09	SAFE lifts quota and residence restriction on QFII and RQFII fund investment
2020/06	Quota of QFII and RFII abolished
2020/11	QFII and RQFII schemes merge
2021/02	The multi-CBDC platform mBridge is jointly initiated by the central banks of Thailand, Hong Kong, UAE and China as well as the BIS Innovation Hub
2021/03	PBC launches pilot cash pooling program, integrating domestic and foreign currency management for multinational corporations in Beijing and Shenzhen
2021/03	Internationalization of the Renminbi included in the 14th Five Year Plan
2021/09	The Greater Bay Area Wealth Management Connect is launched
2021/12	PBC and SAFE issue announcement to support innovative offshore trading development
2022/06	BIS launches RMB Liquidity Arrangement (RMBLA)
2022/06	Stock Connect expanded to include ETFs
2022/11	20th Party Congress of the Communist Party of China calls for "steadily and prudently promoting the internationalization of the RMB"

2023/03	Shanghai Petroleum and Natural Gas Exchange completes its first RMB-settled trade for Liquid Natural Gas (LNG)
2023/05	The Connect scheme is expanded to include Interest Rate Swaps
2023/06	HKEX launches HKD-CNY dual counter service for HK-listed stock, allowing direct RMB denominated stock purchase in Hong Kong stock exchange
2023/11	Central Financial Work Conference mentions RMB internationalization as part of the overall goal of "High Quality Development"
2024/06	Saudi Arabia joined the mBridge project
2024/10	People's Bank of China announces banks incorporated abroad can become direct member of CIPS, with HSBC and Standard Chartered joining as its first non-Mainland direct members

Source: Various newspaper articles, web publications, official documents compiled by author; Srinivas and Chen, 2022.

2. Chapter 2: An infrastructure perspective on RMB internationalisation

In this report, we offer a novel perspective on RMB internationalization by shifting the focus to financial infrastructures. RMB internationalization is usually analyzed by looking at the currencies' *actual* international use. We argue that it makes sense to add an infrastructural perspective that also focuses on its *potential* use. To achieve a larger international role for the RMB, financial infrastructures need to be in place that create the conditions that allow for a potential rapid acceleration of the RMB's use internationally. We therefore focus on China's deliberate construction of infrastructures to that end.

Financial infrastructures refer to the systems, institutions, and frameworks that facilitate financial activities, including payment systems, securities settlement platforms, foreign exchange mechanisms, and banking networks. A key feature of infrastructures is that they create connectivity – establishing linkages between different places and entities (Bowker & Star, 1999), thereby enabling specific financial transactions to take place. They are crucial in ensuring the efficiency, reliability, and security of financial transactions, both domestically and internationally. Robust financial infrastructures reduce transaction costs, enhance liquidity, and facilitate the movement of capital. They serve as the backbone for financial markets and their international integration by providing the technical and institutional support needed for cross-border trade, investment and funding activities (Bernards & Campbell-Verduyn, 2019).

Financial infrastructures are essential to enabling RMB internationalization. Reliable and accessible financial infrastructures, such as offshore RMB clearing hubs, currency swap agreements, and capital market access are essential to making the RMB attractive for international users. These mechanisms reduce the operational complexities and risks associated with RMB transactions and build confidence among foreign businesses, financial institutions and central banks. Without these mechanisms, the adoption of RMB for cross-border purposes would face significant technical and institutional barriers. By enabling smooth settlement and providing liquidity, financial infrastructures not only support the practical use of the currency but also help position it as a credible alternative to dominant global currencies. Therefore, enhancing financial infrastructures is a critical step in advancing the RMB's global adoption and fostering its role as an international currency.

China's construction of financial infrastructures for RMB internationalization does not occur in isolation but is embedded in a broader network of political and economic actors. Financial infrastructures are inherently the product of coordination among multiple stakeholders, including governments, infrastructure providers and market participants who facilitate their operation and expansion. Hong Kong plays a crucial role in this process as the primary offshore RMB hub and a key gateway to the mainland financial system. The city hosts the largest offshore RMB liquidity pool and serves as the main clearing center for RMB transactions, ensuring seamless cross-border settlement and reducing friction in RMB-denominated trade and investment. Beyond Hong Kong, especially European financial centers such as London and Luxembourg have also contributed to the internationalization of the RMB, albeit to a lesser

extent.[6] More recently, as will be shown below, these infrastructures are increasingly geared towards Chinese trading partners in the Global South. However, while international collaboration is necessary, China remains the decisive actor in shaping these infrastructures. The ultimate design, expansion and regulation of RMB-related financial infrastructures rest with Chinese authorities, who strategically manage their development to align with national policy objectives. This ensures that while the RMB gains international traction, its global use remains subject to China's broader financial and economic priorities.

Designing financial infrastructures in particular ways allows China to engage in a limited capital account opening while preserving the distinctive characteristics of its financial system. While characterized by an increasing array of market-based coordination mechanisms, the authorities engage in a 'pragmatic use' of markets, attempting to manage the financial system and steer it towards specific policy objectives. This process was also characterized by significant degrees of policy experimentation, as an important feature of Chinese policy making. Financial markets in China are thus informed by a very different institutional structure and consequently function very differently from their global counterparts (Petry, 2021). A managed capital account has been an important feature thereof.

The deliberate design of financial infrastructures supports RMB internationalization in a manner that aligns with China's economic priorities while maintaining control over the capital account. Rather than completely opening its capital account as many international observers suggest, these financial infrastructures are structured in a way that enable a controlled opening. This approach provides pathways for the international use of the RMB while ensuring that cross-border financial activities remain under China's regulatory oversight (McNally & Gruin, 2017). This way, China can attract foreign participation in its markets while mitigating risks such as excessive volatility, speculative flows or loss of control over domestic monetary policy.

China has consequently engaged in unconventional capital account opening. According to conventional measures (like the Shinn-Ito Financial Openness Index), China's capital account seems very closed. However, we can observe the gradual construction of financial infrastructures that enable a degree of RMB internationalization while maintaining state control. There are of course cyclical developments – like the 2015-2016 currency devaluation that dampened RMB internationalization or the 2022-2024 uptick in RMB usage following US sanctions on Russia – that influence the currencies' actual usage. But as the following sections demonstrate, China has continued to develop a multi-pronged network of financial infrastructures that have further enabled the RMB's *potential* use for payments (section 2.1), investments (section 2.2) and funding (section 2.3).

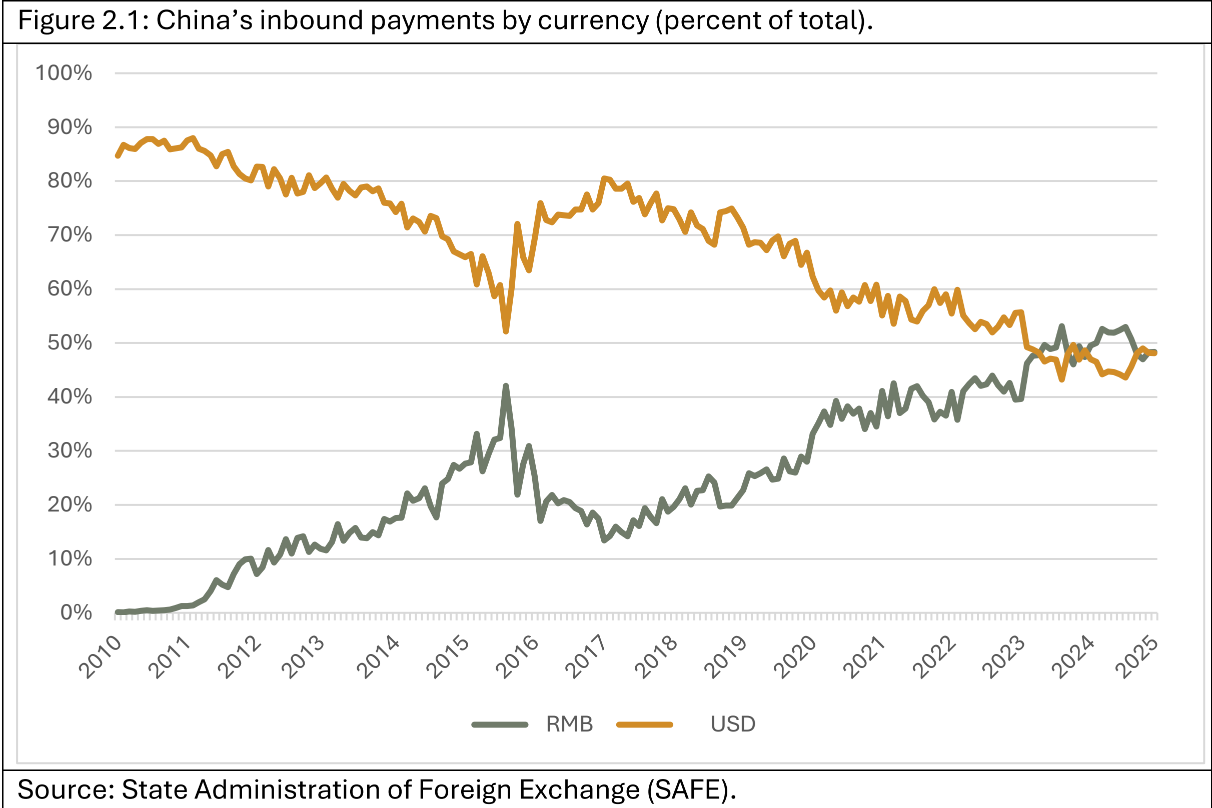
[6] London has developed an active offshore RMB market, offering RMB-denominated financial products and serving as a trading hub for RMB foreign exchange transactions, while Luxembourg has positioned itself as a leading center for RMB-denominated investment funds and bond issuance.

2.1 Payments

This section focuses on the infrastructures that enable the RMB's international use as a trading currency. Payment systems are central here because they enable cross-border transactions and settlements in RMB, supporting its use in global trade. Investigating these payment infrastructures illustrates how China is enabling the RMB to be used more widely as a medium of exchange, as an essential function of a trading currency.

Chinese authorities have been actively encouraging the offshore use of RMB to break the dominance of the USD as the de facto currency of global trade. This was especially important after China had become the world's largest exporter. Whereas in 2001, over 80 percent of countries had a larger volume of trade with the US than China, by 2018 that figure was down to approximately 30 percent. By that time, 128 out of 190 countries traded more with China than the US, with 90 countries trading more than twice as much with China (Rajah & Leng 2019). By 2023, China was the largest trading partner for 120 countries globally (Wilson Center 2023). Nevertheless, global trade is largely denominated in USD.

Figure 2.1: China's inbound payments by currency (percent of total).



Source: State Administration of Foreign Exchange (SAFE).

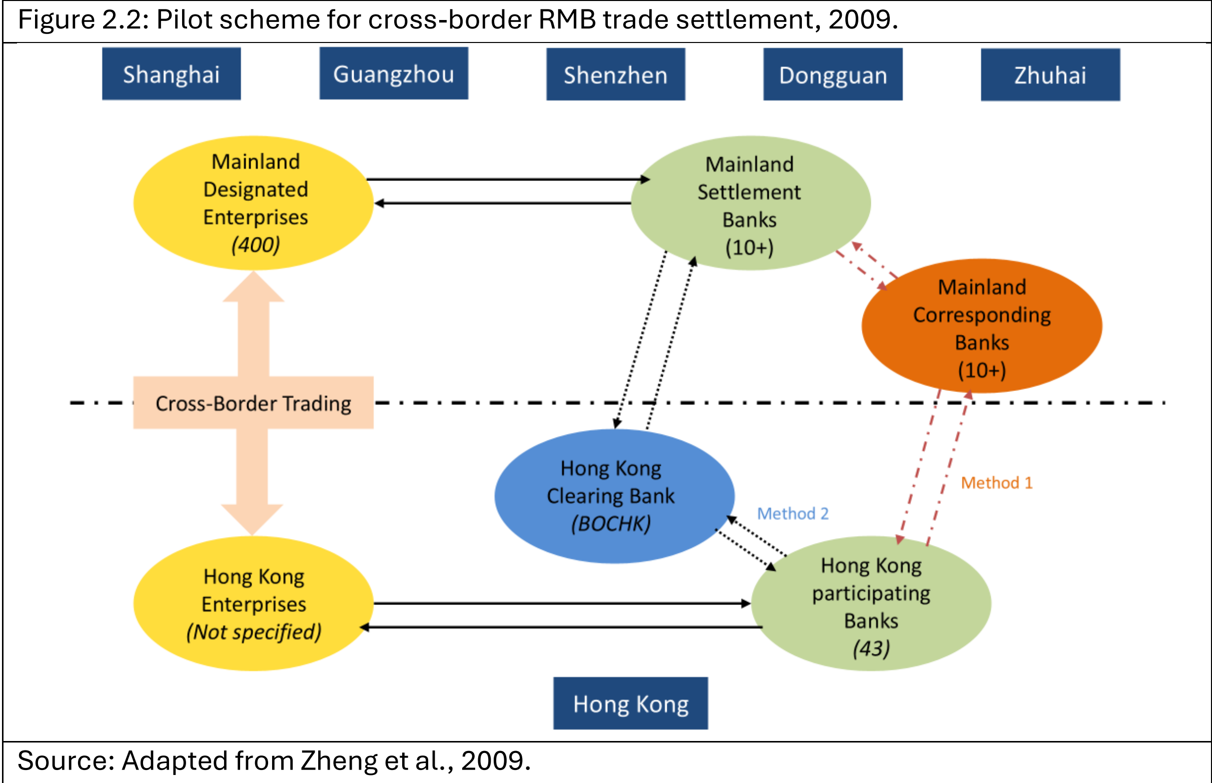
After the GFC, China started to gradually enable the use of the RMB as a trade settlement currency. While non-existent in 2010, by July 2024 the RMB accounted for 45-50 percent of China's cross-border trade settlement (Figure 2.1). Meanwhile, the USD share of Chinese trade settlement halved from almost 90 percent to 45-50 percent. During the same period, China's share of global payments increased from 0 percent to 4.3 percent (April 2024). This shift was enabled through a series of financial infrastructures that have gradually been established by Chinese authorities, most prominently the PBC.

2.1.1 Cross-border RMB trade settlement

In July 2009, Chinese authorities set out a framework for a pilot project that would enable the use of RMB for cross-border trade settlement.[7] Until then, the RMB could not be used for payments outside of China. Under this scheme (Figure 2.2), companies that had received a Mainland Designated Enterprises (MDE) status in select cities (Shanghai, Guangzhou, Shenzhen, Dongguan and Zhuhai) were able to use RMB as the transaction currency when trading with designated non-Mainland enterprises in Hong Kong, Macau and ASEAN member countries.

The aim of this scheme was to test the feasibility of the RMB as a trading currency. This was done by enabling: deposit-taking (i.e. handling RMB receipts, payments), currency exchange, remittances, trade finance and cheques (between same-name accounts).[8] At the start, all of these had to be related to actual trade transactions (HKMA 2009). But after it was deemed successful and not destabilizing with respect to China's grip on domestic monetary policy, by 2012 the scheme was expanded to all of China and to trading partners worldwide, was opened for all current account transactions, and MDE eligibility requirements were waived.[9]

Figure 2.2: Pilot scheme for cross-border RMB trade settlement, 2009.



Source: Adapted from Zheng et al., 2009.

The operation of the Pilot Scheme necessitated the provision of RMB services by commercial banks in both Mainland China and Hong Kong. Corresponding banks in Mainland China had been allowed to provide MDEs with services relating to RMB trade settlement. This qualification was

[7] PBC "Administrative Rules for the Pilot Scheme for Settlement of Cross-border Trade in Renminbi"

[8] In 2004, RMB services of deposits, remittances, currency exchange and credit cards were introduced to Hong Kong, followed by the introduction of RMB cheques in 2005 and the issuance of RMB bonds by mainland banks in 2007 (Zheng et al. 2009).

[9] PBC et al., *Notification with Regard to Further Expansion of Pilot Program of Renminbi Settlement of Cross-Border Trade Transactions*, Circular *Yinfa* [2011] Number 203, August 2011.

PBC et al., *Notification with Regard to the Management of Pilot Enterprises Eligible for Renminbi Mainland Export Trade*, Circular *Yinfa* [2012] Number 23, March 2012.

initially granted to ten domestic Chinese banks and three Mainland-incorporated foreign banks (HSBC, Standard Chartered and Bank of East Asia). Foreign banks participating in the Pilot Scheme (non-Mainland participating banks) could provide RMB services to enterprises that chose to settle trade transactions in RMB with MDEs (Zheng et al., 2009). However, the correspondent bank model was less convenient because it had to accommodate diverse regulatory environments, causing slower transaction times, higher costs, and more complexity in managing cross-border RMB settlements.

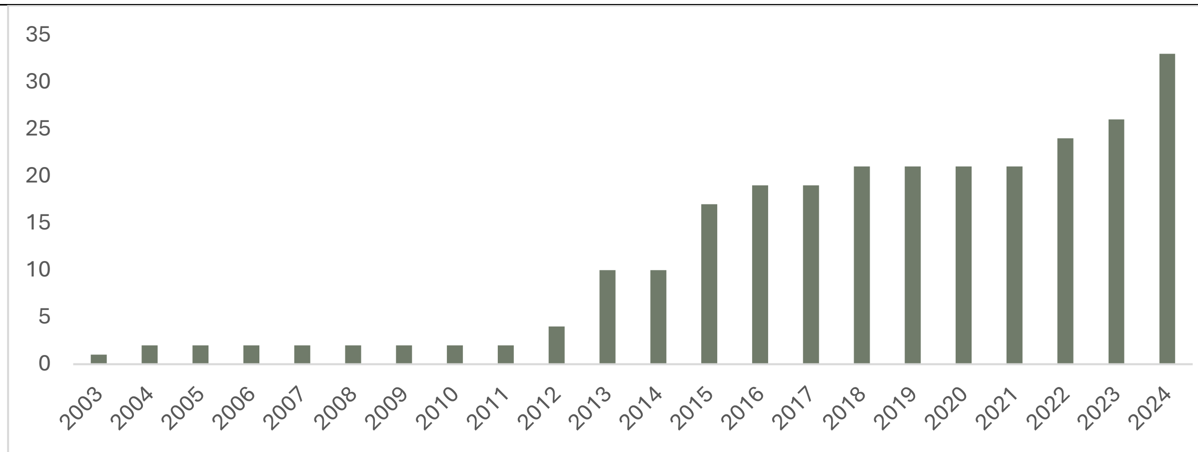
2.1.2 Offshore clearing banks

The establishment of clearing banks was a second important step in bolstering the financial infrastructure for cross-border RMB payments. At the start of the pilot scheme, Bank of China (Hong Kong) acted as the sole RMB clearing bank. Moreover, when using a clearing bank, participating Hong Kong banks were allowed to conduct RMB interbank transactions with banks in ASEAN member countries and Macau that were eligible for conducting cross-border RMB trade settlement. The clearing bank model was much more convenient since these banks had accounts directly within the PBC's payment and settlement systems, enabling faster transactions and reduced costs by eliminating the need for intermediaries. With the establishment of offshore clearing banks, overseas financial institutions could settle RMB directly with the local clearing bank. They operated in the same time zone, often using the same language and legal framework, which greatly simplified RMB transactions. Moreover, clearing banks over time also facilitated the development of the offshore RMB market by enabling the accumulation of RMB liquidity (Perez-Saiz & Zhang 2023). Next to improving liquidity, this direct connection simplified regulatory compliance, making cross-border RMB settlements smoother and more efficient, avoiding delays and added fees that were typical in correspondent banking. The RMB clearing bank model thus became the primary model to facilitate overseas RMB payments.

In December 2003, the first offshore RMB clearing bank was established in Hong Kong as part of the PBC's experimentation with establishing an offshore RMB capital market.[10] With the push towards currency internationalization after the GFC, the number of offshore clearing banks then increased dramatically. While designated clearing banks were at first only foreign branches of Chinese banks, since 2018 the PBC also started to grant RMB clearing licenses to foreign banks like JP Morgan (New York) and MUFG Bank (Tokyo). As of November 2024, China has established offshore clearing banks in 33 economies, covering the world's major time zones (Figures 2.3 and 2.4).

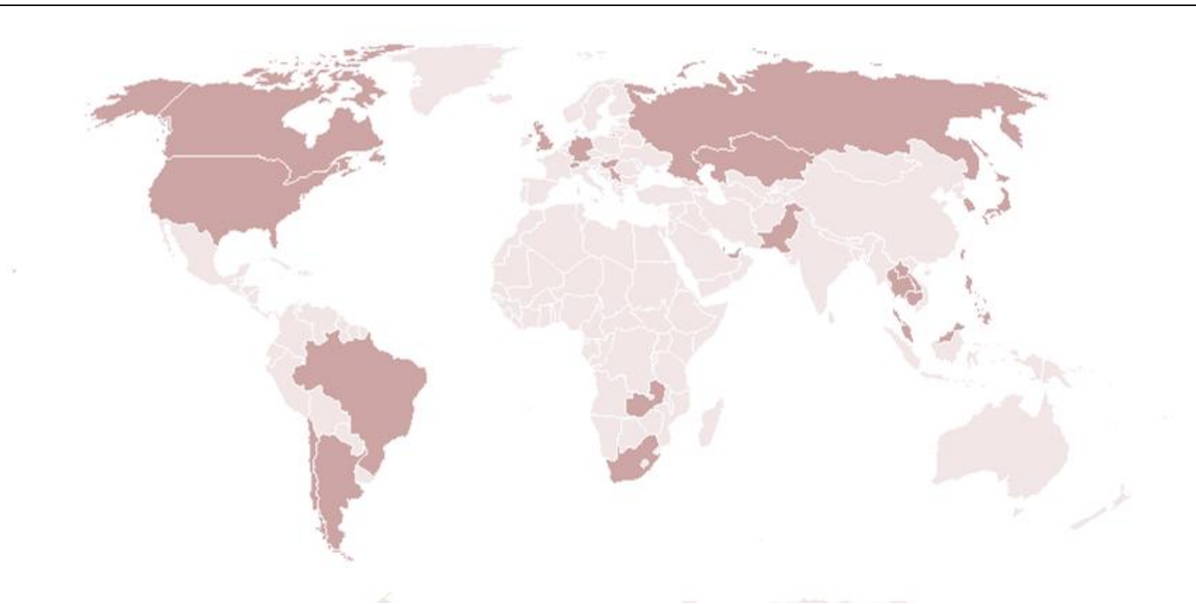
[10] Limited RMB circulation was permitted in Hong Kong at the time, with a 100 percent required reserve ratio on deposits; this made credit creation impossible as Bank of China Hong Kong (the RMB clearing bank) had to transfer all reserves back to the PBC.

Figure 2.3: Number of overseas RMB clearing centers, 2003-2024.



Source: authors' figure, based on PBC reports.

Figure 2.4: Countries with RMB clearing banks, December 2024.



Source: authors' figure, based on PBC reports.

The establishment of overseas RMB clearing centers served as an important financial infrastructure supporting the RMB's role in cross-border payments. By creating a network of designated banks in major trading hubs, China established platforms for efficient RMB transactions, enhancing the currency's accessibility and reliability for international trade. Clearing banks ensured smooth transaction processing, liquidity provision, and compliance with Chinese regulatory standards. RMB clearing banks thereby provide correspondent accounts to local banks, to facilitate their—and their clients'—inclusion in the RMB payment network, serving as a first step for corporate clients to start accepting and making RMB payments (Zucker-Marques, 2025). As a recent IMF Working Paper highlights, the establishment of RMB clearing banks has been crucial in facilitating an increase in RMB-denominated trade in the respective countries (Perez-Saiz & Zhang 2023). With the clearing bank model, companies trading with China

or other RMB-using markets can transact in RMB directly and reduce their dependence on other currencies like the USD, thus consolidating the RMB's position as a viable payment alternative.

At the same time, this system enables a degree of continued Chinese control over the offshore RMB market. RMB clearing banks operate under PBC guidelines, in theory giving the PBC the ability to set limits on transaction types and volumes. This approach allows China to expand the currency's international reach while maintaining oversight and mitigating risks tied to full capital account liberalization. Whereas in 2017, RMB clearing banks cleared RMB 285.6 billion, by 2022 that figure had increased to RMB 504.3 billion.

The clearing bank model had proven much more suitable for facilitating RMB transactions than the correspondent bank model. However, regulatory hurdles still persisted. To mitigate the frictions in RMB cross-border payments, the PBC started working towards a more accessible infrastructure to facilitate RMB payments internationally.

2.1.3 Cross-Border International Payment System (CIPS)

CIPS was established in 2015 as another key infrastructure to support the internationalization of the RMB as a currency for global payments. With China's increasing integration and growing clout in the global economy, CIPS was designed to streamline and enhance cross-border payments. It allowed global banks to clear cross-border RMB transactions directly onshore, instead of through clearing banks in offshore RMB hubs. CIPS thus enabled smoother, faster, and more secure RMB payments by providing a direct, centralized platform for clearing and settling cross-border RMB transactions.[11]

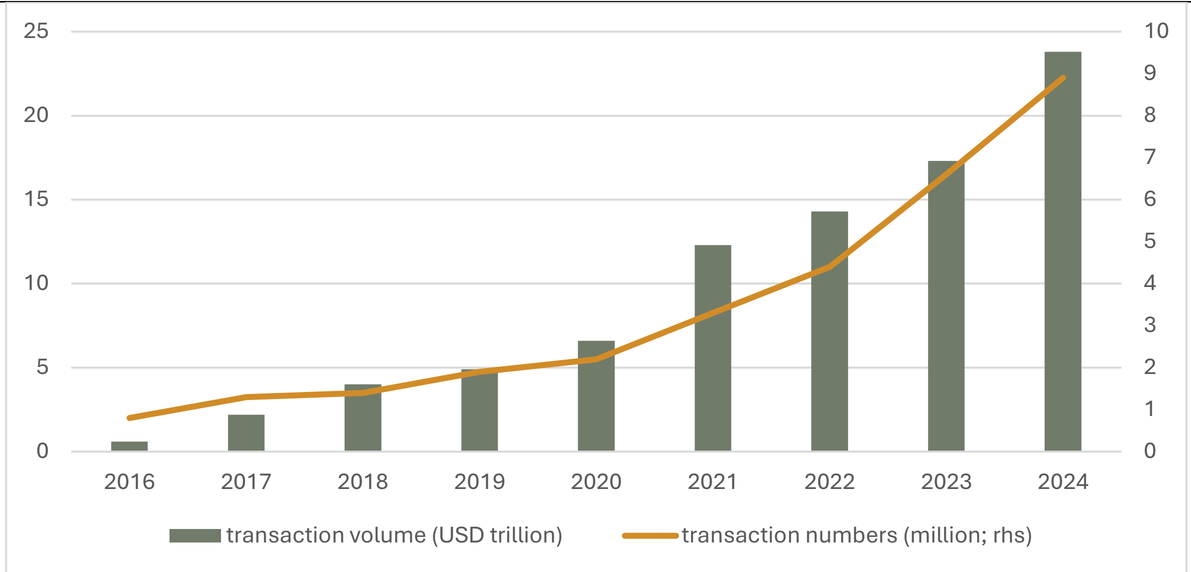
In contrast to offshore clearing banks, CIPS is open to all foreign financial institutions regardless of jurisdictions, and participants can gain direct access to China's domestic RMB settlement system.[12] CIPS was subsequently developed in two stages. In October 2015, phase 1 was launched with 19 direct participants and 176 indirect participants from 50 countries During this phase, the basic infrastructure was established and experimented with. In 2016, for instance, Bank of China (Hong Kong) was linked to CIPS as a direct participant, becoming the first overseas direct participant. In Phase 2, the system saw further enhancements and an expansion in its operational scope as CIPS started to include financial market transactions alongside trade and FDI, allowed more overseas direct participants, and significantly extended its operating time.[13]

[11] Based in Shanghai, CIPS uses the established SWIFT standards and is organized as a cooperative like SWIFT (with a total of 36 shareholders). The PBC is its largest shareholder with 16 percent ownership. Alongside Chinese banks and financial institutions, foreign banks like HSBC, Standard Chartered, the Bank of East Asia, DBS Bank, Citi, ANZ Bank and BNP Paribas are among its shareholders.

[12] In practical terms, CIPS streamlines payment messages and clearing of its affiliated banks, thus helping to mitigate frictions (Perez-Saiz & Zhang 2023). CIPS operates with the internationally accepted ISO20022 message standard that is compatible with English and Chinese. Although the CIPS system is not dependent on SWIFT's services and CIPS accepts participants that do not have a SWIFT code, the CIPS message standard is convertible to the SWIFT message standard (Zucker-Marques, 2025).

[13] While previously CIPS operated for 12h on weekdays, it now operates 24h plus 4 hours before/after weekends.

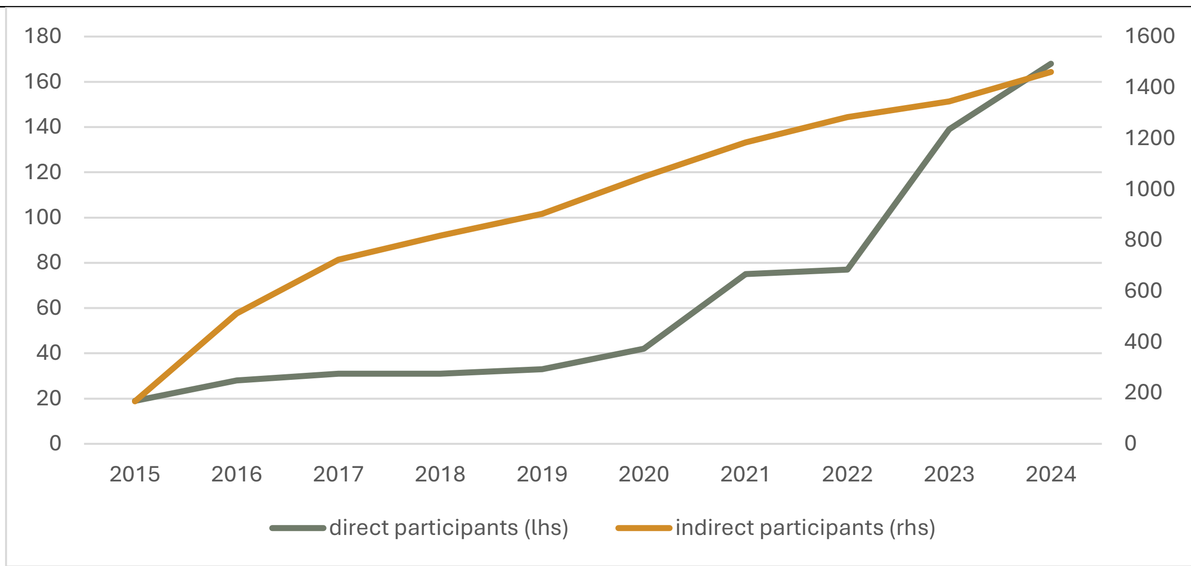
Figure 2.5: Annual CIPS transactions, 2016-2024.



Source: authors' figure, based on PBC and CIPS reports.

Since its inception, CIPS has experienced rapid growth (Figures 2.5 and 2.6). By November 2024, CIPS had conducted 8.9 million transactions worth USD 23.1 trillion performed by 168 direct participants and 1461 Indirect Participants. Thereof, 62 percent of participants were from outside China, mostly Asia (34.0 percent) and Europe (17.2 percent; Figure 2.7). Direct participants include most offshore clearing banks, the Chinese subsidiaries of many Western banks (Deutsche Bank, Citi, BNP Paribas, ANZ, MUFG, JP Morgan) and two foreign-owned banks – Hong Kong-based Standard Chartered (2022) and HSBC (2024).[14] CIPS participants are located in 117 countries across the world, with business covering more than 4,700 banking institutions. In 2024 alone, 29 new direct and 169 new indirect participants joined CIPS, 76 percent and 94 percent of which are overseas banks, respectively (Tang, 2025).

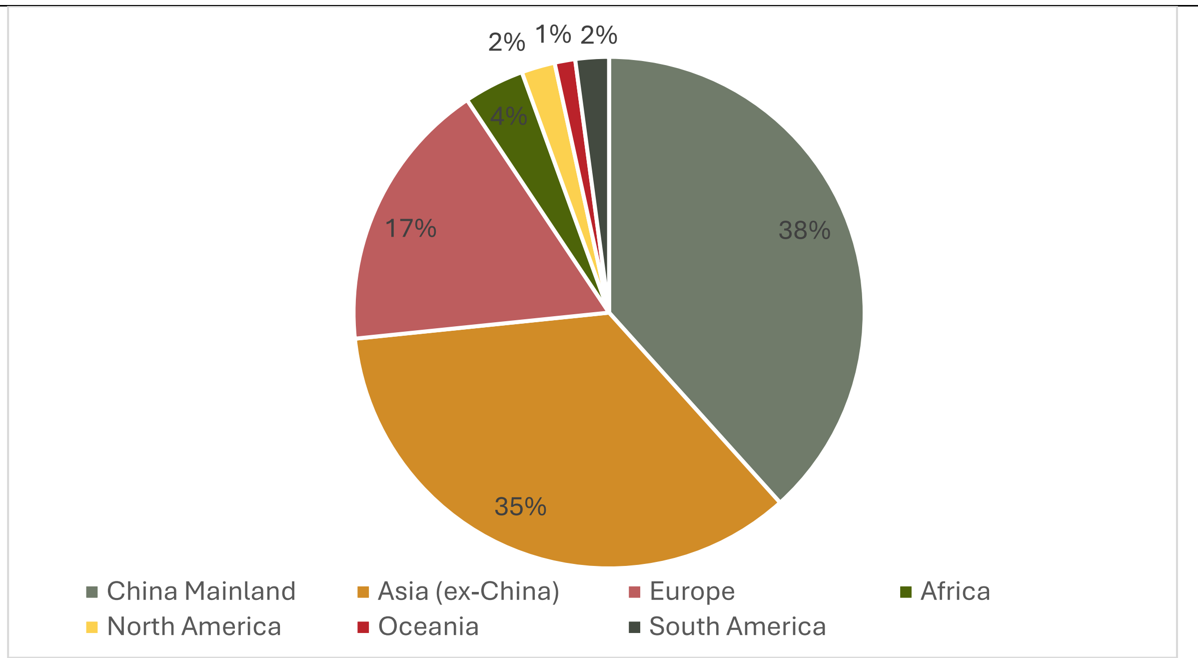
Figure 2.6: CIPS participants (December 2024).



[14] Especially HSBC's recent inclusion matters, given that it is the world's largest trade-finance bank, having facilitated USD850 billion of trade globally in 2023 alone.

Source: authors' figure, based on CIPS Participants Announcements.

Figure 2.7: Geographic location of CIPS participants (December 2024).



Source: authors' figure, based on CIPS Participants Announcements.

Parallel to CIPS, and to minimize transaction costs, the PBC also facilitated the internationalization of FX trading in RMB. Whereas previously, FX trading in China had to use the USD as an intermediary currency, from 2010 onwards the China Foreign Exchange Trade System (CFETS) began to allow direct trading between the RMB and other currencies. CFETS is China's main fixed income and currency trading platform that operates as a PBC subsidiary. This direct trading reduced the dependence on the USD, as it was no longer needed to exchange currencies. By 2024, 28 currency pairs could be traded on CFETS (table 2.1). This, however, stands in contrast to more than 80 currencies that are commonly traded against the USD in global FX markets.

Table 2.1: Direct RMB currency trading at CFETS, 2024

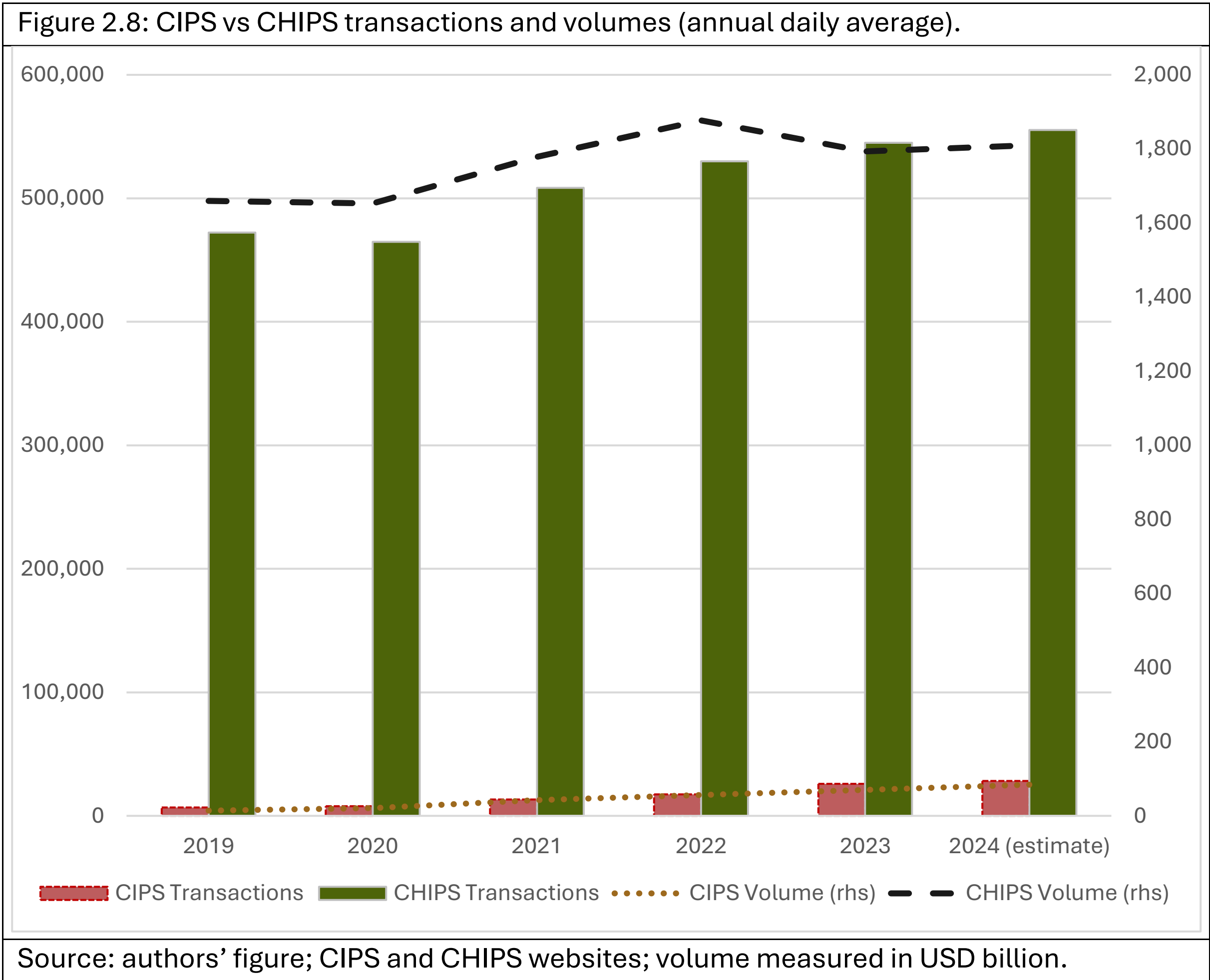
Country/region	Currency	Date
Unites States	USD	July 2005
Malaysia	MYR	Aug 2010
Russia	RUB	Nov 2010
Thailand	THB	Dec 2011
Japan	JPY	June 2012
Australia	AUD	Apr 2013
New Zealand	NZD	Mar 2014
United Kingdom	GBP	Jun 2014
Eurozone	EUR	Sep 2014
Singapore	SGD	Oct 2014
Kazakhstan	KZT	Dec 2014
Switzerland	CHF	Nov 2015
South Africa	ZAR	June 2016
South Korea	KRW	June 2016

Country/region	Currency	Date
UAE	AED	Sep 2016
Saudi-Arabia	SAR	Sep 2016
Canada	CAD	Nov 2016
Hungary	HUF	Dec 2016
Poland	PLN	Dec 2016
Denmark	DKK	Dec 2016
Sweden	SEK	Dec 2016
Norway	NOK	Dec 2016
Turkey	TRY	Dec 2016
Mexico	MXN	Dec 2016
Mongolia	MNT	Aug 2017
Cambodia	KHR	Sep 2017
Indonesia	IDR	Sep 2021
Macau	MOP	Jan 2024

In addition, CFETS started to allow foreign financial institutions to engage in FX trading. In 2014, foreign central banks were allowed to participate, followed in 2015 by offshore RMB clearing banks and offshore participating banks. This setup maintained Chinese control over trading activity. Whereas RMB clearing banks were subject to Chinese regulatory scrutiny and were subsequently allowed to engage in a wider range of activities, offshore participating banks were only allowed to facilitate client transactions, and they had to access CFETS either via clearing banks or onshore correspondent banks. The infrastructural arrangements of the payments system that the PBC had developed after careful experimentation were also applied to FX trading. By October 2024, 63 central banks, 70 offshore participating banks and 25 clearing banks participated in CFETS' FX market (CFETS 2024a), accounting for USD151.22 billion trading volume (2.56 percent of total market turnover, see CFETS 2024b). These reforms turned CFETS into the largest trading platform for RMB-FX globally, overtaking both Hong Kong and London (Packer et al. 2019).

Despite its growth in the last years, it is important to note that CIPS is still much smaller than its USD-denominated counterpart CHIPS (Figure 2.8). However, CIPS constitutes a crucial infrastructure that potentially enables an accelerated RMB use for cross-border payments.

Figure 2.8: CIPS vs CHIPS transactions and volumes (annual daily average).



Source: authors' figure; CIPS and CHIPS websites; volume measured in USD billion.

2.1.4 Capital markets and RMB-denominated commodity pricing

Commodity markets have also become a focus of RMB internationalization. By 2016, China consumed between 50-65 percent of the world's iron ore, coal and copper production. However, China needs to import many of these commodities. In 2022, China imported crude oil worth USD 365.7 billion, accounting for 10.8 percent of global oil production. For many commodities, China has become (by far) the largest importer and consumer globally. But despite its enormous size, China is a price taker in global commodity markets as most commodities are traded in USD.

The idea of obtaining 'commodity pricing power' (大宗商品定价权) became a key policy objective in China's financial market development. Experiences like the 'battle of the beans' (2004) and the global food crisis (2008-09) created growing concerns about the negative effects of commodity prices determined in USD-denominated futures markets (Wang 2018). Prices created in Chinese markets, the authorities thought, would better reflect local conditions than USD-prices where Chinese companies had to pay a premium. Coinciding with the push to develop the RMB as a trade currency, China laid the foundations for more influence in global commodity markets.

In a first step, domestic, RMB-denominated prices for commodities were established. Because without such 'Chinese' prices, Chinese actors had to rely completely on global benchmarks. Between 2005 and 2024, the number of commodity futures contracts increased from 10 to 119 products. In 2004, Chinese exchanges accounted for only 25 percent of trading volume, 15 percent of open interest and 3 percent of notional value in global commodity futures markets. By 2023, almost 75 percent of commodity futures globally were traded in China, accounting for 42 percent of open interest and 18 percent of notional value. By the late-2000s, Chinese commodity exchanges had established themselves as domestic pricing centers, meaning that Chinese actors could use these futures contracts to price spot market transactions.

In a second step, China aimed to become an international pricing center. With growing size, China's commodity futures market increasingly complemented global benchmarks, and are now indirectly influencing these USD-denominated markets. However, in order to truly have a say in pricing, international firms needed to also trade Chinese futures contracts. Hence, as CSRC Vice Chairman Fang Xinghai put it: '[China had to] accelerate the opening of the commodity futures market to the outside world and continuously enhance the international pricing influence of its futures market' (Economic Daily 2016).

China's futures exchanges thus started to gradually internationalize strategically important commodity contracts. While international investors are increasingly allowed to trade these contracts, the rules and contract specifications maintain their Chinese characteristics. Contracts are RMB-denominated, overseas participants can only trade through Chinese brokers, every investor has a unique identification number that enables the monitoring of trading activities, contracts have to be physically delivered, and regulators can engage in 'window guidance' i.e. persuading market participants in a desired direction.

The first contracts to internationalize were crude oil futures listed on the Shanghai International Energy Exchange (INE). Global oil markets are dominated by WTI and Brent, USD-denominated contracts traded in New York and London. Given the enormous economic costs of oil imports,

having a say in global oil pricing became a key policy objective. China's growing oil imports needed 'monetary and financial dispositions that ensure stable and fair prices' and 'politically unconditional access to the payment infrastructure' (Alshareef 2024).

INE's crude oil contract has been relatively successful. As Yang and Zou note, the INE contract has 'obtained a dominant role in price discovery relative to WTI and Brent during its day trading hours and has almost caught up with Brent in terms of market liquidity' (Yang & Zou 2024). By 2023, overseas traders from 31 countries represented more than 30 percent of both daily trading volume and open interest in INE's contract (SHFE 2024), signaling investors' acceptance of this market with Chinese characteristics. However, the market share of INE has been relatively stable at around 10 percent of global oil futures trading, and we should not expect this to replace USD benchmarks any time soon (ibid.). It has, however developed into a third benchmark next to Brent and WTI that enables RMB-denominated oil trading.

China's attempt to gain pricing power is a broader process that includes several strategic commodities. By August 2023, 24 Chinese commodity futures/options contracts had been internationalized. The internationalization of Dalian Commodity Exchange's (DCE) iron ore contracts in 2018, for instance, was widely celebrated as a success. In 2019, Vale, the Brazil-based, world's largest iron ore producer, signed a physical spot deal to supply Shandong Laigang Yongfeng Steel using the DCE iron ore futures price as the pricing benchmark. By 2022, the world's top four iron ore producers (BHP, Rio Tinto, Vale, Fortescue) had all set up Chinese trading arms to directly trade RMB-denominated products.

Another important step was Hong Kong Exchanges and Clearing's (HKEx) acquisition of London Metal Exchange (LME) in 2012. While not state-led, this move was welcomed by Chinese authorities. Since the acquisition, LME has gradually facilitated Chinese pricing power. In 2014, LME approved its first Chinese-owned trading member, of which there were six by 2024. Moreover, LME launched a series of RMB-denominated metals contracts in December 2014 that were 'designed to meet the needs of Chinese participants who wanted to mitigate or take on metal price risk using offshore RMB' (HKEX 2020). Since 2015, LME members can also use RMB to cover their margin requirements for all their LME trading. And finally, LME is considering launching new metal contracts based on Shanghai Futures Exchange (SHFE) prices.

2.1.5 mBridge

The most recent payments infrastructure to facilitate RMB internationalization is Project mBridge, a multi-central bank digital currency (CBDC) platform. It pilots cross-border payments using a common platform based on distributed ledger technology (the mBridge ledger) on which multiple central banks can issue and exchange their respective CBDCs. Based on preliminary work by the individual central banks – including the PBC's initial e-CNY pilots that started in 2017 – mBridge was jointly launched in 2021 by the central banks of Thailand, Hong Kong, UAE and China as well as the BIS Innovation hub.

The purpose of mBridge is to create a cross-border infrastructure that facilitates real-time and cheap transaction settlement. mBridge does not rely on the USD for payments but allows for

bilateral CBDC payments between the respective participating countries. Moreover, instead of relying on correspondent banking networks, the mBridge project allows banks to link with their foreign counterparts directly for conducting payments, FX settlements and issuance in participating CBDCs (within seconds rather than days).

Trade financing is among mBridge's biggest planned uses. In 2023, USD564 billion worth of goods and services flowed between the participating countries. Using the mBridge system, a company in China could pay a vendor in the UAE by having its bank issue a digital e-yuan token through the PBC on the mBridge blockchain. There, this token could then within mere seconds be credited to the vendor's bank in the UAE, which would in turn credit the vendor's account with local currency. During its initial testing in October 2022, the project successfully conducted 164 transactions in collaboration with 20 banks across the 4 countries, settling a total of USD22 million. Importantly, almost half of all transactions were in e-CNY, which according to the BIS (2022) was probably because of mBridge's automatic integration with the retail e-CNY system and the RMB's higher share in regional trade settlements (Atlantic Council 2023).[15]

In June 2024, Saudi Arabia joined mBridge. This illustrates the deepening relationship between the kingdom and China, given the latter's dominant role in the initiative. This also matters since Saudi Arabia remains one of the largest producers and exporters of oil globally, with China as its largest customer.[16] The two countries have been discussing the possibility for non-USD denominated oil trade, a strategy that China had increasingly pushed for. Saudi Arabia's participation in mBridge could potentially allow for a commodity settlement that bypasses the USD.

mBridge has also become subject to controversy. In October 2024, the BIS quite suddenly exited the project. According to BIS, this was because mBridge had reached the minimum viable product stage (BIS 2024). However, the announcement came only days after the BRICS Summit where the development of a BRICS Bridge payments platform modelled on mBridge had been discussed, which could potentially be used to circumvent financial sanctions (especially by Iran and Russia). Agustín Carstens, BIS General Manager, clarified in an interview that 'mBridge is not the BRICS Bridge', 'was not created to cater (to) the needs of BRICS', and that BIS does not cooperate with countries that are subject to sanctions (Carstens 2024).

While mBridge is not yet operational, it marks an important step in the creation of payment infrastructures for RMB internationalization. Potentially, mBridge – and its potential technological and regulatory replication by country blocs – could eventually create a parallel CBDC payment infrastructure beyond the USD-system with a strong role for the (digital) RMB.

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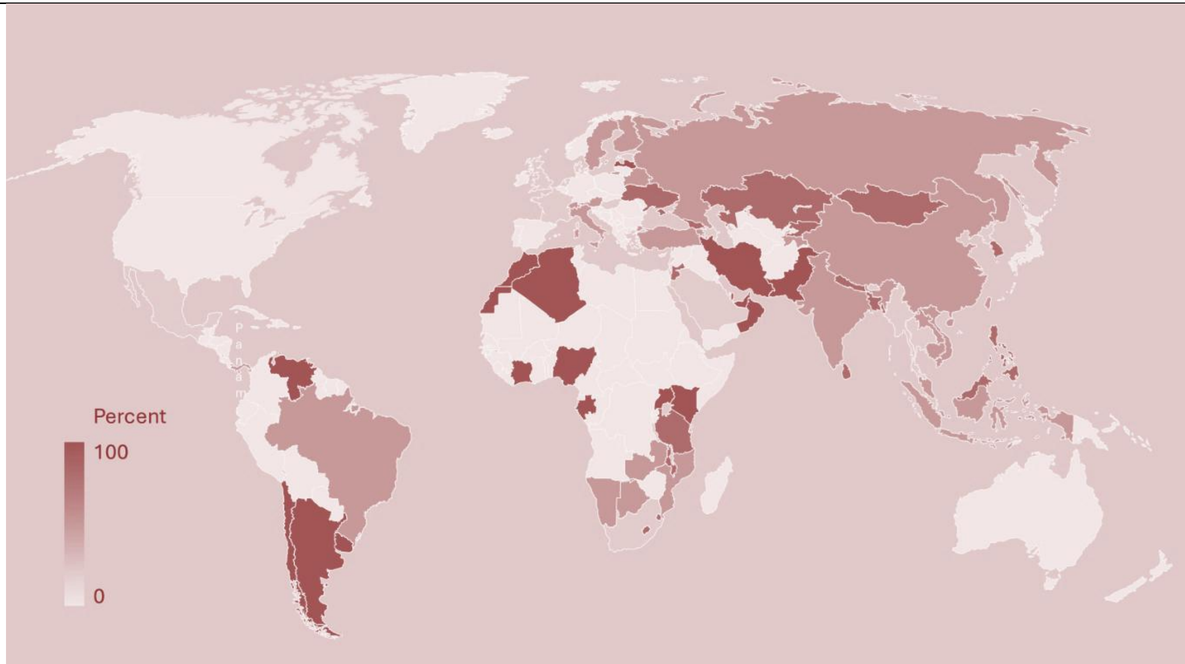
[15] China has been the driving force behind mBridge, facilitating the use of the technology by both commercial banks and the founding central banks to conduct real-value transactions. Bank of China Hong Kong, for instance, stated it had fully integrated into mBridge to allow automated cross-border remittances for its corporate customers (Long, 2024), while others like the Industrial and Commercial Bank of China (ICBC) and the Agricultural Bank of China (ABC) reported several successful uses of the system (Ledger Insights 2024a), and Tencent (WeChat Pay) also participated in the platform (Ledger Insights 2024b).

[16] Saudi Arabian oil imports to the US decreased from 1.523 million barrels per day in 2000 to 1.361 million barrels per day in 2012 and 0.456 million barrels per day in 2022, while imports to China increased to 1.61 million barrels per day by mid-2024 (China has become Saudi Arabia's largest oil customer, accounting for more than 20% percent of the kingdom's oil exports); see Tan (2024).

2.1.6 Geography of China's payment infrastructure

There is significant geographic variation when it comes to the use of Chinese payment infrastructures. Using country-level transaction data from Swift for 2010-21, a recent IMF study has traced the uneven use of RMB for cross-border payments (Figure 2.9, Perez-Saiz & Zhang 2023). While the RMB is hardly used in Europe and North America, it has gained traction in Latin America, Africa and especially Asia. These cross-country differences have widened over the years – with some countries settling most or even all their bilateral trade with China in RMB. In part, this is because of these countries' geographic distance, political distance, and trade linkages with China. The creation of financial infrastructures for cross-border RMB settlement like offshore clearing banks and CIPS, however, have been a necessary condition for this development.

Figure 2.9: RMB share in Swift payments with China, 2021.



Source: adapted from Perez-Saiz & Zhang (2023).

Enabled through these infrastructures, trade will likely continue to be the most important channel for accumulating RMB holdings by emerging economies and by China's major energy suppliers. The composition of China's export destination dramatically changed in the last two decades (see Figure 3.1). From largely selling goods in USD to Western markets (G7 + EU), China is selling an ever larger share of its goods to emerging markets, especially BRI countries, and this trade is increasingly denominated in RMB. Furthermore, the first China-Gulf Arab States Cooperation Summit reached a strategic consensus to develop RMB settlement for oil and gas trade. In March 2023, the Shanghai Petroleum and Natural Gas Exchange had for instance completed its first RMB-settled trade for Liquid Natural Gas (LNG) with the UAE, and since February 2022 Russia has also shifted towards RMB-settlement of its exports to China.

Especially given the US's financial sanctions, many other countries have been eager to reduce their reliance on and vulnerability towards the USD. Especially many emerging markets have

started to develop a broader financial toolkit to mitigate their dependency on the dollar.[17] Given that the RMB is the only currency that has infrastructural arrangements to facilitate its widespread use beyond the USD-system, and since China is the largest trading partner for many emerging markets, it is likely that we will observe an increased use of RMB for trade settlement in the near future.[18]

Of course, the RMB payments system does not yet rival the USD system, which is vastly bigger. A crucial difference is that while the dollar is often used for trade that does not involve the United States, until very recently the RMB has been used almost exclusively for trade involving China. There have been a few cases of cross-border RMB payments between countries other than China, often involving Russia. Bangladesh, for instance, agreed to pay a Russian company that is helping the country build a nuclear power plant in RMB via CIPS (Gupta & Majumder 2023). Russia had also asked India to pay for Russian oil in RMB, but the Indian government had pushed back against this request (Verma & Ahmed 2023). But many countries also do not want to be subject to secondary sanctions, mitigating the impact of Russia's shift towards greater RMB usage (Reuters 2024). Other than via Russia, the RMB has not yet been utilized extensively for bilateral trade other than with China.

However, it is not unlikely that groups of countries that already have close economic ties with China might start to use the RMB more frequently. The broader trend towards de-dollarization in many emerging markets following the "weaponization" of the USD-based financial system is highly conducive to such a development. Especially with the creation of CIPS, the infrastructure to enable this has been put in place.

Overall, the different payment infrastructures created by the Chinese authorities and regulators have been carefully designed and tested to facilitate the growing use of RMB for cross-border payments. Each new infrastructural arrangement – from correspondent banks to clearing centers, CIPS, mBridge and commodity futures – has enabled more frictionless, convenient and widespread use of the currency while retaining a limited capital account opening. Within the last 15 years, the RMB's progress as a payment currency has been quite remarkable as transaction volumes for each of these developed financial infrastructures have grown enormously, accounting for a growing share of global payments, settlement and trade finance.

2.2 Investment

This section addresses the RMB's role as an investment currency. Many commentators argue that the RMB cannot develop as an international reserve currency without full liberalization of China's capital account. The growing accessibility, depth and liquidity of Chinese capital markets would make RMB-denominated assets more attractive for international investors seeking portfolio diversification, the argument goes, and thus the RMB would become a viable currency for global

[17] This also includes the accumulation of gold reserves.

[18] Some observers have commented that we are seeing the formation of new blocs in trade and investment – US, China and non-aligned – which are marked by growing internal integration but decreased linkages between them, with more widespread adoption of RMB within the China bloc (see: IMF, 2024).

investors to hold in various assets. According to this line of argument, because China's capital account has not been liberalized, however, the internationalization of the RMB would be severely hampered.

Table 2.2: Various channels for investing in China's capital markets

	QFII/RQFII	**CIBM direct**	**Stock connect**	**Bond connect**	**Swap connect**
Who has access	Selected institutional investors	Selected large institutional investors	Hong Kong and overseas investors	All institutional investors	Hong Kong and overseas investors
Creation and significant reform dates	2003, 2007, 2012-13, 2016, 2019, 2020	2010, 2015, 2016	2014, 2016	2017	2023
Products	All securities listed on SSE, SZSE Investment funds, ETFs, warrants, index futures, FX derivatives, IPOs, other	Cash bonds and other products permitted by the PBC	Selected A-shares and H-shares	All cash bonds	Derivatives
Currency	CNH, other FX (convert to CNY)	CNY and CNH	CNH, HKD, USD	CNY and CNH	CNH, other FX (convert to CNY)
Regulators	CSRC, SAFE, PBC	PBC	CSRC, SFC	PBC, HKMA	CFFTS, SHCH, OTC Clear

Source: adapted from Balmas and Howarth (2024).

An infrastructural view on China's limited capital account opening provides a novel perspective. This section illustrates how in fact Chinese authorities have over time created the foundation for a potential acceleration of investments into RMB assets. Following a policy experimentation approach similar to the creation of payment infrastructures, China has created a network of infrastructural arrangements that enables growing participation of foreign investors in its capital markets, while maintaining a significant degree of control over its capital account. On the one hand, foreign investors have practical access to China's capital account as the authorities introduced measures that allow foreign and domestic entities to move funds in and out of the country. On the other hand, formal restrictions on certain types of cross-border capital flows (e.g. speculative trading activity) remain in place as the government retains the authority to impose or adjust restrictions on cross-border transactions. What this perspective reveals is a strategy of de facto capital account convertibility for RMB while de jure capital account liberalization remains limited.

In the early development of China's capital markets, only limited steps were taken to integrate China with global markets. In 1992, two years after China's RMB-denominated A-shares stock market had been opened, Chinese companies were allowed to issue USD-denominated B-shares in a separate market only accessible to foreign investors, which at the time was the only entry point for foreigners wishing to enter China. In 1993, the CSRC then allowed A-share companies to conduct secondary listings in Hong Kong and issue so-called H-shares (HKD-denominated), which soon became the main way to invest in 'China'. Next to this state-controlled process of

official listings, Chinese companies also listed unofficially in Hong Kong (p-chips), Singapore, London, and—most of all—New York.

This early opening was essentially a separate system. Chinese companies listing overseas followed international rules, while the B-share market was completely separated from the A-share market. All these securities were denominated in other currencies, and foreign investors had no possibility to invest in RMB-denominated assets. Besides stocks, foreign financial institutions also did not have access to China's bond market which was restricted to domestic investors. For a long time, China's capital markets were basically isolated from global finance. It was only in the mid-2000s that China's financial opening truly began.

The following sections trace China's financial opening. They examine the most important infrastructural arrangements – the investment quota regime, the Connect program and its extension across asset classes – as well as the impact of geopolitics and the changing geography of investments into RMB assets over time.

2.2.1 QFII/RQFII

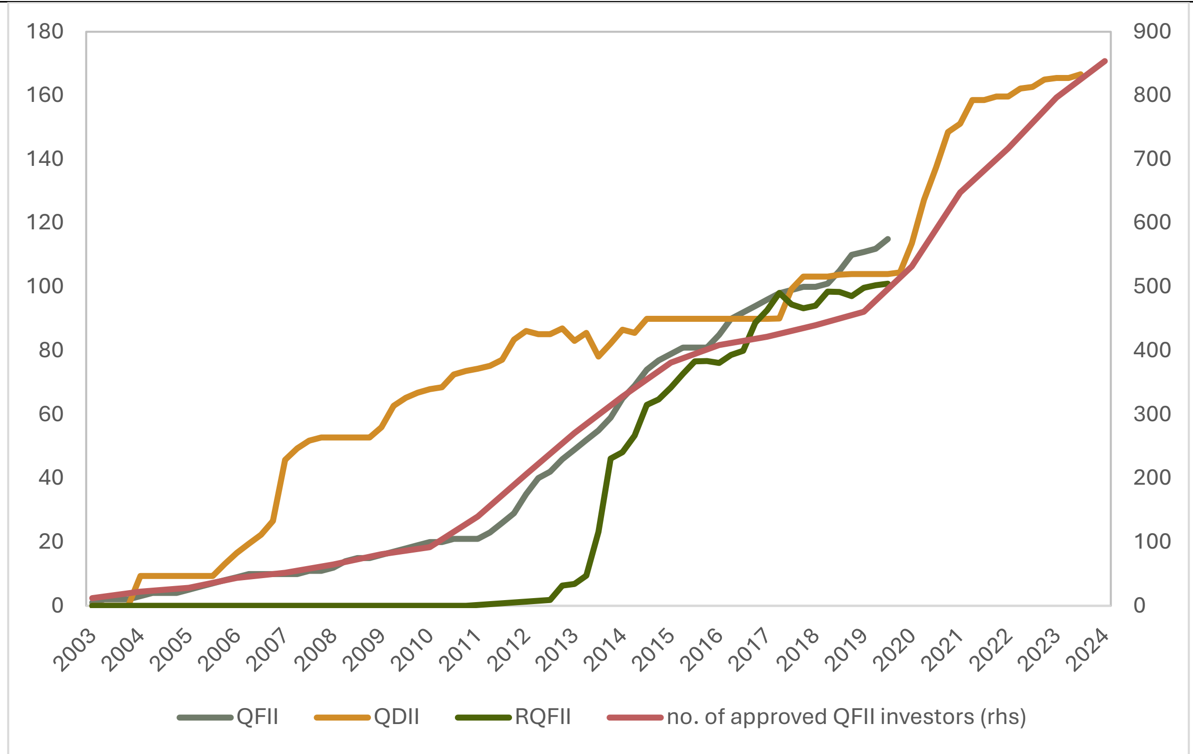
The first mechanism that enabled cross-border access to China was the qualified investor scheme. This scheme consisted of the Qualified Foreign Institutional Investor (QFII), Qualified Domestic Institutional Investor (QDII), and Renminbi Qualified Foreign Institutional Investor (RQFII) programs launched in 2002, 2006, and 2011, respectively.[19]

The QFII program allowed foreign investors to access Chinese capital markets after obtaining a license and an investment quota. Through this program, foreign institutions were able to invest in China's domestic stock and bond markets within the limits of their allocated quotas, while adhering to the local regulatory framework. To do so, QFII investors needed to convert their foreign currency into RMB with the SAFE or with designated Chinese custodian banks (approved by SAFE) before they could use the funds to invest in China's domestic capital markets.

In 2011, RQFII was launched which allowed foreign investors to invest offshore RMB directly into China's capital markets. RQFII was thus not limited by the foreign exchange controls that applied to traditional QFII. Following the creation of the payment infrastructure for RMB trade-settlement, offshore RMB deposits had increased from less than RMB 100 billion in 2009 to RMB 600 billion by 2011 and RMB 1.500 billion by 2014 (Ehlers et al., 2016). RQFII was designed to leverage these offshore pools, expanding RMB functionality beyond trade settlement and creating a use case for offshore RMB.

[19] Whereas QDII enabled designated Chinese investors to invest in global markets, QFII and RQFII investors could trade in Chinese capital markets. QDII only plays an indirect role in RMB internationalization since it focuses on non-RMB investments. Although QDII strengthened the international presence of Chinese financial institutions which often transact in RMB alongside other currencies, this scheme is not discussed in more detail here.

Figure 2.10: Approved investment quotas, 2003-2024, USD billion.



Source: data from PBC, SAFE and CSRC; quotas for QFII and RQFII were abolished in 2020.

However, the quota system was a cumbersome, restrictive mechanism to open China's markets. Quotas were initially only issued to a few institutions, not all market segments were open to (R)QFII investors, and trading was complicated.[20] Initially, (R)QFII investors were also only allowed monthly repatriations of 20 percent of their previous year's total net asset value,[21] trades needed to be pre-funded, and trading rules prohibited them from executing speculative trades or from engaging in short selling. As a result, especially QFII investors often did not fully utilize their quotas and actual investment remained limited (see Figure 2.13). In the following years, however, a much more comprehensive system of cross-border financial infrastructures was created that connected China with international investors, truly integrating it into the global investment cycle.

2.2.2 Stock Connect

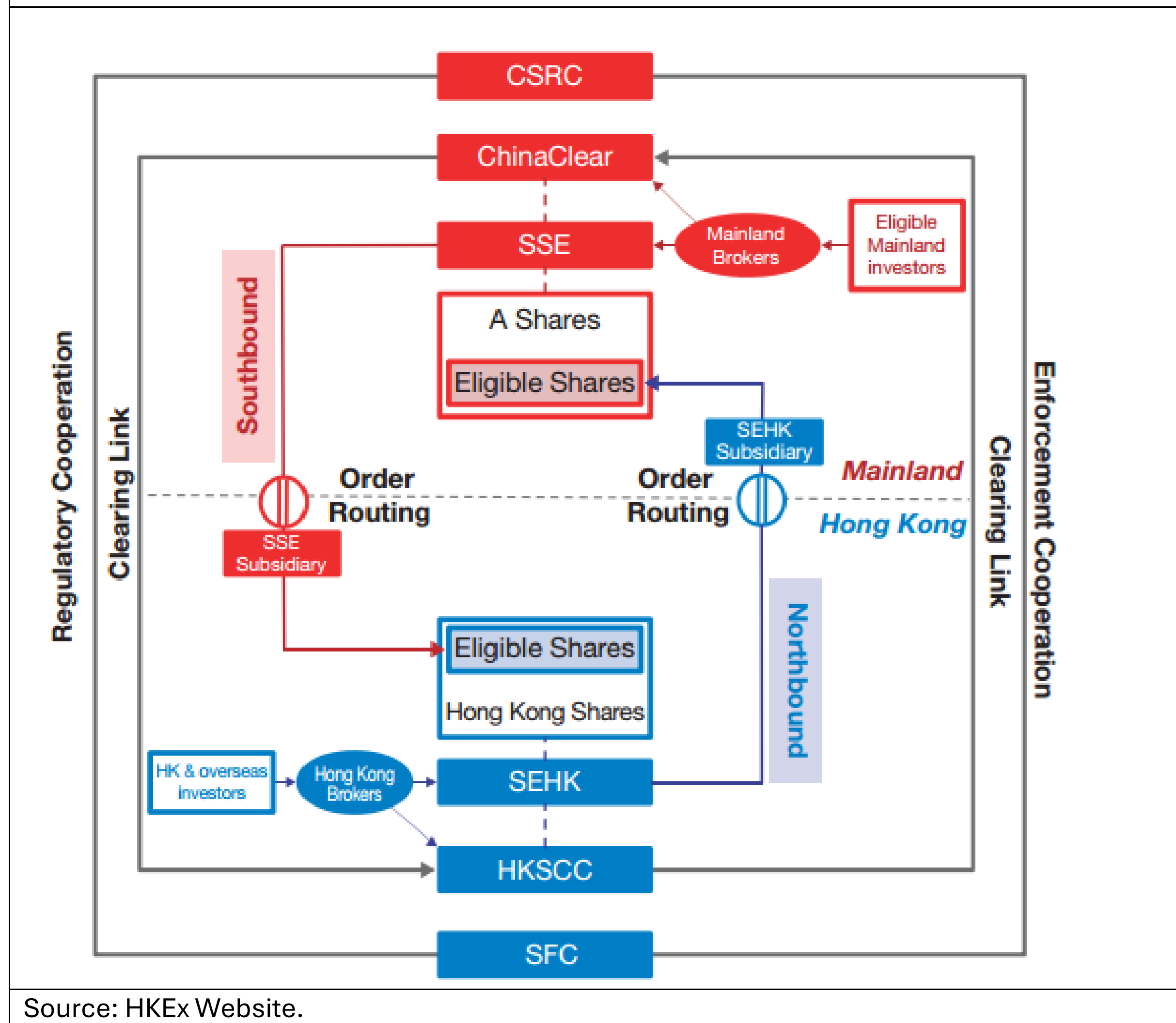
The real turning point in China's financial opening was the establishment of the Stock Connect. This infrastructure was first established between HKEx and Shanghai Stock Exchange (SSE) in 2014 and then extended to Shenzhen Stock Exchange (SZSE) in 2016.

Stock Connect functions markedly different from (R)QFII. Connect was a much more convenient way for international investors to allocate funds into China as it enabled cross-border trading in a more seamless, encompassing and convenient way. International investors could invest in eligible A-Shares through a special purpose vehicle (SPV) established by HKEx (Northbound trading), while Chinese investors could invest into eligible shares on HKEx through SSE's SPV

[20] Before 2023, (R)QFII investors were for instance not allowed to trade in Chinese commodity futures markets.
[21] This restriction was removed in 2018.

(Southbound trading). These SPVs acted as special participants in each other's markets, effectively routing orders from one exchange to another while a parallel clearing link existed between ChinaClear and Hong Kong Securities Clearing Company (HKSCC) (Figure 2.11).[22]

Figure 2.11: The infrastructural arrangements of Stock Connect.

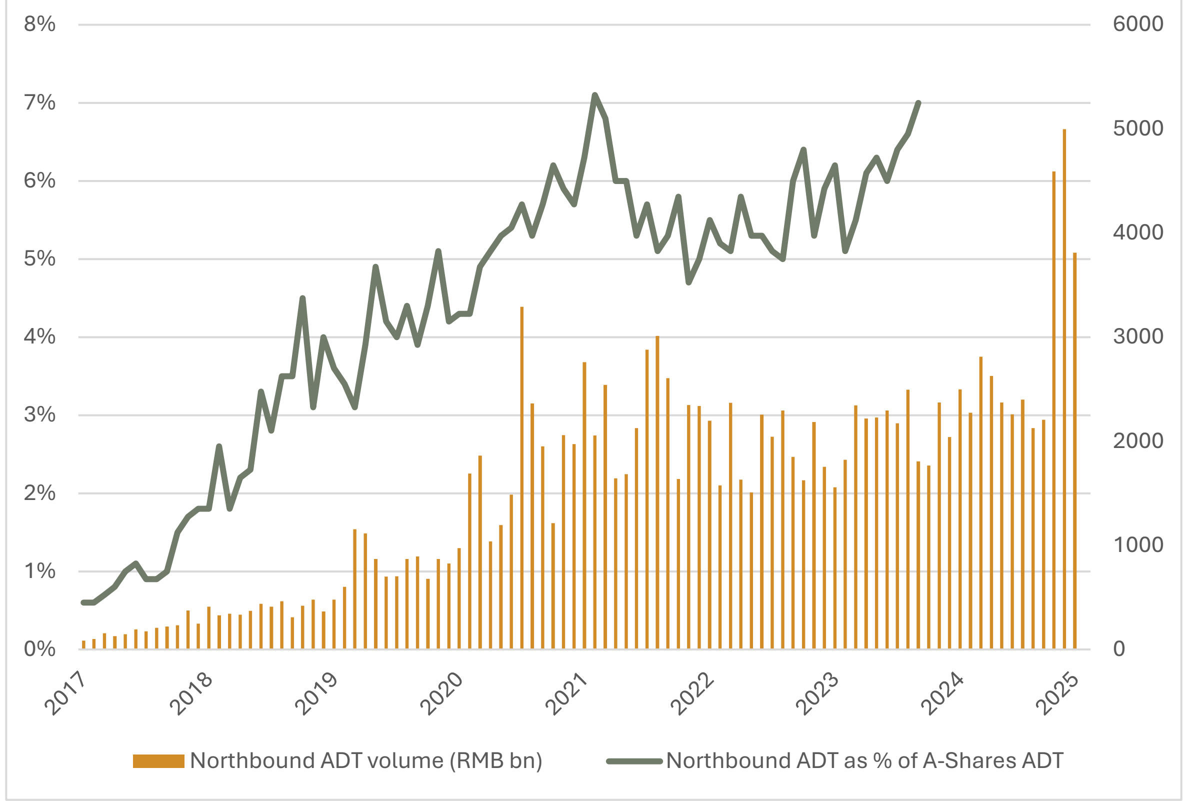


Source: HKEx Website.

International investors were much more comfortable investing through Connect than the quota system. While in 2014 foreign investors only accounted for 0.6 percent of trading on China's stock market, by 2023 their share had increased to approximately 7 percent (Figure 2.12). Soon, Connect had eclipsed the quota system and had become the main venue for foreign investment into China (Figure 2.13). Moreover, 90 percent of China's stock market capitalization was accessible to foreign investors through Stock Connect. While there is a foreign ownership cap of 30 percent for Chinese companies, it is noteworthy that Connect potentially allows for a higher percentage of foreign ownership than US stock markets currently exhibit (which stood at 17 percent in 2023, see Department of the Treasury 2024).

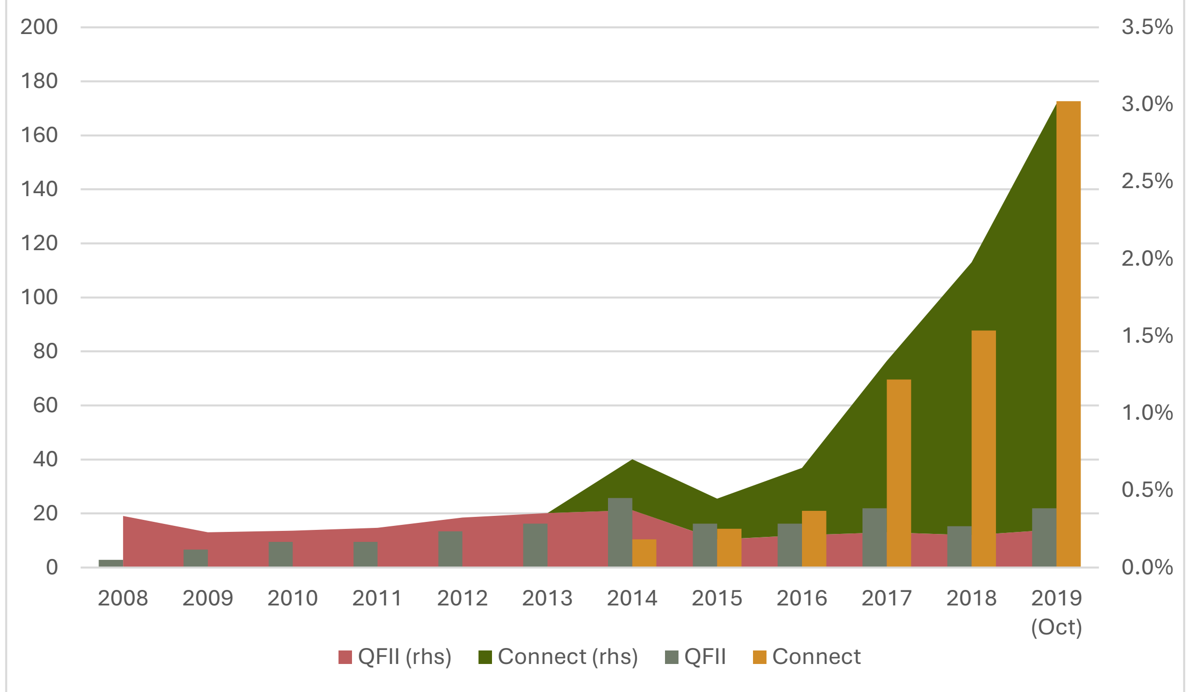
[22] The Connect between HKEx and SZSE operates identically.

Figure 2.12: Stock Connect attracts global investors to China's stock market, 2017-2024.



Source: authors' figure; based on HKEx trading statistics. Data on Northbound average daily trading (ADT) as share of A-share market is no longer reported after September 2023).

Figure 2.13: Foreign investment via QFII and Stock Connect, 2008-2019, USD billion.



Source: Wei (2019b).

However, Stock Connect also enabled continued capital controls. One important feature was that Stock Connect was designed as a 'closed loop', meaning that the system allowed cross-border stock trading between mainland China and Hong Kong but ensured that funds did not flow freely across China's borders. Investors could only trade eligible stocks and the corresponding funds remained within the framework of the system, thus preventing RMB from flowing out of or into China beyond the permitted scope. One could not, for instance, buy a Chinese stock in Shanghai, sell it and then invest into Chinese real estate; instead funds were transferred back to the Hong Kong account. So, despite order routing and enabling transaction flows, Connect maintained the state's ability to exercise capital controls as a central feature of China's financial system.

The Connect scheme initially also had aggregate and daily quotas for North and Southbound flows that could limit investment flows. However, these quotas were quickly relaxed (Table 2.3). In August 2016, aggregate quotas were abolished, removing an important hurdle for large investment flows into China's stock market. Daily quotas designed to dampen volatility by limiting the net buy value of cross-boundary trades (thus reducing the speed of in- and outflows) were also expanded significantly. Connect thus allows for daily net outflows or net inflows of up to RMB 84 billion and RMB 104 billion, respectively.[23] Via the Stock Connect, foreign investors could technically invest RMB 2 trillion into Chinese stocks each month – thus allowing for substantial investment into RMB-denominated assets.

Table 2.3: Evolution of Stock Connect quotas.

	Daily quota		**Aggregate quota**	
	Northbound	**Southbound**	**Northbound**	**Southbound**
2016	RMB 13 billion	RMB 10.5 billion	RMB 300 billion	RMB 250 billion
2024	RMB 104 billion	RMB 84 billion	unlimited	unlimited

Source: HKEx Website.

Managing capital flows was not the only way Connect enabled state control. Similar to domestic measures to dampen speculation, international investors had to adhere to Chinese market characteristics such as limited order types, ownership restrictions or t+1 (no intra-day trading). Through the introduction of the so-called Northbound investor identification system in September 2018, China's 'pass-through monitoring system' to identify and track investor behavior was also applied to international investors. Chinese authorities could now monitor the trading activities of every single international investor trading through Connect. Moreover, trading volume via Connect could still be regulated, quotas altered and certain trading activities restricted. Stock Connect was designed to simultaneously open Chinese markets to global investors while maintaining China's capital controls, market surveillance and intervention mechanisms.

[23] As of November 2024, Northbound Daily Quota is set at RMB 52 billion for each of Shanghai Connect and Shenzhen Connect, and the Southbound Daily Quota is set at RMB 42 billion for each.

2.2.3 Bond market access

We can observe a similar development of infrastructural arrangements enabling limited capital account opening in bond markets. Similar to the stock market, international investors were not permitted to access Chinese bond markets. Since 2002, only the small, exchange-traded portion of the bond market was accessible to QFII investors, while the majority of bonds (approximately 90 percent) traded over-the-counter in the China Interbank Bond Market (CIBM) was not accessible.[24] However, to support RMB-denominated cross-border trade settlement by allowing RMB to be reinvested into China, the PBC initiated a pilot program for select overseas participants to invest in CIBM in 2010.

Under this pilot program, selected participants were able to invest in China's bond market. These included foreign central banks, RMB clearing banks, and designated overseas financial institutions that engaged in cross-border RMB trade settlement. Foreign financial institutions had to apply for access through a regulatory approval system which included, for instance, explaining the source and scale of their RMB holdings and their investment plan for these funds (PBC, 2010). Moreover, investment limits were set for each financial institution, which were only allowed to use RMB holdings resulting from normal business activities.

After this first experiment, the CIBM pilot access was subsequently widened. The launch of the RQFII scheme in 2011 allowed investment into CIBM, and in 2013 QFII investors were also granted access to CIBM. In addition, the scope of investible products now included repo, bond forwards, IRS and other trading instruments (PBC, 2015). However, both of these channels were limited by a number of restrictions (e.g. investment quotas), thus facilitating only little investment activity.

The real game changer was the establishment of CIBM Direct in 2016. This new infrastructure enabled international institutional investors to access onshore bonds, complementing the (R)QFII channel, by allowing investments directly through banks holding a Bond Settlement Agent license in mainland China. CIBM Direct thereby significantly facilitated access to the Chinese fixed income market for foreign institutional investors. Rather than an approval-based system, investors simply needed to register with the PBC after opening a local market infrastructure account through their onshore settlement agent. This was complemented by giving international investors the aforementioned access to a growing range of FX risk hedging tools from 2017 onwards.

In 2017, Bond Connect was launched, offering foreign investors an even easier access channel. It enabled real-time delivery versus payment and access via mainstream international e-trading platforms. International investors could use Bloomberg, Tradeweb and MarketAxess, which were linked with China's centralized fixed-income trading platform CFETS, to request quotes from onshore Chinese market makers. Trading was then conducted via the Hong Kong Monetary Authorities' (HKMA) Central Moneymarkets Unit, which established settlement links with Shanghai Clearinghouse and ChinaClear. Yet Bond Connect also maintained distinct Chinese market organization characteristics. It represented another closed-loop system that maintained

[24] The only foreign participants of CIBM were the Pan-Asia Index Fund and China Bond Index Fund of the Asian Bond Fund II Initiative, which were launched in 2005 by the Executives' Meeting of East Asia and Pacific Central Banks (EMEAP) in order to develop local currency bond markets in Asia; this investment was very limited, however.

capital controls, Chinese data and trading rules, and retained the 'see-through monitoring system'. While involving different actors and platforms, the principle behind Bond and Stock Connect was identical.

While Bond Connect offered the most seamless access, CIBM Direct offered access to a greater range of financial products. The two channels thus complemented each other. In addition, the regulators allowed foreign investors to transfer bonds and cash between their own (R)QFII and CIBM Direct accounts in 2019, while also abolishing all (R)QFII investment quota limitations in 2020. Following the construction of this ecosystem of access channels, foreign investment into RMB-denominated bonds increased significantly. While foreign investors' share of the overall bond market increased from less than 1 percent in 2012 to 3 percent by 2021, foreign ownership of government bonds increased from 0.3 percent in 2012 to 11 percent in 2021.

2.2.4 Wider application of the Connect design

Stock Connect and its infrastructural arrangements proved so successful that most subsequent mechanisms to integrate China with global markets were designed in a similar fashion. Connect enabled capital flows in way that was convenient for international investors while enabling continued state control. In this process, Hong Kong became a crucial gateway for accessing Chinese assets. In addition to stocks and bonds, Connect was expanded to include other asset classes like Wealth Management (2021), exchange traded funds (ETF) (2022) and Interest Rate Swaps (2023). Swap Connect, for instance, allowed international investors to access, trade and clear onshore swap products to manage their interest rate exposure to RMB assets, without having to change their existing trading and settlement practices.

These investment channels were complemented by a growing array of RMB-denominated financial products. Especially HKEx engaged in creating such an ecosystem, including stock market indices, ETFs, bonds, futures and options, cross-currency or Chinese treasury bond futures. All of these are important tools enabling international investors to hedge currency and interest rate risks. HKEX, for instance, launched USD/CNH futures in 2012 as the world's first deliverable RMB currency futures which provided greater capacity to manage exposure to the expanding offshore RMB market. Moreover, HKEx launched Northbound interest rate swaps that enabled foreign investors to trade SHIBOR (Shanghai Interbank Offered Rate) and repo rates. The Chinese authorities also permitted China-based index futures to be listed outside in Hong Kong.[25] This MSCI China A50 Connect Index Futures contract mirrors the composition of Chinese stocks that are accessible through Stock Connect and included into MSCI indices, and thus provides a perfect hedging tool for foreign investors.

HKEx also launched an HKD-RMB Dual Counter Model in 2023. In this scheme, companies with a dual listing in Hong Kong and Shanghai could now be traded on HKEx in both HKD and RMB. This included some of the largest and most widely traded companies, accounting for 35 percent of market capitalization and 40 percent of average daily turnover in Hong Kong's stock market. The

[25] Mainland Chinese equity indices are normally not licenced for international contracts.

development of this scheme is directly linked to RMB internationalization, as HKEx is trying to create more investment opportunities for the growing offshore RMB pool (HKEX 2023). Investors now could choose in which currency they wanted to trade these Hong Kong-listed shares. Overall, Hong Kong has been crucial in creating an ecosystem that facilitated increasing investment into RMB assets.

The infrastructure design of Stock Connect was also extended to commodity markets. The Shanghai Gold Exchange (SGE), for instance, opened an international board in 2014 but still prohibits gold transfer between its domestic and international vaults, effectively maintaining capital controls through a closed loop system.[26] In addition, 'Gold Connects' were established, which allow international financial institutions to invest their offshore RMB holdings in SGE's international board. Overseas investors wanting to trade internationalized commodity contracts on Chinese futures exchanges (March 2018 onwards) also needed to route orders through Chinese brokers to enable monitoring and assure compliance with market Chinese characteristics like trading, margining and data/market access rules.

Step by step, an entire capital market infrastructure emerged that connected China with the outside world. But rather than liberalizing its capital account, the infrastructural arrangements of China's financial opening were designed as 'controllable channels' that functioned according to Chinese rules.

2.2.5 Dynamic geographies of China's investment flows

The extent and geographical origins of investments into China changed rapidly over the last decade. While initially there were large inflows into RMB-denominated assets following China's inclusion into global benchmark indices, geopolitical tensions have subsequently spurred a retreat of especially US investors. At the same time, we can see increasing investments from non-Western financial institutions, especially from the Middle East.

Index inclusions are crucial for global asset allocation. Especially with the shift towards passive investment, institutional investors increasingly replicate or benchmark their portfolio against indices. In that way they essentially delegate their investment decisions to index providers, which thus increasingly define 'the norms of what's considered acceptable in international finance' (Bloomberg 2017). Through their index inclusions and exclusions, index providers essentially steer capital in and out of asset classes (Petry et al., 2021).

Index providers started adding Chinese assets into their global benchmark indices. In June 2017, MSCI decided to include China A-shares into its flagship Emerging Market index, which serves as a benchmark for investments worth USD 1.8 trillion. This was followed by FTSE Russell and S&P DJI in 2018. MSCI then announced in early 2019 that it would quadruple the weighting of Chinese A-shares using the slogan: 'emerging markets may never be the same' (Euromoney 2019). This

[26] While investors might receive regulatory permission to import gold, i.e. transferring it from the international to a domestic vault, it is impossible to transfer gold into the international vault, i.e. to get gold out of the country.

development continued for bond markets where China was included in the widely tracked Bloomberg-Barclays, JPMorgan, and FTSE Russell bond indices in 2019-2021, accelerating foreign investment into China's bond markets. These inclusions represented a milestone in China's opening process and for its aspiration to become a global financial power. By May 2021, index inclusions had steered at least USD 180 billion of passive and active investment into China's stock market.

The reason for these inclusions was China's creation of the infrastructural arrangements facilitating the RMB as an investment asset. As Chin-Ping Chia, MSCI's Head of Asia-Pacific Equity Research, stated: '[Previously] the access scheme was based on the (R)QFII framework, and it was certainly challenging for some investors to get the license and invest... but the whole development of Connect was a very big game-changer'.[27] International investors 'viewed the Stock Connect as a more flexible access framework compared to the QFII and RQFII regimes',[28] and consequently many large asset managers switched from (R)QFII to Connect funds.[29] Between June 2017 and March 2024, the number of Special Segregated Accounts (SPSA, to trade China via Stock Connect) surged from 1,700 before MSCI's inclusion to 16,962, and Stock Connect accounted for more than 70 percent of all foreign investment into China's stock markets.

Similarly for bond markets, it was CIMB Direct and Bond Connect that facilitated the inclusion of Chinese bonds into global benchmark indices. Whereas international investors could previously already invest in Chinese capital markets, it was the index providers' acceptance of China's limited capital account opening strategy that spurred global investments into China. As Wei Li, BlackRock's EMEA Head of Investment Strategy, put it: 'our access strategy basically moves in lockstep with what MSCI has announced and prefers to do'.[30]

As a result of these index inclusions, foreign holdings of onshore Chinese assets increased notably between 2018 and 2021. US investor holdings of Chinese securities, for instance, surged from USD 50 billion in 2005 to USD 1.4 trillion in 2020. These holdings accounted for 9.8 percent of all outstanding US portfolio investments globally, making Greater China the second-largest investment destination for US capital globally.[31]

Geopolitical tensions with the US partially reversed this trend. US investors' capital allocation to China had become a point of contention in Washington. Especially from 2020 onwards, both the Trump and later the Biden administration pushed towards decoupling China and US finance (Segal et al., 2021). Subsequent decisions to force the delisting of US-listed Chinese state-owned enterprises (SOE) (Wall Street Journal 2023), the investment ban on Chinese companies with military links (White House 2021), the sanctions list on Chinese companies accused of human rights violations in Xinjiang (Department of the Treasury 2020), and pressures on index providers

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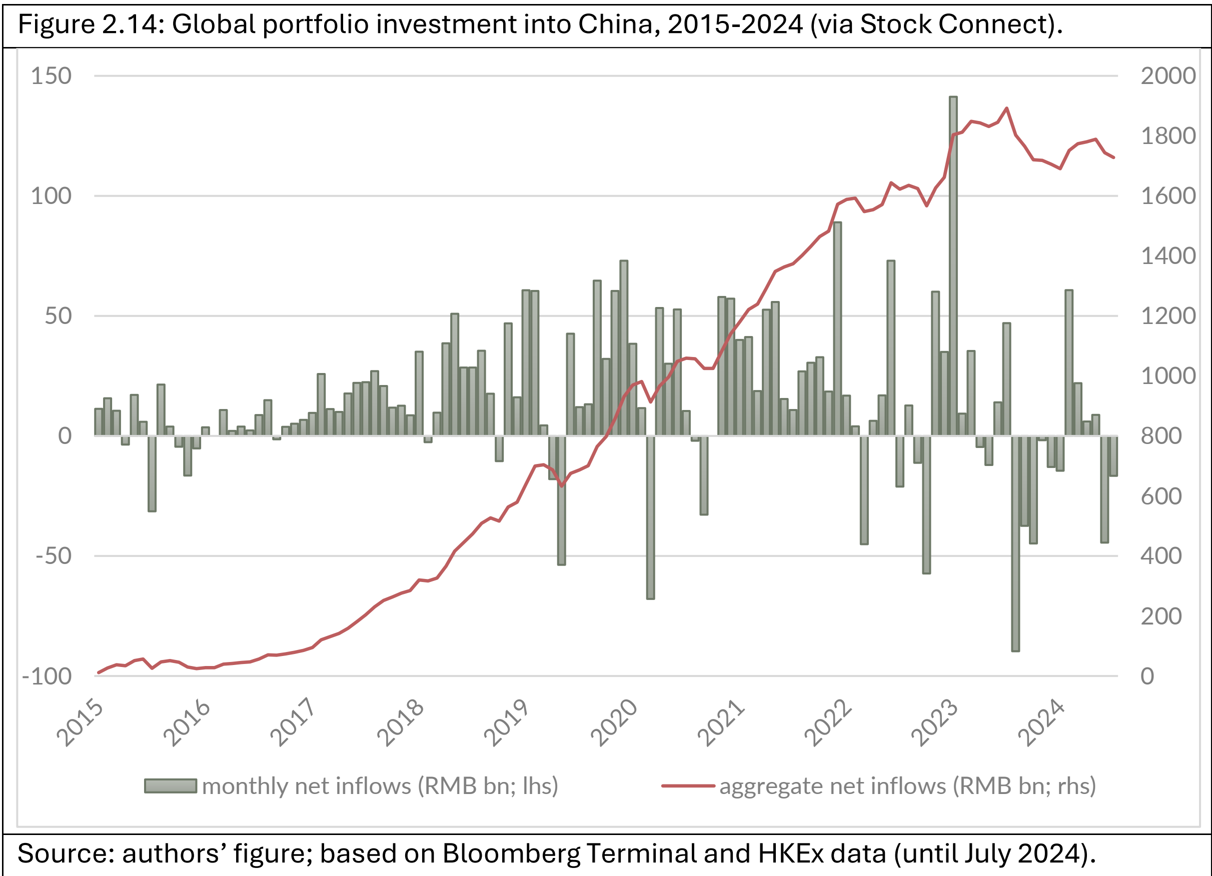
[27] MSCI/iShares 'Bring your A-Game to Investing in China' Webinar (20 September 2018).
[28] MSCI 'Adding A-Shares into Emerging Markets' Webinar (22 June 2017).
[29] Mark Stephenson, Index Equity Portfolio Manager iShares MSCI China A UCITS ETF at BlackRock, MSCI/iShares 'Bring your A-Game to Investing in China' Webinar (20 September 2018).
[30] MSCI/iShares 'Bring your A-Game to Investing in China' Webinar (20 September 2018).
[31] Based on TIC data.

to exclude sanctioned firms from their indices (Reuters 2021) illustrate this.[32] Between 2019 and 2024, the US government put more than 1,000 Chinese companies on the "entities" list that prohibited US companies and individuals from doing business with them, and by May 2024 almost 1,300 companies were subject to US sanctions (Rhodium Group 2024). While US investments were still higher than before the launch of the Connect program, mounting sanctions that affected a growing section of China's stock market, escalating geopolitical tensions and growing difficulties to explain China positions to their investors made China 'uninvestable' for parts of the US investment community (The Hill 2024). By 2023, US financial firms had reduced their investments to USD 800 billion (5.4 percent of total).

However, the US government was only able to influence US investors, not investors from other countries. Research by Reuters suggests that European and Asian investors often bought shares that US investors had to divest from (Shen & Westbrook 2021). When looking at net investments into China through Stock Connect (figure 2.14), we can see that investments have more or less plateaued. When taking into account the large outflows from US investors, it becomes clear that non-US international investors have not followed this trend. Even though US investments to China were curbed, other international investors filled the gaps.

Figure 2.14: Global portfolio investment into China, 2015-2024 (via Stock Connect).



Source: authors' figure; based on Bloomberg Terminal and HKEx data (until July 2024).

[32] Already in June 2019, Senator Marco Rubio had sent an open letter to MSCI accusing the company of enabling China to gain unprecedented access to US investment capital; the letter stated that 'what MSCI is doing is allowing the Chinese Communist Party controlled market, and its state-owned national champion companies, to access a critical source of capital and clothe itself in a facade of legitimacy' (Pena 2019).

It is important to note that global asset allocation is not only driven by US sanctions. A key driver of portfolio investments into China has been domestic economic conditions. While the rest of the world suffered from the economic consequences of an escalating Covid-19-pandemic, international investors poured more than USD 275 billion into Chinese stock and bond markets in 2020-21. The crackdown on tech companies and especially the drastic Covid lockdowns then led to outflows in 2021-2022. This was followed by another wave of inflows after Covid restrictions had been lifted in early 2023, while China's weak economic development facilitated outflows again in 2023-2024. By early September 2024, the market capitalization of China's and Hong Kong's stock markets had decreased by USD 6.5 trillion from their peak in 2021—a loss almost the size of Japan's entire stock market. The stimulus announced by the PBC in late September 2024 led to a 25 percent rally in stock prices and China's market capitalization increased by around USD 2 trillion, which triggered another wave of capital inflows.[33]

Meanwhile, investment activity between China and other Asian countries – especially from the Middle East – has increased significantly. In 2023, the largest investors into China's stock market were sovereign wealth funds from Singapore, Abu Dhabi and Kuwait, and between June 2023 and June 2024, Middle East sovereign wealth funds invested USD 7 billion into China's stock market, a 500 percent increase year-on-year (Hu, 2024). This was accompanied by further measures to financially integrate the two regions: in equity markets this included the listing of a China-focused ETF in Saudi Arabia (USD1.3 billion), two Saudi-focused ETFs in Shanghai (RMB 5 billion), and a Saudi-focused ETF in Hong Kong (USD1 billion).[34] In bond markets, this included the first listing of a USD-denominated Chinese government bond in Saudi Arabia (USD2 billion), which was 40x over-subscribed and largely bought by Middle Eastern and other Asian investors.

Financial ties between the Gulf States and China have been growing at a record pace. Although a substantial part of these cooperations is still conducted in USD, the growing integration of Middle Eastern actors into Chinese financial infrastructures has created the necessary conditions for a shift towards more non-USD denominated investments: this includes the first RMB-denominated commodity trades between UAE and China as well as Saudi Arabia and UAE's participation in China-led mBridge. As a recent HSBC report illustrates, this might reshape global financial flows (HSBC 2024).

In addition, we can see initial steps to creating Chinese-led capital market infrastructures in BRI countries. In Pakistan, Kazakhstan and Bangladesh, for instance, Chinese financial institutions have become the largest shareholders in the respective stock exchanges (Petry 2023). In Kazakhstan, this has for instance contributed to the creation of a BRI market segment where a first RMB-denominated bond (RMB 1 billion) was listed in 2020 to finance local BRI-projects. The construction of these financial infrastructures is still in its formative stages, and it is difficult to thoroughly assess its impact and potential. But as previously noted, the defining characteristic of infrastructures is their enabling function.

[33] At the same time, US stocks and treasuries had become a much more lucrative investment opportunity with much higher yields, as a hydraulic effect of the global capital cycle that operated independently of sanctions and Chinese macro-economic conditions.
[34] This was supported by a USD1 billion asset swap between Saudi and Hong Kong ETF markets aimed at increasing liquidity between the two markets.

Overall, China has created the infrastructural conditions necessary for the potential investment into RMB assets, while resisting capital account liberalization. Notwithstanding existing restrictions, foreign investors can own a substantial amount of RMB-denominated assets. While we observe cyclical changes in the demand for RMB assets by international investors, the foundations for larger investments into RMB assets have been laid. Similar to payments, non-Western investors and financial systems play an increasingly important role in this development.

2.3 Funding

A third important aspect of RMB internationalization is its use as a funding currency. This includes both private funding through RMB-denominated bonds and public funding like bilateral central bank swap lines. Of the three observed processes, this one is the least developed so far.

2.3.1 Panda bonds

The issuance of RMB-denominated bonds is critical to advancing the RMB's status as a funding currency. There are two channels through which this can take place. First, through bonds issued by foreign entities in China's domestic bond market, often referred to as "panda bonds." Second, through offshore RMB bonds, often referred to as "dim sum" bonds,[35] that are issued abroad and give international borrowers access to RMB funding outside of China's capital controls. Both bond types increase global demand for RMB, deepen RMB-denominated financial markets, and offer foreign investors exposure to RMB assets. By facilitating cross-border funding in RMB, they strengthen the currency's credibility and usability in global financial markets, thereby supporting its broader internationalization. While only accounting for a small share of all outstanding bonds as of 2024, both of these types of bonds have experienced strong growth in recent years.

While panda bonds allow foreigners to raise RMB onshore, there was initially only very limited activity in the panda bond market. The foundation for the panda bond market was laid in 2005 when the Asia Development Bank and International Finance Corporation first issued bonds following regulatory approval for international development organizations.[36] It was only after RMB internationalization had been initiated after the GFC that the panda bond market was further liberalized. In September 2010, PBC, Ministry of Finance (MOF), National Development and Reform Commission (NDRC), and CSRC jointly issued regulatory amendments that eased the outward remittance of Chinese RMB proceeds.[37] Between 2013 and 2015, the regulators then allowed foreign corporates, sovereigns and financials to issue panda bonds as well. German

[35] While all offshore RMB bonds are sometimes referred to as dim sum bonds, technically the term only applies to RMB bonds issued in Hong Kong; other types of RMB bonds include Formosa bonds (Taiwan) or Lion City bonds (Singapore).

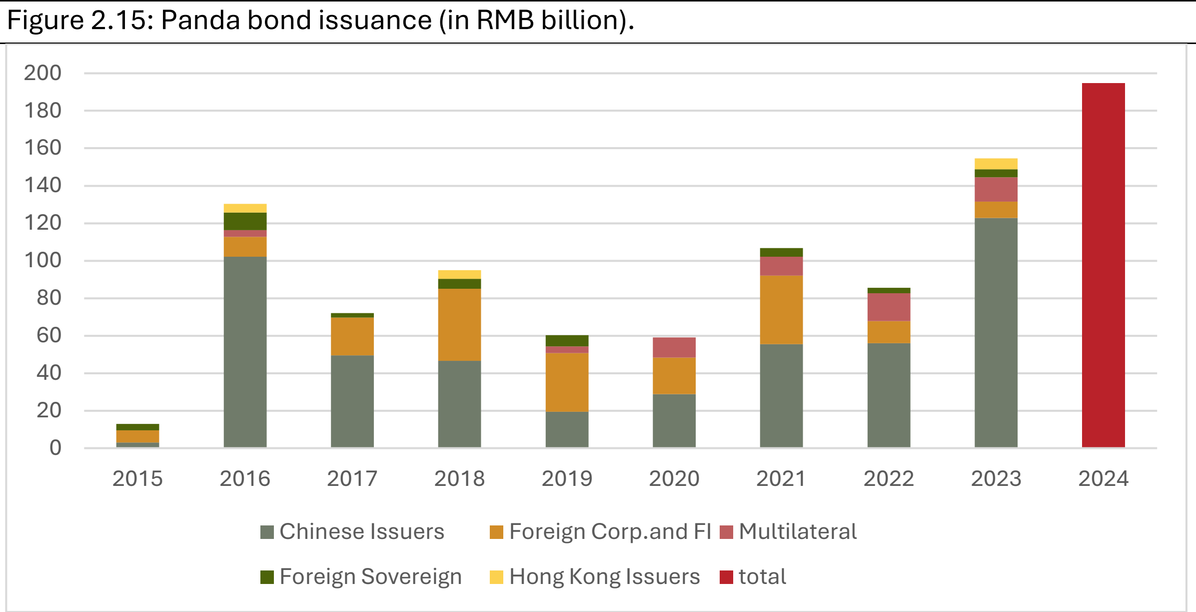
[36] PBC, NDRC and CSRC "Interim Measures for the Administration of CNY-Denominated Bond Issuances by International Development Organizations"

[37] "Interim Measures for the Administration of CNY-Denominated Bond Issuances by International Development Institutions" (2010, No. 10)

carmaker Daimler[38] (2014), Republic of Korea (2015) and HSBC (2015) issued the first foreign corporate, sovereign and financial panda bonds, respectively. In 2015, the PBC further eased restrictions, allowing the proceeds raised from panda bond issuances to be used both within and outside China, followed by more regulatory easing over subsequent years.[39] Following investor uncertainty about regulatory restrictions, PBC and SAFE further issued a circular in 2022 that allowed all types of issuers to choose whether to spend panda bond proceeds in China or fully repatriate them. This made the market even more attractive to potential issuers.

Resulting from these measures, the panda bond market grew significantly in the last decade. By September 2023, a total of 454 panda bonds had been issued by overseas institutions in China's bond markets with a cumulative volume of almost RMB 800 billion, with issuance in 2023 already accounting for RMB 155 billion (Figure 2.15). Driven especially by the issuance of foreign firms (Bloomberg 2024), 2024 was another record year for panda bond issuance with RMB194.8 billion raised. Importantly, the issuance of panda bonds increases the RMB's role as an international funding currency, thus significantly contributing to RMB internationalization.

Figure 2.15: Panda bond issuance (in RMB billion).



Source: authors' figure; based on Wind Financial Data and S&P Global (2024).
Note: No disaggregated figures available for 2024; however, by July 2024, foreign issuers accounted for 28% of panda bond issuances.

The surge in panda bonds has also been linked to the creation of the wider financial infrastructure enabling RMB internationalization, most notably the internationalization of CIBM.[40] Interest rate differentials between China and the US have also contributed to this. Since the tightening of monetary policies in the US and Europe in 2022, China has loosened policies further. It has therefore become much more attractive to raise funding in RMB. By July 2024 average borrowing

[38] By May 2021, Daimler had completed 30 panda bonds issuances, raising RMB 71 billion, which at the time accounted for 20 percent of the total panda bonds issue size on China's interbank bond market.
[39] "Interim Measures for Administration of Bond Issuance by Overseas Institutions in the National Inter-bank Bond Market"
[40] The majority of panda bonds are listed on CIBM; see S&P Global (2024).

costs for panda bonds had dropped to 2.44 percent, the lowest since their launch in 2005, and 2 percentage points below US Treasury yields.

2.3.2 Dim Sum bonds

The Chinese authorities also put in place regulatory measures to allow the issuance of dim sum bonds. After the NDRC had issued guidelines on this in 2007,[41] the China Development Bank issued the first dim sum bond in Hong Kong, followed by China's Ministry of Finance issuance of RMB6 billions of treasury bonds in 2009.[42] Before 2010, however, only Mainland financial institutions were allowed to issue RMB bonds in Hong Kong (after obtaining governmental approval) and they were required to remit the proceeds from such issues to the Mainland.

The development of bond market infrastructures and the relaxation of cross-border bond investment regulation have over time supported the increasing issuance of offshore RMB bonds. In 2010, for instance, the Chinese government allowed RMB bond issuance by multinational companies and international financial institutions, and the HKMA liberalized cross-border RMB settlements between Hong Kong and the Mainland.[43] In 2011, market restrictions were further relaxed, allowing an easier repatriation of proceeds to China and allowing firms to conduct outward FDI in RMB. Then, in 2012, the NDRC created a regulatory framework for Chinese non-financial institutions to issue dim sum bonds.[44] Moreover, SAFE and NDRC replaced the approval-based system with a registration-based issuance system in 2014-2015. As part of creating capital market infrastructures (section 3), Southbound Bond Connect also enabled Chinese investors to invest into Hong Kong's bond market, including dim sum bonds, which further increased their attractiveness and liquidity. Eventually, all restrictions on the type of issuer in dim sum bonds and the use of raised RMB funds were abolished.

Following these measures, dim sum bond issuance increased substantially from 2011 onwards. While the Chinese government and corporations[45] had been the largest drivers of this process, foreign companies like McDonald's and Unilever also increasingly used this channel to support their onshore business, while foreign financial firms also increasingly issued dim sum bonds.

A growing number of stock exchanges outside Greater China also started to facilitate the issuance of RMB-denominated bonds. In 2011, the Luxembourg Stock Exchange became the first European market to list offshore bonds with an issuance by German car manufacturer Volkswagen. By 2013, 40 bonds worth RMB 24 billion had been listed. By 2023, the outstanding value of RMB bonds stood at RMB 269 billion, making Luxembourg a crucial offshore RMB center

[41] NDRC "Interim Measures for the Administration of the Issuance of RMB Bonds in Hong Kong by Onshore Financial Institutions"

[42] The continuous issuance of offshore RMB bonds by the Ministry of Finance helped to establish a benchmark yield curve to facilitate the pricing of dim sum bonds issued in Hong Kong.

[43] HKMA "Elucidation of Supervisory Principles and Operational Arrangements Regarding Renminbi Business in Hong Kong"

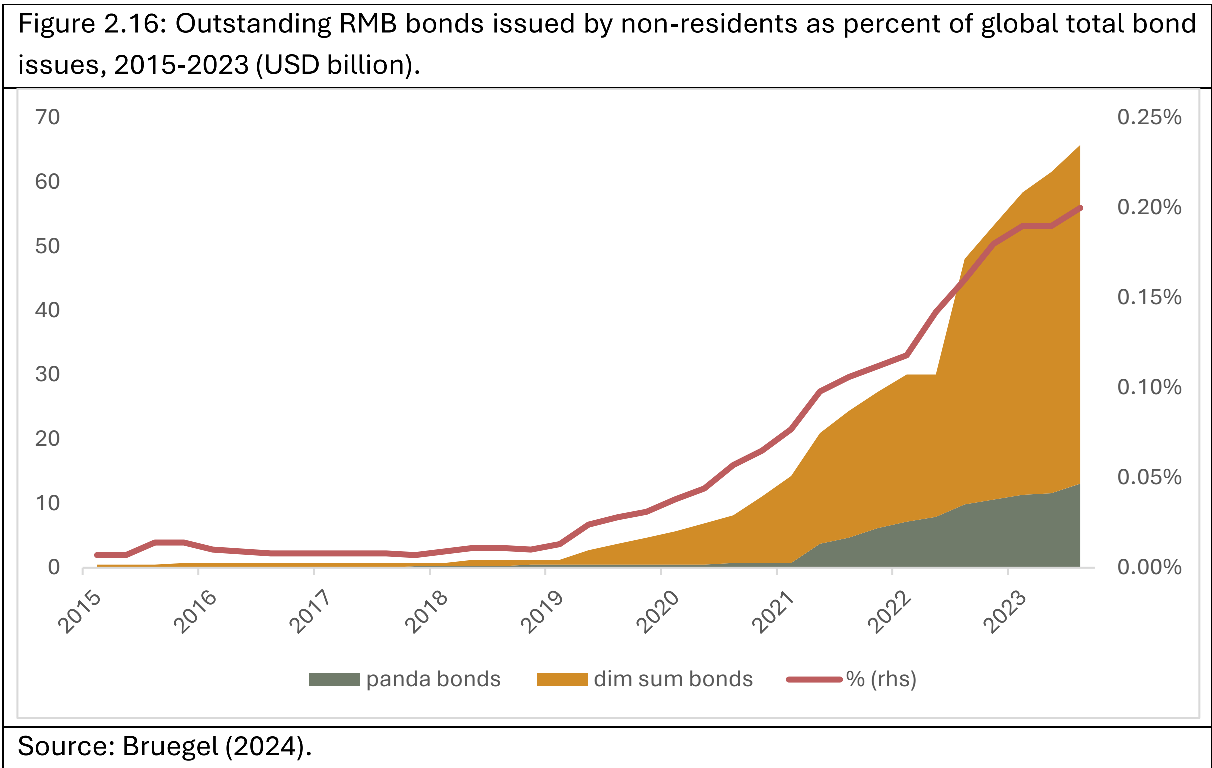
[44] NDRC "Circular on the Matters relating to the Issuance of RMB Bonds in Hong Kong by Onshore Non-Financial Institutions". HKMA also created the RMB Liquidity Facility in 2012 to address potential short-term liquidity tightness in the offshore RMB market, further bolstering liquidity in the dim sum market.

[45] For Chinese companies, funds raised through dim sum bonds could be used to support overseas expansions or to diversify sources of funding, especially when onshore bond liquidity becomes tighter.

(Goghie 2024). The London Stock Exchange also became an important offshore RMB bond hub. In 2013, ICBC issued the first RMB-denominated bond in London. This was followed in 2015 by the UK government, which issued the first ever RMB-denominated bond by a foreign government, as well as by the Chinese government in 2016 which issued its first RMB bonds outside of Greater China. By December 2023, 170 RMB-denominated bonds were traded on the London Stock Exchange with an outstanding value of RMB 102.6 billion.

Interest in issuing RMB-denominated bonds grew not only among Chinese companies but increasingly also among foreign companies and financial institutions. The outstanding RMB bonds from foreign borrowers increased from less than USD 10 billion in 2020 to almost USD 70 billion by the end of 2023, accounting for 0.2 percent of the global bond market (Figure 2.16).

Figure 2.16: Outstanding RMB bonds issued by non-residents as percent of global total bond issues, 2015-2023 (USD billion).



Source: Bruegel (2024).

External macro-financial conditions also contributed to the slow rise of RMB-denominated financing. Arguably, one reason for the slow development of RMB for funding purposes was due to the much cheaper option of borrowing in USD. Due to loose monetary policy (quantitative easing) in Western markets, especially the United States, interest rates for RMB-denominated bonds were much higher. This, however, has now reversed since the Fed and ECB both raised interest rates from 2022 onwards, while long-term bond yields in China have considerably decreased. It is now much cheaper to borrow in RMB, and it will be interesting to observe the effects thereof on the demand for RMB-denominated liabilities.

Importantly, this development was strengthened through China's wider network of financial infrastructures for RMB internationalization. This included the distribution of RQFII licenses, the establishment of offshore RMB clearing banks, and the growing number of collaborations between Chinese and foreign stock exchanges and trading platforms. While still only accounting

for a small percentage of international debt markets, this development demonstrates how the infrastructural arrangements created by the Chinese authorities to facilitate RMB-denominated funding have created crucial pre-conditions for the emergence of the RMB as an international funding currency. Through the development of both dim sum and panda bond markets, we can thus observe a steady increase of the RMB as a funding currency, although its role as such remains much smaller than for payments and investing.

2.3.3 Bilateral swap lines

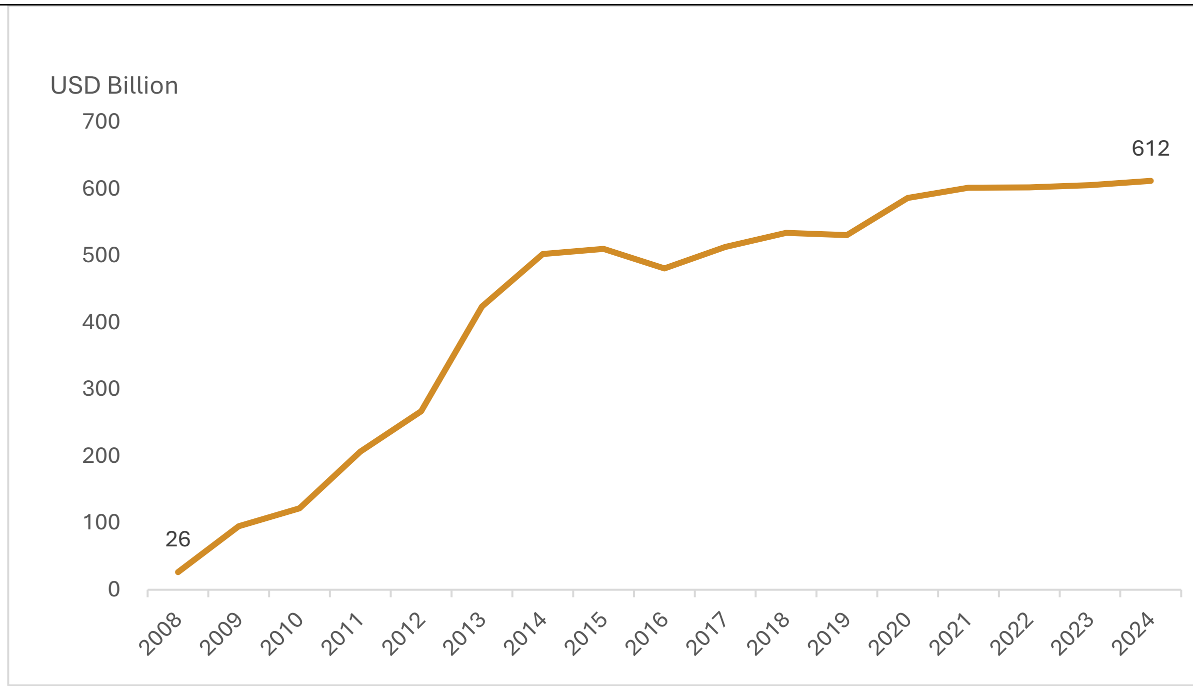
To further facilitate the RMB's role as a funding currency, the PBC created a network of bilateral swap lines with other central banks. A bilateral swap line is an arrangement where two central banks agree to acquire each other's currency in exchange for their own, either up to a pre-agreed limit or in unlimited amount.

China's motivation to create swap lines differs substantially from their traditional purpose, which is primarily to provide foreign currency liquidity to stabilize a financial system during a crisis. Most notably, the Fed's swap lines proved crucial in calming the USD liquidity crises during the GFC and the financial turmoil in the wake of the Covid-19 pandemic in March 2020. While China's bilateral currency swap agreements can also serve this function, they also advance RMB internationalization by facilitating cross-border trade payments within the context of China's relatively restricted capital account.

By facilitating access to RMB liquidity for partner countries, these agreements promote the use of RMB in trade, investment, and financial transactions. Importantly, this mechanism enables a broader international adoption of the RMB while maintaining control over domestic financial markets. The swap lines create a parallel mechanism for RMB liquidity distribution, bypassing the constraints of China's (semi-)managed currency system, reducing exchange rate risks and transaction costs for counterparties, and fostering trust in the RMB as a usable currency in international markets. China's bilateral swap lines can thus reduce USD reliance in bilateral transactions both for political reasons – like reducing sanction vulnerability – and economic reasons, especially to avoid volatility in the dollar value of local currencies due to changes in US monetary policy. Thus, these agreements are not solely crisis-driven but are also a cornerstone of China's controlled approach towards facilitating currency multipolarity.

In December 2008, China signed its first swap agreement. The agreement with the Republic of Korea, initially valued at RMB 180 billion, was established during the GFC, which had heightened liquidity concerns and exchange rate volatility in many economies. The swap line was designed to ensure trade and investment stability by allowing Korea and China to settle transactions in their local currencies, thus mitigating the pressure of dollar shortages and reducing currency risk exposure. This initial swap line highlighted the dual objectives of providing immediate financial stability and advancing longer-term currency internationalization goals.

Figure 2.17: Effective bilateral RMB swap line, 2008-2024.



Source: PBC

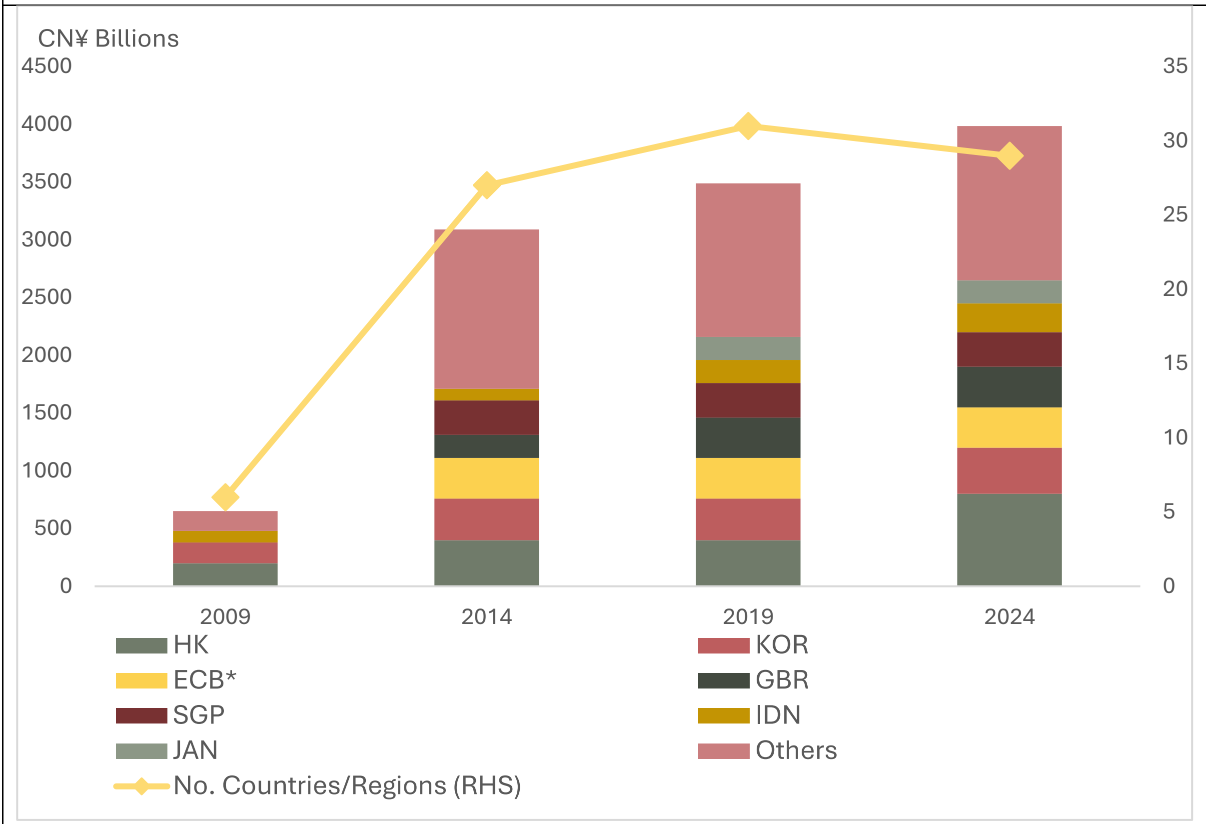
By 2024, China had signed 40 swap line agreements for a total of USD 612 billion. The geographic coverage began with neighboring Asian countries and later expanded to include other emerging markets, as well as a few advanced economies including Canada, the UK and the ECB, primarily to mitigate financial stability risks. The geography of China's bilateral swap line network is thus very different from the swap line network of developed economies (Steil et al., 2024). While the US, Canada, Japan, Australia and ECB all have swap line networks, these are almost exclusively with other high-income countries in Europe, North America or the Asia Pacific Region (APAC). In contrast, China's swap line network is largely focused on emerging markets; a development that mirrors the experience with the RMB's use in payments and investments.

Some countries have activated their swap lines with China. These countries faced liquidity constraints (e.g. Argentina, Pakistan) and the swap lines served an immediate stabilization function. The swaps provided RMB liquidity to mitigate foreign exchange shortages and ensure continued trade and financial flows. However, the emphasis has also been on facilitating RMB internationalization. The willingness to accumulate RMB-denominated reserves or engage in RMB-denominated financing may be limited if there are constraints on their use, and if they are not sufficiently liquid when needed – for instance in times of financial stress. For this, bilateral swap lines are important since they create confidence that RMB can be obtained from the PBC even in the absence of market liquidity.

It is important to note that RMB swap lines are not permanent, that they are not available in unlimited amounts, and that their activation has been limited so far. Beyond their actual usage, however, they can reduce perceived currency risks and thus promote the RMB's international usage. As a CEPR Discussion paper noted, signing a bilateral swap line with China increased the

probability that the respective country would use the RMB at all by 14 percent and increased the RMB's share in the country's payments by 1.3 percent (Bahaj & Reis 2022). The impact of swap lines extends beyond their actual usage to creating a broader safety net, thus further facilitating the RMB's international role.

Figure 2.18: Development of RMB bilateral swap line, 2009-2024.



Source: PBC via WIND Database.

Together, China's bilateral currency swap lines and RMB-denominated bonds play complementary roles in promoting the RMB as a global funding currency. On the one hand, swap lines enable central banks in partner countries to access RMB liquidity directly, facilitating trade and investment without relying on the US dollar. Over time, this fosters a deeper integration of the RMB into international financial markets, especially in countries/regions where such agreements serve as a bridge to RMB adoption. On the other hand, RMB-denominated bonds, such as panda and dim sum bonds, provide international borrowers with avenues to raise RMB capital. These instruments expand the pool of RMB-denominated assets, attract foreign investors and broaden the RMB's usage in global finance. The result is a self-reinforcing cycle: the increased use of RMB in bond markets supports its role in trade and financial transactions, while swap lines ensure liquidity to sustain and grow these activities. By aligning these tools strategically, China has provided the infrastructural arrangements necessary for the RMB to become an international funding currency, contributing to its broader objective of reshaping the international monetary system.

2.3.4 Concluding remarks

This chapter illustrated the crucial role of financial infrastructures for facilitating the growing internationalization of the RMB. It has focused on measures that were deliberately implemented to create the pre-conditions for increasing the RMB's international use for payments, investing and funding. While the RMB does not possess all of the key characteristics that are commonly assumed for a currency to become a global reserve currency – such as an open capital account – China has created a network of infrastructural arrangements that enables the international use of the RMB while resisting capital account liberalization. The goal of this approach has been described by the PBC as 'to strike a balance between development and security' (PBC 2022).

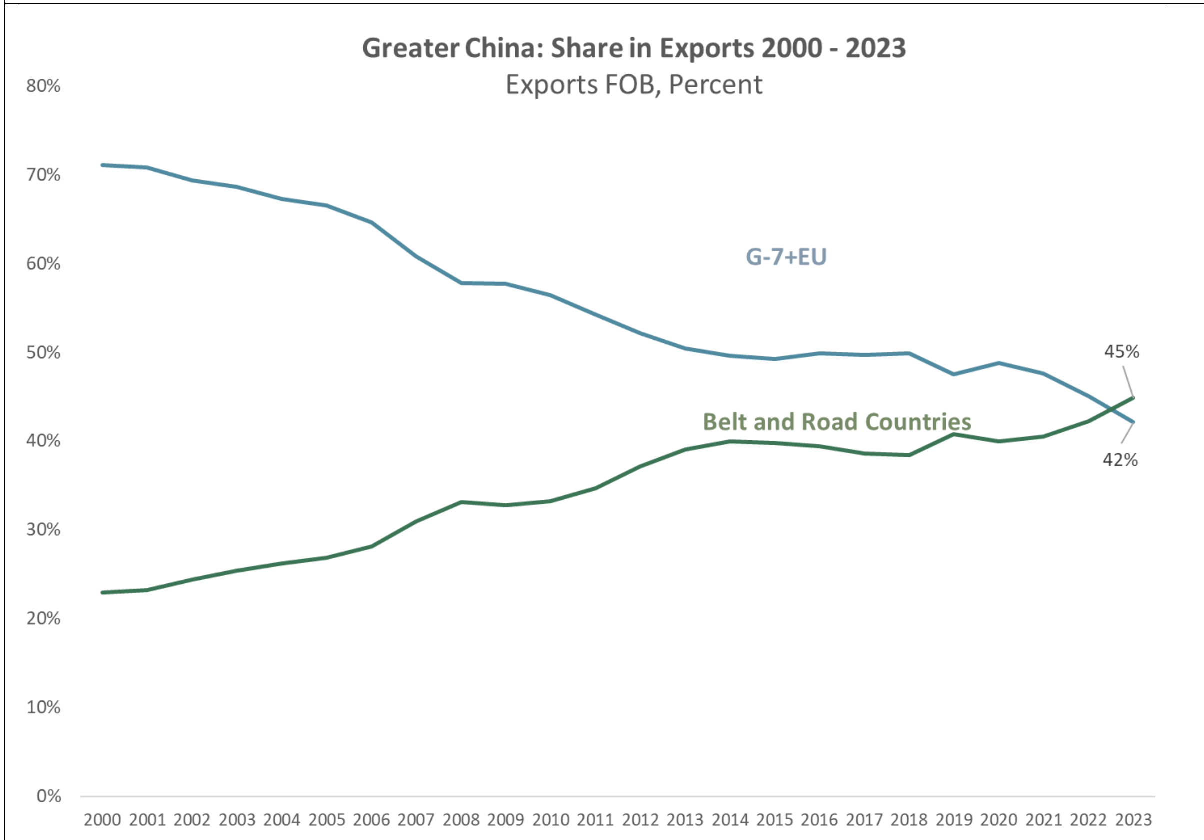
While the future direction of RMB internationalization is unclear, it is important to distinguish cyclical changes induced by market conditions and the infrastructural conditions that allow this process to continue while maintaining China's control over its financial system. For payments, investment and funding, the Chinese authorities have increasingly laid the groundwork for an accelerated international use of the RMB – whether this is triggered through cyclical changes in global financial markets, domestic policy changes or through structural shifts like the impact of geopolitics.

3. Chapter 3: Possible futures for RMB internationalization

Despite significant progress over the recent decade, international use of the RMB still remains comparatively limited. As the previous chapter illustrated, China has gradually built an extensive network of infrastructures to facilitate its broader use. However, the Chinese authorities remain concerned about the implications of internationalization for the stability of the RMB and for the risks of large capital outflows in terms of destabilizing China's development objectives. The inclusion of the topic in the general secretary's report of the 20th Party Congress in 2022 is thus highly significant, since it could spell renewed thinking on how such "stable" internationalization is to progress. The current course of the authorities can best be characterized as "cautious" and gradual, thereby minimizing the risks of disruption. Instead of an all-out opening, the creation of infrastructural arrangements that enable the international use of the RMB while maintaining state control over this process reflect this cautious approach. A more progressive reform course to RMB internationalization can be conceived as well, and the costs and benefits of the alternatives are changing.

The costs and benefits of further internationalizing the RMB are gradually changing. Controlling the currency and maintaining it at competitive levels may have served China well in the early stages of reforms, when it relied heavily on external demand and foreign investments to drive growth. Today, however, exports to GDP is less than 20 percent, and authorities have recognized the growing importance of domestic demand. The nature of trade has changed significantly as well: China has become a major integrator of supply chains, and its exports are increasingly sophisticated. This means that the sensitivity of its exports to exchange rate fluctuations are less important for competitiveness. Moreover, with more complex supply chains, the benefit of being able to bill and pay in one's own currency is growing. In addition, stability against western currencies such as the dollar makes increasingly less sense: China's exports to the "west" (G-7 plus EU) now make up less than its exports to Belt and Road countries (Figure 3.1).

Figure 3.1: China is increasingly trading with BRI countries.



Source: Pieke, Hofman and Tan (2025).
Notes: Greater China includes China and Hong Kong. Export data used does not include trade between China and Hong Kong. In cases where the counterparty is both a G7 / EU member, and a member of the BRI, these countries have been included in "G7 + EU" data. BRI countries from: Nedopil, Christoph (2023): "Countries of the Belt and Road Initiative"; Shanghai, Green Finance & Development Center, FISF Fudan University, www.greenfdc.org. Retrieved Sept 2024.

Maintaining a stable currency restricts monetary policy, at a cost. Keeping the RMB relatively stable vis-à-vis other currencies, in particular the US dollar, means less than full independence for its monetary policy. Arguably, China should have had a more expansionary monetary policy since the end of the COVID crisis, but rapid monetary tightening by the Fed and ECB to confront rising inflation kept China from lowering its rates. The PBC has been working for more than a decade on a new monetary framework, which depends less on an exchange rate anchor. At this stage there seems to be little reason, except political, to move towards a framework that targets domestic objectives, such as employment and inflation, by means of policy rates. However, China's leadership remains comfortable with a relatively stable currency vis-à-vis the dollar, as it serves geopolitical purposes as well as economic ones: the stability of the RMB against the dollar in the AFC and the GFC was seen as positive by the international community. The RMB also seems to increasingly play an anchor role for other Asian currencies (Gavekal, 2024), and the volatility of numerous Asian currencies against the RMB has markedly declined.

China's high savings rates and diminishing returns on investment at home make it a natural capital exporter. While such exports would need to be managed, the opportunities are abundant,

as exemplified for instance by larger investment ties with the Gulf States. The expressed desire by the authorities to create strong financial centers and to turn China into a financial powerhouse (Lee, 2024) would imply a further increase in capital exports over time, and this could promote RMB internationalization. China remains concerned about sudden outflows of capital for good reason, but the reality is that such capital flows are already large, just that they occur predominantly in USD rather than RMB. The main channels, such as lending for BRI projects, are not volatile, and could gradually be switched to RMB, provided the People's Bank is prepared to provide liquidity, for instance through currency swaps or contingent loans to central banks of borrowing nations. Further, access to the RMB capital market through panda bonds or RMB loans also offers more opportunity, in particular with the RMB interest rates currently below USD rates. China's growing Official Development Assistance (ODA) and state banks' development finance are further means by which China could accelerate RMB internationalization, much like Japan did in the 1980s and 1990s. Now that the financial infrastructures are in place to enable this in theory, the RMB internationalization becomes more a question of demand rather than supply.

The influence of the external environment will thus be significant for the RMB's international role in the future. Geopolitical tensions could force China into more actively pursuing RMB internationalization. In case of a geopolitical crisis, China could be hit by the type of sanctions currently imposed on Russia, or Iran, including an exclusion from the USD-based international payments system.[46] While the broader context in which such exclusion were to take place would be highly damaging for China's economy (and for the rest of the world), a functioning alternative payment system could limit the damage. Yet even without a crisis involving China, third countries' interest in reducing USD dependency and thus in RMB internationalization is growing, and may convince China's authorities to accelerate a move towards broader internationalization.

With the domestic and international factors in mind, 4 broad scenarios can be discerned for future RMB internationalization (Figure 3.2).

[46] Apparently, China has set up a group to study the impact of the sanctions on Russia and the way this country has attempted to find ways around those sanctions (Wall Street Journal 2024).

Figure 3.2: Four scenarios for RMB Internationalization.

External Environment \ **Domestic Policies**	*reformist*	*conservative*
benevolent	Rapid Rise	Slow Ascent
adversarial	Great Leap	Safety Net

Source: Authors.

In a *Rapid Rise* scenario, China would take the necessary steps to accelerate RMB internationalization within a benevolent external environment. This would require significant policy shifts, including the broadening of financial market access for qualified foreign investors, allowing greater flexibility in exchange rate management, as well as further developing CIPS and its messaging network, making it a more viable alternative to SWIFT for global transactions. China would also likely strengthen BSLs and other credit facilities to encourage greater RMB adoption, not only increasing RMB usage in global trade but also enhancing its role in financial markets. The impact would be most pronounced in Asia, Africa, and Latin America, where Chinese trade and investment ties are already strong, but also in Europe (see below). Over time, a successful rapid internationalization of the RMB could lead to a rebalancing of global currency power that reflects China's economic clout in the global economy, with China consequently playing a much more prominent role in shaping international financial policies.

In such a scenario, European monetary sovereignty would face both opportunities and challenges. On the one hand, a more widely used RMB could provide an alternative to USD dominance, thereby potentially enhancing the euro's role as a balancing force in global finance. This could lead to a more multipolar currency system and reduce Europe's exposure to dollar-driven financial volatility, as seen in crises like those of 2008 and 2022. Additionally, European firms with deep trade and investment ties to China might benefit from increased access to RMB-denominated assets and financial instruments. However, a more globally integrated RMB could also shift global capital flows away from the eurozone, affecting the stability of European financial markets. The ECB might face challenges in maintaining control over monetary policy, particularly if capital inflows into RMB markets reduce the appeal of euro-denominated assets. Furthermore, if China offers competitive financial products or safe-haven alternatives to the euro, European influence in global finance could deteriorate. In response, Europe would need to strengthen the euro's international role, possibly by deepening its own financial markets, increasing euro-denominated trade settlements, and fostering deeper cooperation with China on financial

infrastructure to ensure continued European access and influence in the evolving monetary landscape.

In a *Slow Internationalization* scenario, China would maintain its current cautious and incremental approach toward RMB internationalization. This is basically to stick to the current track. The government would likely prioritize regional initiatives, like CMIM and BRI, to promote RMB adoption without making a full commitment to financial liberalization. A slow trajectory would also mean that Chinese policymakers would continue to maintain a degree of control over exchange rates and capital account liberalization. The impact of this scenario would be a steady but contained increase in RMB internationalization, particularly with China's key trading partners. The dollar and euro would continue to dominate global finance, but China's regional influence in Asia and among BRI countries would gradually strengthen. This approach minimizes immediate disruptions to the global financial order while ensuring that China maintains control over its financial system, reflecting the authorities' preference for stability over rapid transformation. China would continue its current gradual and cautious approach to RMB internationalization.

For Europe this scenario would mean relatively little immediate disruption to the existing monetary order. The euro and the dollar would mostly maintain their dominant global roles. While not directly threating European monetary sovereignty, the incremental rise of the RMB in global transactions, particularly with BRI countries, could however have longer-term implications. A slow but steady increase in RMB usage might gradually reduce Europe's influence in certain emerging markets, particularly in Asia and Africa, where Chinese financial institutions play a growing role. If more trade is settled in RMB rather than euros, European banks and businesses might need to increase their reliance on Chinese financial channels, potentially reducing the euro's role in global trade financing. However, this scenario would also allow European policymakers more time to adapt, potentially strengthening their own financial infrastructure and promoting greater euro usage in trade and investment. The ECB could use this period to explore deeper financial cooperation with China, such as joint initiatives on digital currencies or regulatory alignment in cross-border payments. Ultimately, while the slow internationalization of the RMB would not immediately constrain European monetary policy autonomy, it could gradually shift the balance of influence in global finance, requiring Europe to remain proactive in defending and promoting the international role of the euro.

In a *Safety Net* scenario, China's policymakers would adopt a defensive approach in an adversarial environment, focusing on maintaining the country's ability to conduct international transactions while limiting exposure to external financial pressures. This approach would emphasize the development and reinforcement of China's payment infrastructure—particularly CIPS—ensuring that it remains a viable alternative in case of disruptions to traditional USD-based systems. However, broader aspects of financial internationalization, such as capital account liberalization or the global promotion of RMB-denominated assets, would likely be deprioritized. Instead, China would concentrate on securing essential trade financing in RMB, particularly for transactions involving strategic partners. Given that currently only half of China's trade is settled in RMB, this scenario would still result in an increase in the currency's international use, albeit in

a more restricted manner. By limiting risks associated with large-scale RMB internationalization, this scenario would allow China to safeguard its domestic financial stability while ensuring it retains some access to international markets under potentially adversarial conditions. However, the upside of this approach would be relatively limited. While it would provide China with resilience against external shocks, it would not significantly alter the global monetary landscape. The RMB would continue to play a secondary role in global finance, growing primarily in transactions directly linked to China while remaining constrained in broader international markets.

In this scenario, the impact on European monetary sovereignty would be relatively contained, but with specific areas of concern. If China focuses on securing its international payments system while restricting broader capital flows, European firms and financial institutions engaged in China-related transactions might find themselves increasingly reliant on CIPS rather than SWIFT. This could pose a challenge for European banks that are accustomed to operating within largely USD and Euro-dominated global payment infrastructures. While this scenario does not imply a major shift in global financial power, it could still somewhat reduce European influence in regions where RMB usage is expanding, particularly among China's key trading partners in Asia, Africa, and the Middle East. A defensive approach by China might also limit opportunities for deeper euro-RMB financial integration, making it harder for European financial institutions to tap into China's markets. Furthermore, if China's cautious approach leads to greater fragmentation in global payments, European businesses could face higher transaction costs and regulatory complexities. The ECB would need to consider strategies to maintain euro competitiveness in international payments while ensuring that European firms retain access to China's financial system under potentially more restrictive conditions.

In a Great Leap scenario, necessity rather than strategic planning would become the driver of the policy moves leading to a wider use of the RMB. This scenario would take place in a more adversarial external environment, possibly in response to a major geopolitical event, such as financial sanctions imposed on China by Western powers and China's potential exclusion from the USD-based financial system. Under this scenario, the adoption of the RMB would grow primarily among China's strategic partners and countries facing similar pressures to move away from dollar dependency. This growth would be uneven, as financial fragmentation along geopolitical lines would create barriers to seamless global integration. While some countries might be willing to increase RMB usage for trade and investment, others may be reluctant to do so due to concerns over China's economic policies or potential retaliation by increasingly interventionist Western powers. Unlike the Rapid Rise scenario, where internationalization happens under favorable conditions, the Great Leap scenario would likely result in a more volatile and politically charged environment. China's leadership might attempt to implement emergency financial measures to stabilize markets, such as forced capital controls or the rapid expansion of offshore RMB liquidity. While the RMB's role would certainly expand in this scenario, the nature of its growth would be highly reactive and constrained by political factors, making it a more unpredictable path to internationalization. Such a scenario is risky, and China's leadership is unlikely to embark on it willingly.

In a situation where geopolitical tensions force China into an urgent and reactive push for RMB internationalization, European monetary sovereignty would face considerable uncertainty. If China were to be excluded from the USD-based financial system, it would likely accelerate efforts to create parallel global financial infrastructures centered around the RMB. This could lead to financial fragmentation, where different regions and economic blocs align with competing monetary systems. For Europe, the implications would be significant. Some European economies with strong economic (e.g. Germany) and/or political (e.g. Hungary) ties to China might need or want to deepen their trade and financial ties with China. However, aligning with an alternative RMB-based system could create friction with the United States and its allies, especially in an increasingly tension-laden international environment. The euro's position as a global currency could be destabilized if European firms are pressured to choose between USD and RMB-based financial systems. Additionally, financial sanctions and counter-sanctions could introduce volatility in European markets, potentially limiting the ECB's ability to conduct effective monetary policy. European banks with exposure to both Western and Chinese financial systems might face compliance challenges, as they navigate conflicting regulatory regimes. HSBC's recent corporate restructuring into a Western and Eastern division is a first example of this (Li et al., 2024). On the other hand, if Europe remains neutral, it could position itself as a mediator between the two financial blocs, strengthening the euro's role as a bridge currency. However, this would require careful strategic maneuvering to avoid becoming collateral damage in a broader financial confrontation between the United States and China.

The consequences for the international monetary system and Europe vary widely across the various scenarios. But it is the external circumstances, rather than the RMB internationalization itself, that are more likely to be most consequential. The international financial system would be able to accommodate a Rapid Rise or a Slow Internationalization of the RMB, as it has done with the DMark, yen and euro in the past. This holds true in particular when the stakes of China within the existing system are large enough for China to continue to engage with it. This would argue for a deeper involvement of China within the existing system, notably through the governance of the IMF and World Bank.

A main downside of the two scenarios would be that countries that are under sanctions imposed by the US and its allies could find financial refuge in an alternative, RMB-based system. Given the experience with Russia, this remains unlikely: China's financial system and broader economy is sufficiently interconnected with the rest of the world to want to avoid secondary sanctions. However, the presence of a separate RMB-based international payment system would make it harder to detect any financial interaction with a sanctioned state and its entities, and therefore make those sanctions less effective. Agreements on exchange of information, similar to the international agreements made on money laundering and tax compliance, can mitigate this risk.

Some of the actions by China in pursuit of a Rapid Rise scenario could diminish the importance of the existing USD-based order in a broader sense. Rapid expansion of RMB lending and an extension of RMB currency swaps to countries in liquidity problems could undermine the effectiveness of existing institutions such as World Bank and IMF. China applies different norms

and standards in its lending, which it derives in part from its own domestic experience, and they are not necessarily aligned with the prevailing international practices. However, this issue is only tangentially related to the internationalization of the RMB, as China currently has the same capability in USD and other international currencies as well. Moreover, China has demonstrated its willingness to join efforts such as the G-20 Debt Service Reduction Initiative and the Joint Framework for Debt Reduction. China's RMB finance has also been supportive of IMF-supported programs, for instance the programs for Argentina and Pakistan.

In a Great Leap scenario, the international monetary system risks breaking down into blocks, underpinned by stronger trade and investment among likeminded countries on either side—the USD based system and the RMB based system. This would obviously be detrimental to international trade and finance, but the trigger will not be the RMB internationalization itself. Rather it would be the geopolitical context that leads to the damaging split.

From the debate in academic and policy circles in China, one can conclude that a gradual approach to RMB internationalization remains the preferred option for the authorities. Thus, the "slow ascent" scenario still seems to be the most likely, but the "rapid rise" scenario cannot be excluded, nor can a move towards a "safety net" scenario. In any of these scenarios, the risk to the euro, if any, seems contained and manageable, though the currency may lose some of its current prominence once the RMB is used more widely internationally. In particular, the funding role of the euro could come under pressure if China opens its capital account further, and China's savings surpluses can be put to use by foreign borrowers. A deepening of capital market integration within Europe would help counter any issue that might arise in the process.

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5.4 List of abbreviations

ABC	Agricultural Bank of China
APAC	Asia-Pacific
ADB	Asian Development Bank
AFC	Asian Financial Crisis
ASEAN	Association of Southeast Asian Nations
BIS	Bank for International Settlement
BRI	Belt and Road Initiative
BCPI	BRICS Cross-Border Payment Initiative
CBDC	central bank digital currency
CFETS	China Foreign Exchange Trade System
CIBM	China Interbank Bond Market
CSRC	China Securities Regulatory Commission
CHIPS	Clearing House Interbank Payments System
CIPS	Cross-Border Inter-Bank Payments System
DCE	Dalian Commodity Exchange
ECB	European Central Bank
ETF	exchange traded fund
Fed	Federal Reserve
FDI	Foreign Direct Investment
FX	Foreign Exchange
GDP	Gross Domestic Product
GFC	Global Financial Crisis
HKEx	Hong Kong Exchanges and Clearing
HKMA	Hong Kong Monetary Authority
HKSCC	Hong Kong Securities Clearing Company
ICBC	Industrial and Commercial Bank of China
INE	International Energy Exchange
IMF	International Monetary Fund
LNG	Liquid Natural Gas
LME	London Metal Exchange
MDE	Mainland Designated Enterprises
MOF	Ministry of Finance
NDRC	National Development and Reform Commission

NPC	National Party Congress
ODA	Official Development Assistance
PBC	People's Bank of China
QDII	Qualified Domestic Institutional Investor
QFII	Qualified Foreign Institutional Investor
RMB	Renminbi
RQFII	Renminbi Qualified Foreign Institutional Investor
SHFE	Shanghai Futures Exchange
SHIBOR	Shanghai Interbank Offered Rate
SSE	Shanghai Stock Exchange
SZSE	Shenzhen Stock Exchange
SWIFT	Society for Worldwide Interbank Financial Telecommunications
SDR	Special Drawing Rights
SPV	Special Purpose Vehicle
SPSA	Special Segregated Accounts
SAFE	State Administration of Foreign Exchange
SOE	State-Owned Enterprise