The RMB in the Global Economy

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ABSTRACT

This study discusses the global role of the RMB. After recapitulating its economic and trade growth experiences, we recount China’s evolving exchange rate policy in the post-reform era, review the debate over whether the RMB is overvalued or undervalued, present China’s policies to globalize the RMB, describe offshore RMB trading, assess the current global status of the RMB, and discuss geopolitical tensions in the last few years. Since 2009, the process of globalizing RMB has not been smooth sailing and progressed quite unevenly over time. Despite the strong performance in the early 2010s, the RMB is under-represented in the global market and its global role does not match China’s economic might. The path of RMB internationalization is affected by both China’s economic performance and geopolitical factors.

KEYWORDS: RMB Valuation; Offshore RMB trading; Global FX Trading; Global Reserves; Geopolitics

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1 Introduction

Since Deng Xiaoping, the then paramount leader of China, launched the “reforms and opening up” (Gaige Kaifang, 改革開放 in Chinese) policy in late 1978, the Chinese economy has advanced at a phenomenal growth rate. Between 1979 and 2020, the Chinese economy, in local currency real terms, grew 37-fold, and delivered an average annual growth rate of 9%. Even though China has experienced uneven development patterns in different sectors – the progress in financial sectors, for example, is noticeably behind the manufacturing and trade sectors – it manages to transform its inefficient and almost autarkic economy into the second-largest economy and the largest trading nation of the world in less than four decades.¹ China’s economic performance over the last four decades is a tough act to follow.

In the process of building up its global economic eminence, China has periodically modified its foreign exchange policy and gradually increased the role of market forces in determining the value of its currency, the renminbi (RMB). Before the 1990s, the world did not pay much attention to China’s exchange rate policy and the RMB. The global community has put China’s exchange rate policy under scrutiny after observing its trade surplus and holding of international reserves increased dramatically after its admission to the World Trade Organization (WTO) in 2001. There is extensive debate on the RMB valuation and prognosis of the role of the RMB in the global monetary system.

China’s exchange rate policy reached a turning point when it stepped up its efforts to promote the international use of the RMB after the 2007-8 Global Financial Crisis (GFC). Since then, the global economy has anxiously embraced the implications of a global RMB for the balance of power in the world financial market and the race of geopolitical supremacy. One salient accomplishment of China’s effort to globalize its currency is the inclusion of the RMB in the IMF’s Special Drawing Right (SDR) currency basket. On October 1, 2016, the RMB acquired the official global reserve currency status and became the first developing country currency to join the SDR currency basket.²

The process of globalizing RMB has not been a smooth sailing, though. After a strong start in building up the RMB’s global currency status, the progress hit speed bumps after 2015 due to unexpected changes in China’s foreign exchange management, capital control measures and geopolitical tensions that reduce the appetite for RMB activity overseas. Despite its impressive economic heft – the second-largest economy, the largest holder of international reserves, and the largest trading nation, the RMB plays a relatively minor role in the global market. For instance, China in 2020 accounted for 17% of world output and 13% of international trade. At the same time, the RMB accounted for less than 3% of global reserves, less than 5% of global foreign exchange trading, and less than 3% of world payment currency.

The RMB’s path to becoming a full-fledged global currency depends on China’s economic conditions, ability to gain the trust of foreign investors and geopolitical power, and the reactions of incumbent countries, including the US. It is useful to take stock of China’s efforts and assess

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¹ The US is the largest economy. Based on purchasing power parity measures, China is the world largest economy.
² IMF announced the inclusion of the RMB to the SDR basket in November 2015. The US dollar, the euro, the Japanese yen, and the British pound are the four incumbent SDR currencies.
the role of the RMB in the global market, which would shed light on the prospect of a global RMB currency. We do not mean to determine the factor underlying the under-presentation of the RMB in the global financial system. Instead, our discussion aims to provide a concise and balanced account and highlight the multitude of factors, including capital controls, policy uncertainty and geopolitics that affect a currency’s global status. In the next section, we recount China’s evolving exchange rate policy in the post-reform era after recapitulating its economic and trade growth experiences. Section 3 reviews the debate on RMB misalignment; whether the RMB is overvalued or undervalued. Section 4 presents China’s policies to promote the international use of the RMB and offshore RMB trading. Section 5 assesses the current global status of the Chinese currency. Section 6 discusses geopolitical development. Section 7 offers some concluding remarks.

2. Background
During its first three decades, the communist People’s Republic of China was relatively isolated from the main global economy; it was proud of being “self-reliant” in building its economic and political structures. However, the Chinese economy was stuck at a low level of per capita gross domestic product (GDP) and was among the list of low-income countries. For instance, China’s real per capita GDP ranked 115th in 1970.3

China’s modern history of economic development reached a landmark when it officially endorsed the “reforms and opening up” policy directive in the 1978 National Party Congress.4 Since then, China has pursued a gradualist approach to opening up its economy. In the last few decades, it has been transited from a lethargic planned economy towards a vibrant and growing one and from a mostly closed economy to a significant player in the global market. The rest of the section highlights China’s economic growth and trade integration, and recounts its evolving exchange rate policy.

2.1 Growth Powerhouse
Since 1979, China has experienced phenomenal growth, which is sometime dubbed the China “economic miracle.” Figure 1 shows China’s real GDP and growth in local-currency from 1979 to 2020. Despite the apparent wild swing in early years and the slow-down in recent years, the Chinese economy had an average annual growth rate of 9.22% and grew thirty-seven-fold in the local currency in real term.5 Sometimes, China’s economic miracle is compared with the strong growth record of, say, Japan in the post-World War II period and the Four Little Dragons in the 1970s to early 1990s.6.

[Insert Figure 1 here]

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4 The reform agenda advanced in the Third Plenum of the 11th National Congress of the Communist Party of China (December 22, 1978) advocated the so-called Four Modernizations - the modernization of agriculture, industry, science and technology, and the military. See, for example, Rosen (1999) and OECD (2005) for accounts of the open-door policy and its implications.
5 On the reliability of official growth data, see Fernald, Hsu and Spiegel (2015), Holz (2004), Klein and Ozmcucr (2003), Koch-Weser (2013), and Rawski (2001, 2002). China has revised GDP growth rates with data from its National Economic Census. Based on the conducted Censuses, China revised its growth rate upward in 2004 by 16.8%, 2008 by 4.4%, 2013 by 3.4%, and 2018 by 2.1%.
Comparing the Chinese and US growth experiences in US dollar terms is quite revealing. China’s average annual growth rate is 11.69% between 1979 and 2020, 9.90% between 1979 and 2000, and 13.56% between 2001 and 2021. The corresponding US average annual growth rates are 5.23%, 6.72%, and 3.66%. The growth differential significantly narrows the gap between the sizes of the Chinese and the US economies (Figure 2).

[Insert Figure 2 here]

Figure 3 offers an alternative perspective on China’s strong economic performance – it depicts the shares of world GDP accounted for by China and the US. In 1979, China accounted for less than 2% of the total world GDP. And, by 2020, it surpassed the 17% mark and is in a position to challenge the US 24.72%.

[Insert Figure 3 here]

Despite starting at a low level in the 1970s, China’s “super-charged” its economy in the last four decades makes it a main growth engine of the global economy. There are discussions on China overtaking the US as the world’s largest economy as early as, say, 2030 (Economist, 2014; Carter, 2014; Frankel, 2014; Giles, 2014; Pethokoukis, 2014; World Bank, 2013a). Indeed, when the economy size is measured on the PPP-basis, the Chinese economy overtook the US to become the largest economy in 2014. Despite the different views on the relevance of market-based or PPP-based data, the sheer prolonged high growth rate is quite an astonishing accomplishment for the Chinese authorities.

Mirroring its growth momentum, China’s GDP per capita has delivered a strong performance since 1979 (Figure 4). In US dollar terms, China’s output per capita has an average annual growth rate of 10.69% between 1979 and 2020; and its growth in the 21st century is higher than that before. China’s growth rate compares quite favorably to the US average annual rate of 4.25 during the same period. The growth differential reduced the US to China GDP per capita ratio from a high of 63.45 in 1979 to 6.05 in 2020. China’s per capita GDP has improved from less than 2% of the US figure in 1979 to 16.53% in 2020. Although China has caught up quite a lot, there is still room for improvement. China’s per capita GDP in US dollar term ranked the 89th in 2020 according to the World Bank data. When the output is measured with PPP-based data, China’s per capita GDP in 2020 is 17,211 international PPP dollar, which is 27% of the US one and ranks 95th worldwide.

[Insert Figure 4 here]

2.2 A Trade Titan

The 2013 news headline that China’s total foreign trade (the sum of exports and imports) in 2012 surpassed the US total affirmed China’s prominence in international trade. Before China overtook the US, the US was the largest trading nation for over six decades. China’s fast expansion

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9 China’s 1990 figure is 982 international PPP dollar which is 4.1% of the corresponding US figure; see https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD?most_recent_value_desc=true.
in international trade is a significant driver of its phenomenal economic growth\textsuperscript{10} and provides a strong base for designing the 2009 RMB internationalization policy based on cross-border trade settlement (Section 4).

The early phase of the 1978 reform initiative focused on upgrading China’s economy and opening up has underpinned the expansion of its trade sector. China’s accession to the WTO in December 2001, success in attracting foreign direct investment that brought in the needed capital and technical know-how, and strategic positioning in the global production chain have provided additional catalysts to establish China’s dominance in international trade.

Figure 5 displays the shares of global trade contributed by China and the US between 1979 and 2020. The figure clearly shows that China’s share has been increasing over time while the US one has started declining since the beginning of 2000s. Specifically, China’s share of global trade was 1.10% in 1981, 3.63% in 2000, and 13.32% in 2020. The gain in share is noticeably more substantial after joining the WTO in 2001. On the other hand, the US share of global trade declined gradually from the high of 15% plus in 2000 to about slightly larger than 10% in 2020. China’s gain in global trade share reflects its strong growth in total trade. Its foreign trade value multiplied by 11 times between 1981 and 2000 and an even more impressive 108 times between 1981 and 2020. The growth is much higher than the 7.43 times of the US and the 8.98 times of the world between 1981 and 2020.

Between 1981 and 2020, China grew its imports about 95 times and exports by 120 times. The growth again was stronger after joining the WTO in 2001. China has been the world's largest exporting country after overtaking Germany in 2009. On the import side, China was the second-largest importing country in 2020. The growth of exports outpaces that of imports, and the growth differential yields China’s huge trade surplus over time. We will get back to the differential growth in imports and exports later.

2.3 Exchange Rate Policy

China’s official currency, the RMB, was introduced on December 1, 1948 before the official establishment of the People’s Republic of China on October 1, 1949 and the yuan is its basic unit. Both political and economic considerations have guided China’s exchange rate policy, though the relative weight of these two considerations has shifted over time. Before launching reforms in 1979, the policy was designed to support the central economic plan. After 1979, the policy has gradually shifted the weight towards economic factors and assigned market forces a more significant role in determining the RMB exchange rate. In this subsection, we offer a brief review of China’s exchange rate policy after 1979.\textsuperscript{11}

2.3.1 Early Phases: 1979 to 2004

\textsuperscript{10} Benkovskis and Wörz (2015), for instance, show that even allowing for the value-added and other issues of measuring trade performance, China’s gain in global trade is substantial.

\textsuperscript{11} Cheung, Chow and Qin (2017), Liew and Wu (2007), Shi (1998), and Wu and Chen (2002) provide alternative accounts of the evolution of China’s exchange rate policy. Miyashita (1966) discusses the early currency and financial systems.
The initial phase of China’s reform masterminded by Deng Xiaoping focused on revamping the manufacturing and trade sectors and improving productivity and efficiency. China experimented with the export-led growth strategy to rejuvenate the economy in the process of transforming its economy. To facilitate the export sector and manage foreign exchange reserves, China experimented with alternative mechanisms to determine the RMB’s value. Between 1979 and 1993, China practiced a dual (or, in practice, multiple) exchange rate regimes that allowed for different degrees of market forces in different sectors of the economy.12

China made a substantial policy change in January 1994 when it replaced the dual-rate arrangement characterized by the official rate and the swap market rate with a single exchange rate, which was set at the level of one US dollar to 8.7 Chinese yuan (CNY). Figure 6 shows the nominal and the (reversed) real RMB exchange rate against the US dollar. Initially, the unified single market rate relative to the official rate represented a devaluation of about 33%. Then, the RMB gradually appreciated to the level of CNY 8.28 per US dollar and remained around that level until mid-2005, when China moved on to a different exchange rate arrangement. The close link between the RMB and US dollar is also illustrated by their effective exchange rates. The Bank for International Settlements (BIS) data indicate that the nominal effective exchange rates of the RMB and the US dollar have a correlation coefficient estimate of 0.99 between January 1994 and June 2005.13

Conceivably, a stable RMB exchange rate provides China with an economic environment conducive to developing its economy and trade sector. Indeed, the stable RMB/US dollar exchange rate served China well – China’s trade surplus, economic growth, and holding of international reserves started their remarkable expansion between 1994 and 2005.14 However, the drastic devaluation and the subsequent de facto peg to the US dollar have become the source of the contentious debate on China’s exchange rate policy. The US, in particular, bitterly complained China was pursuing a deliberated undervaluation policy to gain unfair advantages in international trade.

2.3.2 Revamping the Fixing Mechanism

Amid soaring trade surplus and criticisms about the de facto peg, China on July 21, 2005 instituted a different mechanism to determine the daily official RMB fixing. The China Foreign Exchange Trading System (CFETS), which is housed in Shanghai and under the direct jurisdiction of the People’s Bank of China, is responsible for implementing the fixing mechanism. Specifically, China adopted a managed and regulated floating exchange rate regime based on market demand and supply, and with reference to a basket of currencies (People’s Bank of China, 2005).

Compared with the bilateral exchange rate peg against the US dollar, the valuation against a currency basket provides a better measure of the overall strength of the RMB. Further, a stable

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12 Huang and Wang (2004), Lin and Schramm (2003), and Xu (2000) review and assess China’s exchange rate arrangements in the early stage of the reform period.
13 During the same period, the correlation of the real effective exchange rates of the RMB and the US dollar is 0.77.
14 Ding (1998) and Schnabl (2013) note the problems underlying China’s multiple rate regimes and the benefits of a stable RMB.
currency basket exchange rate policy can free the RMB from tracking the US dollar and offer China a leeway to tune down the role of the US dollar in formulating its exchange rate policy.

The revamped policy started with a 2% revaluation against the US dollar from 8.28 to 8.11 on July 21. Then, the RMB experienced a gradual appreciation until July 2008 (Figure 6). Ma and McCauley (2011) assert the arrangement is effectively a crawling peg. When the 2007-8 GFC began, China switched to a de facto peg – the RMB exchange rate was closely managed around the level of CNY 6.83 per US dollar from July 2008 to June 2010 (People’s Bank of China, 2010).

China on June 19, 2010 essentially re-instated the 2005 declared managed and regulated exchange rate regime. The announcement was taken as an affirmation of the established policy of managed floating rate arrangement. Again, the authorities gave no official information of the component currencies and their weights of the currency basket. Understandably, China has more leeway to manage the exchange rate by not disclosing the specifics of the currency basket. The re-instated policy was in force until August 2015, when China made another main change in its exchange rate policy.

Despite the declared currency basket policy, the observed RMB movement suggests that China mainly managed the RMB against the US dollar – or assigned a very large role to the US dollar in the currency basket (Frankel, 2006, 2009; Funke and Gronwald, 2008; Sun, 2010). After re-instituting the currency basket arrangement in mid-2010 and before another policy change in August 2015, the correlation of the nominal effective exchange rates of the RMB and the US dollar is 0.87, and that of the real effective exchange rates is 0.76 – both values indicate a high degree of association between the RMB and the US dollar.

Despite the close association, the RMB exhibited a higher degree of flexibility against the US dollar after the 2005 policy change (Figure 6). In addition to the exchange rate formation mechanism, China experimented with increasing RMB’s flexibility. It widened the RMB daily trading band against the US dollar from an initial value of ±0.3% around the daily fixing, to ±0.5% on May 21, 2007, to ±1% on April 16, 2012, and ±2% on March 17, 2014. The gradual widening of the trading band adds flexibility to the RMB exchange rate. While these changes signify its efforts to enhance the role of demand and supply forces, China has quite routinely reverted to capital controls and administrative measures to manage its exchange rate when the RMB is under undue market pressure.

In the midst of continuously modifying its managed and regulated exchange rate regime, China in 2009 introduced the cross-border trade settlement scheme to initiate its RMB internationalization program. The scheme encourages using RMB to denominate and settle cross-border trade transactions. The Bank of China (Hong Kong), which facilitates the designated cross-border RMB transactions, was appointed in 2003 as the RMB clearing bank in Hong Kong.

Ahmed (2009), Frankel (2006, 2012), (Kawai and Liu, 2015), Obstfeld (2007), and Prasad (2016) note that exchange rate flexibility helps China to achieve both internal and external balances, reduce China’s huge trade surplus, promote the international use of the RMB, and achieve monetary policy autonomy.

Some studies on China’s capital controls and their effectiveness and measurements are Chen (2013), Chen and Qian (2016), Cheung and Herrala (2014), Cheung and Qian (2011), Ma and McCauley (2008), and Prasad and Wei, (2007). Rebucci and Ma (2019) offer a recent survey on selected recent theoretical and empirical studies on capital controls.
2.3.3 Enhanced Fixing Mechanism and the CFETS RMB Currency Basket

On August 11, 2015, China fine-tuned the RMB central parity formation mechanism that determines the official daily RMB fixing against the US dollar. The revamped mechanism determines the official daily fixing based on the closing rate in the previous day, market demand and supply factors, and the rates of other major currencies (People’s Bank of China, 2015). The fine-tuning was meant to improve transparency and strengthen the role of market forces in setting the official daily rate. While the IMF endorsed the change as “a welcome step as it should allow market forces to have a greater role in determining the exchange rate,” the US stated that “the increased (RMB) flexibility is considerably less than is needed.” The global market was quite nervous about the RMB deprecation that accompanied the policy change – the RMB depreciated 1.9% against the US dollar on August 11, 2015 and a cumulative 4.4% in the first three trading days of the new fixing procedure. The degree of depreciation, which is relatively large and unexpected, stirred up unrest in the global financial market. Some countries, including the US, worried that it was the beginning of a currency war.

On December 11, 2015, China posted the composition of the CFETS currency basket on the web and reiterated the message of managing the RMB value against a basket of currencies. Initially, the currency basket comprised thirteen component currencies; the US dollar has a weight of 26.4%, euro 21.39%, the Japanese yen 14.68%, and the remaining currencies less than 10% each.

Intuitively, the policy change shall increase the transparency of the RMB fixing mechanism, lower the US dollar effect on RMB valuation and, hence, improve the RMB stability. Cheung, Hui and Tsang (2018a, b) study the official daily RMB fixing dynamics in the early phase of the enhanced fixing mechanism. These authors find that the RMB daily fixing against the US dollar is significantly affected by the onshore and offshore RMB exchange rates and the US dollar index. However, the US dollar index effect in the post-August 2015 period is less than that observed in the pre-August 2015 period. The effect of the CFETS RMB currency basket index can be detected after controlling for offshore RMB volatility effects. In a sense, the enhanced fixing mechanism has weakened but not eliminated the dependence on the US dollar.

After disclosing the composition of the CFETS currency basket in 2015, China has adjusted the basket composition four times. On January 1, 2017, China expanded the CFETS currency basket to include 24 from 13 component currencies (China Foreign Exchange Trade System, 2016). Since 2017, China has further adjusted the weights of the 24 component currencies of the basket three times, and these adjustments were effective on January 1, 2020, January 1, 2021, and January 1, 2022. Table 1 lists the weights of component currencies of different vintages of the CFETS RMB index.

Table 1. Compositions and Weights of the CFETS RMB Currency Basket

<table>
<thead>
<tr>
<th>Year</th>
<th>Component Currencies</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>US dollar</td>
<td>26.4%</td>
</tr>
<tr>
<td></td>
<td>euro</td>
<td>21.39%</td>
</tr>
<tr>
<td></td>
<td>Japanese yen</td>
<td>14.68%</td>
</tr>
<tr>
<td></td>
<td>Remaining</td>
<td>less than 10%</td>
</tr>
<tr>
<td>2016</td>
<td>24 currencies</td>
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<tr>
<td>2017</td>
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<td>2018</td>
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<tr>
<td>2022</td>
<td>24</td>
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</tbody>
</table>

18 The RMB indexes based on BIS and SDR weights are included for comparison purposes.
20 The remaining ten currencies are HKD (6.55%), GBP (3.86%), AUD (6.27%), NZD (0.65%), SGD (3.82%), CHF (1.51), CAD (2.53%), MYR (4.67%), RUB (4.36%), and THB (3.33%).
---|---|---|---|---
USD  | 0.1988 | 0.1879 | 0.2159 | 0.2240 | 0.2640
EUR  | 0.1845 | 0.1815 | 0.1740 | 0.1634 | 0.2139
JPY  | 0.1076 | 0.1093 | 0.1116 | 0.1153 | 0.1468
HKD  | 0.0346 | 0.0359 | 0.0357 | 0.0428 | 0.0655
GBP  | 0.0313 | 0.030 | 0.0275 | 0.0316 | 0.0386
AUD  | 0.0571 | 0.0589 | 0.0520 | 0.0440 | 0.0627
NZD  | 0.0061 | 0.0063 | 0.0057 | 0.0044 | 0.0065
SGD  | 0.0302 | 0.0312 | 0.0282 | 0.0321 | 0.0382
CHF  | 0.0076 | 0.011 | 0.0144 | 0.0171 | 0.0151
CAD  | 0.0217 | 0.0226 | 0.0217 | 0.0215 | 0.0253
MYR  | 0.0444 | 0.0431 | 0.0370 | 0.0375 | 0.0467
RUB  | 0.0366 | 0.0385 | 0.0365 | 0.0263 | 0.0436
THB  | 0.0335 | 0.0319 | 0.0298 | 0.0291 | 0.0333
ZAR  | 0.0121 | 0.0147 | 0.0148 | 0.0178 |
KRW  | 0.0967 | 0.0988 | 0.1068 | 0.1077 |
AED  | 0.0167 | 0.0169 | 0.0157 | 0.0187 |
SAR  | 0.0228 | 0.0271 | 0.0216 | 0.0199 |
HUF  | 0.004 | 0.0035 | 0.0037 | 0.0031 |
PLN  | 0.0105 | 0.0097 | 0.0084 | 0.0066 |
DKK  | 0.0046 | 0.0041 | 0.0040 | 0.0040 |
SEK  | 0.0061 | 0.0061 | 0.0058 | 0.0052 |
NOK  | 0.0037 | 0.0026 | 0.0021 | 0.0027 |
TRY  | 0.0082 | 0.0072 | 0.0073 | 0.0083 |
MXN  | 0.0206 | 0.0211 | 0.0198 | 0.0169 |

Note: Column 1 lists the currency codes in the Index. Weights of individual currencies of different vintages of the currency basket are presented under their effective dates in the first row.

China reduced the weight of the US dollar to 18.79% from 26.4% in the first three adjustments and increased it marginally to 18.79% in January 2022. Strategically speaking, the expanded CFETS currency basket and weight adjustments dilute the US dollar role in setting the central parity and, purposely, drive the market focus away from the bilateral US-RMB exchange rate. The moves reduce the US dollar influence on the RMB and China’s international trade and finance. Because changes in component currencies of the basket are one of the factors determining the daily fixing against the US dollar, the volatility of RMB fixing may have to increase with the reduction in the US dollar weighting to achieve the objective of stabilizing the RMB index.

On May 27, 2017, China tweaked the central parity formation mechanism by adding a “counter-cyclical factor” to the fixing procedure. That is, in addition to the previous closing rate and the overnight variation of the currency basket value, the fixing is affected by the counter-

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21 The combined weight of the US dollar and currencies pegged to it (Hong Kong dollar, United Arab Emirates dirham, and Saudi riyal) was reduced to 26.78% (January 2021) from 32.95% (December 2015) before upped to 27.29% in January 2022.

22 In February 2017, China shortened the reference period of the currencies used in calculating the central parity from 24 to 15 hours. The reduction was meant to better reflect changes in the forex market.
cyclical factor.\textsuperscript{23} The factor is meant to alleviate pro-cyclical herd behavior and reduce volatility. Unlike the other two factors determining the fixing, China gave only a general guideline for the counter-cyclical factor, but not how it is calculated and its weight in setting the parity rate. The opaqueness of the counter-cyclical factor favors the discretionary component of the central parity formation mechanism and affords China extra room to manage and set the daily fixing.\textsuperscript{24} The counter-cyclical factor was suspended on January 10, 2018, re-introduced on August 1, 2018, and suspended again on October 27, 2020.

The brief review does not do justice to China’s efforts to achieve RMB flexibility and convertibility, albeit in its own style, to promote allocative efficiency and support economic growth. Since 1994, China has made numerous policy changes to strengthen the role of market forces and enhance exchange rate flexibility. The reform has not been carried out smoothly and has gone through a “two steps forward, one step back” process in response to domestic and foreign conditions. The August 2015 reform was a bold move to unshackle the RMB exchange rate. However, the periodic backpedaling detracts China’s efforts to liberalize its financial markets. Apparently, by tweaking the exchange rate mechanism, China wishes to design an appropriate exchange rate policy that ensures stability, rather than the RMB being “correctly” valued at the time. Given China’s enormous size and increasing links to the global economy, the world will continuously monitor its exchange rate policy and its spillovers to the global market.

3. RMB Misalignment

Exchange rates are a main conduit connecting a country’s economy to the global market. They affect trade competitiveness and capital flows between countries. Misaligned exchange rates can lead to domestic and cross-border resource misallocation, global imbalances, and distorted capital flows, which can damage the stability of the global financial system and the international economic order (Benassy-Quere, Lahreche-Revil and Valerie, 2008; Cline and Williamson, 2010; Morrison and Labonte, 2013). In the past few decades, there have been recurrent complaints about countries manipulating their exchange rates to gain unfair trade competitiveness and expand their exports markets to support economic development. Such a policy imposes economic costs on others and the global system. China is the most recent large country that is accused of benefitting from artificially depressed value of its currency.

While exchange rate misalignment is a rather standard concept, it can be empirically challenging to determine if a currency is misaligned and, even less likely, to agree on the degree of misalignment. Hinkle and Montiel (1999) offer an early discussion of issues on defining and measuring exchange rate misalignment. At the risk of over-simplification, a currency is misaligned when its exchange rate deviates from its equilibrium value. Different notions of the equilibrium exchange rate, thus, would generate different assessments of misalignment.

The poor performance of empirical exchange rate models presents another challenge to evaluating exchange rate misalignment. The infamous Meese and Rogoff puzzle casts doubt on the ability of empirical models to describe exchange rate movements (Meese and Rogoff, 1983).

\textsuperscript{23} Technically, designated banks/dealers submit to CFETS fixing quotes with their own counter-cyclical adjustment factors. CFETS then determines the daily fixing.

\textsuperscript{24} Su and Qian (2021) show that the counter-cyclical factor weakens the explanatory power of the currency basket factor, and the onshore and offshore RMB exchange rates.
Specifically, it is difficult to find a commonly agreed framework to model different exchange rates across different historical periods and, hence, assess equilibrium exchange rates. The general conclusion of this seminal study is mostly affirmed by subsequent analyses (Cheung, Chinn and Pascual, 2005; Cheung et al., 2019; Engel et al., 2019; Rossi, 2013).

The debate in the last two decades on RMB misalignment aptly illustrates the challenges of assessing exchange rate misalignment, and the empirical studies are prone to misleading narratives. The international attention on RMB valuation stems mainly from China’s extraordinary export competitiveness and rapidly expanded holding of international reserves at the onset of the 21st century. The typical “graphical evidence” that the RMB is substantially undervalued in the early 21st century is Figure 7, which plots China’s trade balance (per GDP) and holding of international reserves. China’s trade surplus was relatively steadfast in the 1990s, increased sharply in the 2000s until reaching a high point of 10% of GDP in late 2008, then experienced a decrease associated with the 2007-8 GFC before resuming growth. During the same period, China’s holding of international reserves exploded from the level of US$21 billion in 1993 to the high of US$4 trillion around mid-2014 before fluctuating in the low US$3 trillion level. China’s startling buildups in trade surplus and holding of international reserves have put its policy objective of exchange rate stability under scrutiny. [Insert Figure 7 here]

When China maintained a stable exchange rate of around 8.27 during the 1997 Asian Financial Crisis, it was acknowledged as a desirable one that avoided competitive devaluation and promoted regional economic stability. However, the similar stable exchange rate policy has been deemed the source of China’s unfair competitive edge in international trade. China’s efforts in revamping its foreign exchange policy, including the modification of the RMB central parity formation mechanism in August 2015, have not silenced its critics. China’s trade partners, especially the US, had frequently blamed China for their large trade deficits and global imbalances because it deliberately undervalued RMB caused.25 Even when IMF in its May 2015 Article IV consultation mission press release stated that the RMB is at a level that is no longer undervalued while urging China to make “rapid progress toward greater exchange rate flexibility,” (International Monetary Fund Communications Department, 2015). The US Treasury Department, in a few hours after the IMF press release, offered a different opinion and reiterated its assertion that the RMB is still substantially undervalued. 26

The US concern about China’s exchange rate policy is reflected by its repeated threats to label China as a currency manipulator over the past two decades. The recent formal accusation happened in 2019, when the US officially labeled China a currency manipulator.27 Previously, the currency manipulator label was designated to China in 1992 and 1994 (United States Department of the Treasury; 1992, 1994, 2019). China considers the RMB policy part of China’s domestic economic sovereignty, which foreign forces should not interfere with. The typical official stance

25 As early as 2002, Masajuro Shiokawa the then Finance Minister of Japan complained about China’s exchange rate policy.
26 The findings of Almás et al. (2017), Cheung, Chinn and Nong (2017) and Cline (2015) corroborate the IMF “no longer undervalued” assessment.
27 Some observers attribute the 2019 currency manipulator label to the China-US geopolitical dispute (Section 6).
is that China does not manipulate the RMB exchange rate for competitive purposes and always maintains the rate at a basically stable manner around the equilibrium level.28

With its growing importance in the global market, if China manipulates its currency, there will be serious economic and political backlashes. The extensive policy debate on RMB valuation in the last two decades attests to the contentious nature of assessing whether China is manipulating its currency. The debate has triggered numerous studies on RMB misalignment. Studies in the 2000s usually favored the view that the RMB is undervalued, if not seriously undervalued (Bergsten, 2007; Coudert and Couharde, 2007; Frankel, 2006; Funke and Rahn, 2005; Goldstein and Lardy, 2009; Wang, Hui and Soofi, 2007). Based on the undervaluation estimates available at that time, the 2005 Schumer–Graham bipartisan bill proposed to impose a tariff rate of 27.5% on all imports from China to force China to stop currency manipulation.29

An overarching question is: given the difficulty of defining equilibrium exchange rate and modeling exchange rate; especially for currencies of transitional economies, how confident we are in determining whether the RMB is misaligned and its precise degree of over- or undervaluation? Under the well-known overshooting model (Dornbusch, 1976), when the observed exchange rate is different from the long-run equilibrium rate, it can be consistent with market fundamentals. That is, the equilibrium path of the exchange rate can deviate from its long-run value in the short-run, and observed misalignment does not necessarily imply a disequilibrium scenario that requires policy remedies.

Besides the uncertainty associated with the equilibrium exchange rate, a few studies raised concerns about the sensitivity of RMB misalignment estimates to the empirical model, assumptions, data choices, and statistical methodologies used to generate these estimates. It is difficult to obtain an estimate to assess the precise degree of RMB misalignment when there is a lack of a consensual exchange rate model, and the estimate is sensitive to assumptions underlying empirical specifications.

Cheung, Chinn and Fujii (2007b) point out that sampling and estimation uncertainties should be incorporated in assessing the significance of RMB misalignment estimates. Dunaway, Leigh and Li (2009) and Schnatz (2011) showed that equilibrium real exchange rate estimates and misalignment estimates are sensitive to even small changes in assumptions underlying model specifications, explanatory variable definitions, and sample periods. The RMB estimate can imply severe undervaluation or overvaluation depending on the assumptions. Fischer and Hossfeld [2014] pointed out the sensitivity of misalignment inferences to different productivity measures. Almås et al. (2017) and Cheung, Chinn and Nong (2017) showed that nonlinearity plays a role in estimating RMB misalignment in addition to data sample and model specification.

In the past two decades, studies with different theoretical and empirical specifications of the equilibrium exchange rate, different sample periods, and different estimation methods have generated numerous RMB misalignment estimates that span a wide range of overvalued and undervalued estimates. To infer what can be learned from the plethora of empirical studies, Cheung

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28 See, for example, http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/3870187/index.html, the speech by the PBoC Governor Yi GANG in 2019.
and He (2022) collect 3,108 RMB misalignment estimates from 95 studies to conduct a meta-analysis using a Bayesian model averaging framework.\(^3\) In principle, the meta-analysis allows the pooling and aggregation of information from these studies. The large-scale study identifies, for example, the choices of time series vs non-time series data and cointegration vs non-cointegration technique have significant implications for RMB misalignment estimates. Their results indicate the empirical RMB undervaluation estimates are characterized by a high level of uncertainty and do not offer a conclusive statistical inference on RMB misalignment.

Conceivably, the “common” wisdom of a “severely” undervalued RMB feeds off China’s heavily managed RMB and its fast buildups of current account balance and international reserves. The US, for example, propagates the belief that “China has a long history of pursuing a variety of economic and regulatory policies that lead to a competitive advantage in international trade, including through facilitating the undervaluation of the RMB” (United States Department of the Treasury, 2018, p. 3). Ambivalent empirical evidence of RMB undervaluation does not lend unambiguous support for the political rhetoric. The inconclusive result is in accordance with the well-known difficulty of measuring the equilibrium real exchange rate and quantifying the (statistical) uncertainty surrounding exchange rate misalignment estimates.

The above discussion should not be interpreted as supporting the notion of no RMB undervaluation. Instead, we foreground the difficulties and limitations of empirical exercises that prevent us from making a sharp and precise inference. With a diverse set of misalignment estimates, one can always find some empirical estimates to substantiate the view of an undervalued or overvalued RMB. Both academics and policymakers should exercise caution in interpreting empirical RMB misalignment estimates and asserting their relevance in policy debate. Specifically, it is crucial to understand factors that can affect empirical RMB misalignment estimates to avoid unintended consequences in policymaking.

4. **RMB Internationalization**

China in the last few decades astounded the world with its reform policies and dynamic expansion of its economy and international trade. Because the reform initially prioritized the real economy development over financial markets, China has a relatively underdeveloped financial sector. However, the flourishing economy and international trade call for accompanying reforms in financial markets. Since its accession to the WTO in 2001, China has gradually restructured its domestic financial markets and exchange rate policy.

The advent of the 2007-8 GFC hastened China’s efforts to promote the international use of the RMB. After the scheme of cross-border trade settlement in RMB in 2009, China has introduced other policies including bilateral local currency swap arrangements, RMB clearing bank assignments in offshore markets, and channels for accessing RMB-denominated assets. Since then, the global attention has gradually shifted from debating on RMB valuation to RMB’s evolving role in the global market and the implications for the international monetary architecture.\(^3\)

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\(^3\) Bineau (2010) and Korhonen and Ritola (2011) present two early meta-analysis of RMB misalignment estimates. See, also Cheung and Wang (2020).

Similar to other reform areas, government policies play an essential role in shaping the path of RMB internationalization. Consistent with its revealed preference for reform gradualism and stability, China has strategically internationalized the RMB with a mix of state-led initiatives comprising administrative control measures and market-driven forces. China schematically promotes using the RMB to facilitate cross-border trade transactions, then trade, financial, and investment transactions in regional, international, and global markets.

buttressed by its economic prowess and trade dominance, China’s RMB internationalization scored a big payoff in 2015 when IMF announced that it would include the RMB in its basket of SDR currencies. In addition to endorsing China’s currency reform efforts, the IMF decision confers the RMB the official role of an international reserve currency. It is a symbolic boost to the RMB’s credibility and enhance its global acceptance. Conceivably, the inclusion in the SDR can increase the demand for RMB-denominated reserve assets, for example, by central banks or institutions that passively or actively hold SDRs in their portfolios.

After reaching the 2015 high point, the process of globalizing RMB has progressed quite unevenly and, in some areas, has even reversed itself. The change occurred in tandem with China’s heightened (administrative) foreign exchange management, financial deleveraging policies, and the concurrent increase in global uncertainty and geopolitical tensions that have decreased global demand for RMB-denominated assets. Further, the eruption of the US-China trade dispute and the subsequent change in the view towards China do not favor the international use of the RMB. The 2020 coronavirus pandemic presents China with another chance to re-gain the momentum of globalizing its currency. The pandemic impacted China hard in the first half of 2020. However, with its effective public health control measures, China demonstrated its economic resilience in late 2020 and 2021. The speedy economic recovery and RMB’s stability improve the attractiveness of RMB-denominated assets to international investors and enhance the global usage of the RMB.

In the following subsections, we recount China’s main policies promoting RMB internationalization and discuss its outsourcing practice – the offshore RMB trading. China’s RMB internationalization program covers and interacts with a wide range of topics. While a complete coverage of RMB internationalization is beyond the scope of this study, we will offer an overview below.

4.1 Promoting RMB Internationalization

It is commonly perceived that China kick-started its concerted efforts to internationalize its currency with the 2009 scheme of cross-border trade settlement in RMB. The scheme sets up and their effectiveness, and implications for domestic and global economies. Garber (2017) present a general discussion of geopolitics and the euro and the RMB, the two ascending global currencies.

China’s (dynamic) zero-Covid policy is a resource-intensive one that involves mass testing and large-scale lockdown. The contagious Omicron variant in 2022 has raised concerns about the economic and social toll and the sustainability of the strict (dynamic) zero-Covid policy. The RMB cross-border trade settlement arrangement in, say, 2003 (State Administration of Foreign Exchange of China, 2003a, b) was not directly relevant to the current RMB internationalization policy.
the institutional arrangements for using RMB to settle international trade transactions.34 At that time, it was a policy response to the severe US dollar liquidity shortage occurred during the 2007-8 GFC that seriously disrupted global trade. Settling trade in RMB allows China to reduce its reliance on vehicle currencies, including the US dollar, to conduct international transactions. Further, cross-border trade settlement in RMB promotes the international use of the currency and helps Chinese companies to manage exchange rate risk.

China’s international trade primacy provides a solid foundation to establish the RMB as a main trade settlement currency. Chen, Peng and Shu (2009) and Cui, Shu and Chang (2009), for instance, project the share of China’s trade settled in the RMB is around one-third or 30%.35 Nevertheless, due to inertia, it may take some time to realize the trade settlement role of the RMB.

Since the introduction of the 2009 cross-border trade settlement scheme, both the share and the volume of cross-border trade settled in the RMB have exhibited impressive growth. For instance, the percentage of the Chinese trade settled in RMB has steadily increased to above 20% in 2015, reversed a bit before moving towards the 20% mark during the 2020 pandemic year (Figure 8).

4.1.1 Offshore RMB Clearing Banks

China in December 2003 allowed banks in Hong Kong to offer loans and deposits in RMB that are cleared via the Bank of China (Hong Kong), which was appointed as the local RMB clearing bank of Hong Kong. By creating an offshore RMB market in Hong Kong as a precursor to allowing designated financial institutions to conduct offshore RMB businesses, China prepared for the cross-border RMB settlement infrastructure.36 An RMB clearing bank outside China provides a crucial facility supporting RMB internationalization. The RMB clearing bank in Hong Kong that clears cross-border RMB transactions is the first facility of this kind outside the mainland of China.

Since then, China has strategically appointed RMB clearing banks in financial centers across different geographic regions and time zones. The assignment of a clearing bank indicates China’s willingness to recruit the financial center to promote the international use of the RMB. In Appendix, Table A1 lists the offshore RMB clearing banks in chronological order. Among the 26 offshore RMB clearing banks, ten are in Asia. The relatively heavy concentration attests Asia’s role in promoting RMB internationalization. For instance, Hong Kong literally monopolized the offshore RMB settlement and clearing infrastructure in the first decade of the 20th century and still accounts for the lion’s share of the offshore RMB business these days. China assigned London an RMB clearing bank in June 2014 and Toronto in November 2014. Then, the core network of offshore RMB clearing facilities makes the 24-hour round-the-clock RMB settlement and clearing possible.

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34 Initially, the scheme covered designated companies in five pilot cities. By August 2011, it covers all regions in China.
35 Japan settled at most about 40% of its trade in the Japanese yen (Goldberg and Tille, 2008; Ito et al., 2010).
36 While Hong Kong is legally part of China, it is considered as an “offshore” market for RMB transactions.
New York and Tokyo joined the network of offshore RMB clearing banks in September 2016 and October 2018. These two centers also have a local bank providing RMB clearing services. The timing of assigning RMB clearing banks does not corroborate with the prominence of these two global financial centers. Conceivably, China’s decision to set up an offshore RMB clearing arrangement depends on diplomatic and political factors besides economic considerations. The relatively late assignment of a local RMB clearing bank is probably due to critical views expressed by Japan and the US about China’s state-led trade and exchange rate policies.

The presence of a local RMB clearing bank opens up RMB business opportunities, reduces transaction costs, and offers liquidity in case of an RMB squeeze. However, a local RMB clearing bank is not critical for accessing offshore RMB clearing. Since 2004, foreign banks and corporations have had access to offshore RMB clearing through the RMB real-time gross settlement system in Hong Kong.\(^{37}\) China’s Cross-Border Interbank Payment System (CIPS), which was launched in October 2015, further reduces the practical role of offshore RMB clearing banks. Authorized by the People’s Bank of China, CIPS is a specialized clearing system that works with direct participants and indirect participants to provide clearing and payment services for financial institutions in the cross-border RMB and offshore RMB business. Strategically, CIPS offers a platform to settle cross-border RMB transactions outside the US-dominated global payment infrastructure provided by the Society for Worldwide Interbank Financial Telecommunication (SWIFT). By 2021, CIPS had 75 direct participants and 1187 indirect participants from over 90 countries and regions in six continents.\(^{38}\)

### 4.1.2 Bilateral Local Currency Swap Agreements

Besides establishing offshore RMB clearing facilities, China has negotiated bilateral local currency swap agreements with selected trading partners to shore up offshore RMB liquidity since 2008. The policy initiative provides a liquidity backdrop in the event of an RMB shortage to support cross-border RMB trade settlement. The agreement partner can obtain RMB funding through the swap from the People's Bank of China and use it to settle trade with China or as an emergency source of RMB liquidity. These bilateral swap agreements involve the RMB and national currencies of the counterpart economies, not the US dollar.\(^{39}\) That is, economies with these agreements can bypass the US dollar and conduct trade and other cross-border transactions in their own currencies. By deploying these bilateral swap arrangements, China reduces the influence of the US dollar on its trade activity and promotes the use of the RMB overseas.

The bilateral swap agreements signed between 2008 and the first half of 2021 are listed in Table A2 in the Appendix. The bilateral agreement typically has a maturity of three years, and is renewable.\(^{40}\) Since December 2008, China has signed bilateral local currency swap agreements that amount to over 3.99 trillion yuan with 40 foreign central banks or monetary authorities

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\(^{37}\) London, for example, has established itself as a prime offshore RMB center in Europe and, excluding China and Hong Kong, accounted for over 50% of RMB foreign exchange transactions (SWIFT, 2013) before housing an RMB clearing bank in 2014.


\(^{39}\) In the past, the US dollar is the currency of swap agreements signed by China, say, under the Chiang Mai Initiative and the Multilateral Chiang Mai Initiative.

\(^{40}\) The latest agreements with Korea, Hong Kong, Thailand, and Canada have a maturity of 5 years.
(People’s Bank of China, 2021). China creates an extensive network of bilateral RMB currency swap agreements to support and facilitate the international use of the RMB.

These bilateral RMB swap arrangements are different from the swap arrangements signed under the Chiang Mai Initiative or between the US and selected central banks during the financial crisis. These swap arrangements are typically dollar-based arrangements designed to provide (precautionary) dollar liquidity in a crisis (Aizenman and Pasricha, 2010). The importance of ensuring global dollar liquidity is well illustrated by the swap arrangements offered by the US during the 2007-8 GFC and, again, the March 2020 financial crisis triggered by the coronavirus pandemic.

Garcia-Herrero and Xia (2015), Liao and McDowell (2014), and Lin, Zhan, and Cheung (2016) investigate factors that affect China’s choices of bilateral swap arrangements. These studies show that the choices of counterpart economies and swap line amounts are significantly influenced by both economic and non-economic factors that include trade intensity, economic size, strategic partnership, free trade agreements, as well as corruption and political stability. Song and Xia (2020) show that the signing of bilateral local currency swap arrangement promotes the use of RMB in settling the corresponding cross-border trade – a result that affirms the policy’s objective.

4.1.3 Renminbi Qualified Foreign Institutional Investor Program

The principal functionality of offshore RMB clearing banks and bilateral RMB currency swap agreements is the provision of RMB liquidity to support cross-border trade and international transactions. Besides shoring up offshore RMB liquidity, China has contemplated several ways to beef up the demand for RMB-denominated assets and enhance the attractiveness of offshore RMB holdings.

In addition to investing in Dim Sum bonds, RMB-denominated equities, and exchange-traded and over-the-counter RMB derivatives in offshore markets, China, in December 2011, launched the Renminbi Qualified Foreign Institutional Investor (RQFII) program for approved foreign institutions to invest offshore RMB in China’s onshore financial markets. The RQFII program is a variation of the Qualified Foreign Institutional Investor (QFII) program introduced in 2002 that allows authorized foreign investors to invest with a foreign currency – usually the US dollar.

Similar to its previous RMB internationalization policies, China chose Hong Kong as a testing ground of the RQFII initiative. The first batch of authorized institutions of the initiative included only approved subsidiaries of China’s brokerage houses and fund managers in Hong Kong, and they mainly invested in the Chinese onshore fixed income products such as bonds instead of equities. Since then, the RQFII program has expanded to include financial institutions in different offshore financial centers, and to cover asset classes beyond fixed income products.

After launching the RQFII program, China has introduced a few other inbound investment schemes, including the Shanghai-Hong Kong Stock Connect in 2014, Mutual Recognition of
Funds Scheme in July 2015, the Shenzhen–Hong Kong Stock Connect in 2016, North-bound Bond Connect in July 2017 and South-Bound in September 2021, and Wealth Management Connect in September 2021. These ‘connect’ programs enhance the connections between financial markets in China with Hong Kong, and cross-border flow of RMB. Through these programs, foreign investors participate in designated onshore markets under specific regulatory frameworks via the financial infrastructure in Hong Kong. Foreign investors can participate in China’s onshore financial markets through these alternative inbound investment schemes and the RQFII program. Compared with the RQFII program, each of these connect schemes individually offers a narrow scope of investable securities. Nevertheless, these inbound investment schemes compete with the RQFII program for foreign capital.

While introducing these alternative inbound investment schemes, China has implemented a few modifications of the RQFII program, including participant qualifications and eligible investment classes. On June 6, 2020, China implemented a major program change and removed the quota limits and restrictions on country/region of the RQFII program (State Administration of Foreign Exchange 2019a). In November 2020, China consolidated QFII and RQFII under the new Qualified Foreign Investor (QFI) program. Besides removing investment caps, the QFI program streamlines the application process, simplifies the paperwork, relaxes restrictions, and expands the investment scope. The QFI provides an improved environment for institutional investors to invest in China’s onshore capital markets. These changes signal China’s carving for foreign institutional investments in its domestic financial markets and promoting the global stature of the RMB.

4.1.4 Other policy measures
In the early 2010s, the three policies of offshore RMB clearing banks, bilateral RMB currency swap agreements, and the RQFII program (which was merged with QFII into the QFI program in 2020) were the three main tools for developing offshore RMB business and promoting RMB internationalization. In addition to these three measures, China has taken other steps to expand the international use of the RMB in trade and investment and nurture the global image of its currency.

Commodity pricing
The US dollar is the primary pricing currency of the global commodity market. Most actively traded commodities, including gold and oil, are quoted and transacted in the US dollar. The role of the US in pricing globally traded commodities reflects and reinforces its preeminence in the international monetary system is by its role.

As part of its broad RMB internationalization policy, China has strategically introduced RMB-denominated contracts in commodity markets in which it is a significant player. With its extraordinary growth in global commodity trade (World Bank 2018), China has felt its commodity trade activities are vulnerable to US dollar pricing. The promotion of RMB-denominated

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41 The Shanghai-London Stock Connect Program was launched in June 2019. As of August 2020, the London Stock Exchange listed two global depository receipts (GDRs) under the Program. The two listings are also available to international investors in Hong Kong via the Shanghai-Hong Kong Stock Connect.

42 There is no corresponding quota removal for the Qualified Domestic Institutional Investor (QDII) program, which governs Chinese residents to invest in foreign assets. By November 2021, the approved DQII quota is US dollar 154 billion.
commodity contracts reflects China’s yearning to reduce its reliance on US-dollar-based trading of commodities. It also offers RMB-denominated hedging tools to domestic investors and consumers. In addition to fostering global uses of the RMB, the strategy undercuts the US dollar’s hegemony in the commodity space.

Against the backdrop that it is one of the biggest gold producing, consuming, and importing countries in the world, China has schematically developed its gold exchange. In September 2014, China opened to global investors its RMB-denominated gold bullion trading on the Shanghai International Gold Exchange, which is located in the Shanghai Free Trade Zone. The Shanghai International Gold Exchange is a fully-owned subsidiary of the Shanghai Gold Exchange and is known as the ‘International Board’ of the Exchange.

Similar to other RMB internationalization policies, Hong Kong was chosen as the pilot economy to experiment with integrating the Chinese domestic and international gold markets. In July 2015, the Shanghai and Hong Kong gold market connect initiative was launched to explore cross-border trade in gold and expand the strategy of RMB internationalization. The Shenzhen and Hong Kong gold connect was introduced in November, 2017.

In April 2016, the Shanghai Gold Exchange launched an RMB-denominated Shanghai Gold Benchmark Price or Shanghai Gold Fix. The Shanghai Gold Fix boosts the RMB gold pricing power and signals China’s stature in the international gold market. Futures contracts based on the RMB-denominated gold fix are offered in the Chicago Mercantile Exchange and the Dubai Gold & Commodities Exchange.

Crude oil is a crucial commodity for the global economy. Driven by its phenomenal growth, China’s demand for energy, especially oil, has increased substantially in the past decades. Since 2017, China has surpassed the US in annual gross crude oil imports. Given the strategic importance of crude oil, China seeks a role in the global crude oil market. In March 2018, six years after its original planned launch date, China introduced its RMB-denominated oil futures contracts on the Shanghai International Energy Exchange. The so-called Shanghai oil futures contract is the first commodity derivatives opened to international traders.

The Shanghai oil futures contract is quite well received. Soon after its introduction, the contract became the most traded oil futures contract in Asia and the third in the world after West Texas Intermediate Crude Oil futures contract trade in the New York Mercantile Exchange and the Brent crude oil futures contract traded in the Intercontinental Exchange. The quick advance of the Shanghai crude oil futures contract revives the discussion about the rivalry between the petroyuan and petrodollar. The development also supports the view that the contract could be a regional and, possibly, later a global benchmark and rival the established global benchmarks, including the Brent crude oil futures contract and the West Texas Intermediate Crude Oil futures contract.

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43 Since October 2011, the Chinese Gold & Silver Exchange Society in Hong Kong has offered RMB-denominated gold trading to both local and global investors.
44 China became the world's largest net importer of total petroleum and other liquid fuels in 2013.
In addition to the RMB-denominated gold and crude oil futures contract, foreign investors can participate in another six specific varieties of RMB-denominated commodity futures. The six types of futures are iron-ore futures, pure terephthalic acid (PTA) futures, natural rubber futures, low-sulfur fuel futures, copper futures, and palm oil futures. Representing another step in opening up its financial markets, China in June 2021 introduced two RMB-denominated options contracts accessible by foreign investors; they are the palm oil options and crude oil options.

Evidently, the development of these RMB-denominated commodity contracts is in accordance with China’s growing importance in these commodity markets. Establishing its own commodity trading ecology helps China to consolidate its influence and assert its role in the global commodity market. For individual commodities that it has a significant presence, China has schematically pursued the gradualist approach to develop and introduce RMB-denominated contracts in these markets since the 1990s. The effort has gathered pace alongside other financial liberalization policies in recent years. With its own RMB-denominated market network, China enhances its pricing power in the global commodity market, secures its acquisition of commodities, challenges the US dollar's dominance, and strengthens the global stature of the RMB.

International initiatives

Apace with the development of policies facilitating the RMB’s international uses, China pursues international initiatives that have the potential of building up the RMB’s global status and raising its global acceptance. In the early 2010s, China intensified its campaign to be part of the IMF’s SDR currency basket. The inclusion of the RMB in the SDR basket is hailed as a triumph for China. The IMF’s decision signals its endorsement of China’s importance in the global economy and the global role of the RMB. The RMB is the first developing country currency entered in the SDR basket. It also marks the first time the SDR basket added a new currency since the euro was launched in 1999.

The RMB officially joined the SDR basket on October 1, 2016 with a 10.92% weight. The weights of the other four SDR currencies are 41.72% of the US dollar, 30.92% of the euro, 8.33% of the Japanese yen, and 8.01% of the British pound. The official global reserve currency status recognizes China’s global economic significance and acknowledges China’s efforts to deepen reform and liberalize its financial markets. The admission to the SDR basket gives the RMB new opportunities to boost its global credibility and expand its global reach. In view of RMB’s SDR status and its increased integration into the global financial system, international investors are allured to direct their investments towards RMB-denominated assets. The inclusion in the SDR basket re-assures the RMB’s role in the global market, and has a favorable implication for the global demand for the RMB.

Usually, the IMF reviews the composition and valuation of the SDR basket every five years. That is, the IMF should have assessed the role of RMB and announce a new composition of and weights in the SDR basket in 2021. However, the IMF postponed the assessment exercise to 2022. In May 2022, the IMF completed the SDR valuation review, maintained the composition of the SDR basket, and updated basket weights that will be effective on August 1, 2022. As expected,
the RMB’s weight is higher (from 10.92% to 12.28%) in the updated basket.\textsuperscript{45} Given China’s growing influence on the global economy, it is expected that the RMB’s weight in the SDR basket will increase gradually over time.

Besides pursuing the SDR membership, China has crafted international initiatives that can expand the use of the RMB abroad. Two prime examples are the Belt and Road Initiative on infrastructure and trade and the Asian Infrastructure Investment Bank on financing infrastructure projects.\textsuperscript{46} These initiatives are intertwined with the RMB internationalization program. For instance, through outward RMB-denominated FDI and credit facilities, these initiatives can increase the use of the RMB overseas. Also, suppose trade and infrastructure projects thrive among the member countries of the Belt and Road Initiative. In that case, there are incentives to fund these projects using the RMB to safeguard against financial risks.

\textit{Digital RMB}

After initiated in 2020 the testing phase of its digital RMB project, China has steadily expanded the scope and the scale of digital RMB usage.\textsuperscript{47} The digital RMB entails a digital transaction platform that, among other benefits, offers low fees. China will gradually extend the originally designed domestic digital RMB infrastructure to cover cross-border transactions; one possible extension is to connect the domestic digit transaction platform to, say, the CIPS. Similar to the CIPS, such a development will facilitate cross-border and offshore businesses in the digital RMB. Conceivably, China’s advanced digital RMB program could help to develop a new international monetary system that appeals to countries benefitting from China’s growing economic and political influences or to countries looking for ways to bypass US financial sanctions.\textsuperscript{48}

While a digital RMB could enhance the international role and the use of the RMB overseas, there are a few caveats. For instance, a digital RMB presents a technologically sophisticated form of the Chinese currency. An upgrade in transactional efficiency by itself, however, will make little difference to foreign investors’ demand for the RMB if there are no accompanying improvements in, say, capital controls, exchange rate management practices, policy transparency, and geopolitical conditions. Further, there are concerns about the implications of using digital currencies within and across national borders. These concerns include consequences on financial stability, interoperability, privacy and state surveillance. Cross-border digital currency transactions could affect monetary policy independence, and the practical rights in accessing and using digital currencies and surveilling transactions across borders.

\textsuperscript{45} In addition to the RMB, the IMF increased the US dollar weight from 41.735 to 43.38%, and decreased the euro weight from 30.93% to 29.31%, the Japanese yen weight from 8.33% to 7.59% and the British pound weight from 8.09% to 7.44%.


\textsuperscript{48} US financial sanctions against other countries are usually considered to be detrimental to the dollar’s global role. However, Dooley \textit{et al.} (2022) argue that sanctions, including the 2022 sanctions on Russia, strengthen the dollar’s global dominance.
Given these caveats, it is not necessarily a foregone conclusion that the digital RMB can elevate the international role of the Chinese currency. The RMB’s global status remains dependent on factors that affect the desirability of the currency, the confidence and trust of foreign investors, and the geopolitical conditions.

4.2 Offshore RMB trading

After experimenting with offshore RMB transactions in Hong Kong, China has actively propagated similar offshore RMB businesses in other financial centers around the world. Typically, China uses Hong Kong as a laboratory of RMB internationalization policies and evaluates their operational issues and experiences before introducing them to other offshore financial centers. Using this strategy, China “outsources” offshore RMB activity to advance RMB internationalization and, at the same time, maintain its control on capital flows and financial markets. By “outsourcing” RMB internationalization, China can assess the opportunities and challenges of a globalizing RMB and the implications for China’s ability to manage the Chinese economy. Both Chinese and foreign market participants can gain practical experiences of conducting international business in the RMB in a legal environment recognized by international participants.

Do offshore markets contribute to the global status of a currency? The US dollar best exemplifies the point. The US dollar’s preeminence bolsters full-fledged offshore US dollar markets around the globe, and these buoyant offshore US dollar markets validate the primacy of the US dollar. Consequently, the global dominance of the US dollar reinforces the US formidable economic and political clout.

Usually, the scale and scope of offshore usages of a currency are driven by market forces and demand overseas. In the RMB case, however, China assumes an active role in guiding the development of an offshore market with policies on, say, offshore RMB clearing banks, bilateral swap arrangement, and the QFI program. Does the state-driven approach affect the evolution of offshore RMB businesses?

Focusing on offshore currency trading, Table 2 gives the correlation estimates between an offshore center’s share of total foreign exchange (FX) trading and its share of a specific SDR currency’s offshore trading. Data derived from four recent BIS surveys (Bank for International Settlements, 2010, 2013, 2016, 2019) are used to generate these correlation estimates. Compared with the RMB, the other four SDR currencies; namely, the US dollar, the Euro, the British pound, and the Japanese yen are established global currencies, albeit with different levels of prominence. They are also the top four most traded currencies in the global foreign exchange market.

Table 2. Correlation between Trading Shares of a Specific SDR Currency and Total FX

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2013</th>
<th>2016</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>0.9997</td>
<td>0.9998</td>
<td>0.9996</td>
<td>0.9997</td>
</tr>
</tbody>
</table>

Hong Kong’s role in promoting the international use of the RMB is noted as recent as in China’s 14th Five Year plan from 2021 and 2025 – the Chinese and English versions of the Five Year Plan are available from http://www.gov.cn/xinwen/2021-03/13/content_5592681.htm and https://cset.georgetown.edu/publication/china-14th-five-year-plan/, respectively.
The correlation estimates of the RMB are different from those of the other four SDR currencies. Based on the BIS data, China’s correlation estimates are noticeably below one, while the other four SDR currencies are quite close to one. That is, a financial center’s share of global foreign exchange trading is quite closely associated with its trading shares of the US dollar, the Euro, the British pound, and the Japanese yen. The geographic trading patterns of these four global currencies are similar around the world. However, the offshore RMB geographic trading pattern is different from the global foreign exchange trading pattern and those of other SDR currencies.

While China has grown both the scale and scope of offshore RMB business worldwide in the 2010s, offshore RMB trading is quite highly concentrated. Table 3 shows the top four offshore RMB trading centers; namely, Hong Kong, the United Kingdom, Singapore, and the US. Hong Kong is the premier offshore RMB center and accounts for about 40% of offshore RMB trading in the four recent BIS surveys. The United Kingdom and Singapore alternate between the largest or the second-largest RMB trading center outside the Greater China region, while the US follows closely behind. These four centers collectively account for over 90% of the offshore RMB trading turnover. Considering the global importance of these four centers, Hong Kong and Singapore have a disproportionately high concentration of offshore RMB trading. The dispersion pattern is in accordance with China’s strategy of leveraging the financial infrastructure of Hong Kong and prioritizing the regional use of the RMB over the global use (Cheung 2015; Ehlers and Packer 2013; Ehlers, Packer and Zhu 2016). It also echoes the view that the RMB is still in the nascent stage of its internationalization process and in transit to be a fully globalized currency.

<table>
<thead>
<tr>
<th>Year</th>
<th>Rank 1</th>
<th>Rank 2</th>
<th>Rank 3</th>
<th>Rank 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Hong Kong: 36.33</td>
<td>Singapore: 25.30</td>
<td>United Kingdom: 23.01</td>
<td>United States: 10.28</td>
</tr>
<tr>
<td>2013</td>
<td>Hong Kong: 43.38</td>
<td>United Kingdom: 21.29</td>
<td>Singapore: 20.92</td>
<td>United States: 7.56</td>
</tr>
</tbody>
</table>

Note: The first row lists the ranks of the top four Offshore RMB FX trading centers reported in the BIS triennial surveys. The share of offshore RMB trading in percentage is given next to a trading center’s name.

Cheung and Yiu (2017), Cheung, McCauley and Shu (2019), and Cheung, Grimm and Westermann (2021) investigate the factors affecting the geographic pattern of offshore RMB trading in the recent BIS surveys. Cheung and Yiu (2017) find the swap line arrangement, the size of the financial markets, and the bilateral foreign direct investment flow affect the distribution of offshore RMB trading in the 2013 BIS survey.

Cheung, McCauley and Shu (2019) show that China’s RMB internationalization policy may have favored Asian financial centers such that in 2013 Asian financial centers including Hong Kong and Singapore had disproportionate shares in global RMB trading. But for the RMB to become a full-fledged global currency, its trading shall gradually spread to other parts of the world.
according to market forces. Between 2013 and 2016, these authors found that offshore RMB trading seemed to converge to the spatial pattern of global foreign exchange trading, and the transition was driven mainly by market forces and not much affected by policies. Over the following three years that witnessed an increase in geopolitical unrest, Cheung, Grimm and Westermann (2021) find that, in addition to the reported convergence behavior, the evolution of offshore RMB trading is affected by (geopolitical) trade disputes and trade intensity. Further, the RQFII arrangement, equity market capitalization, and financial development can play a role in shaping offshore RMB trading. These exercises attest to the view that the forces that shape the geographical spread of RMB trading around the world can vary with the changing global economic and geopolitical environments.\(^50\)

5. Current Status

Since the 2009 scheme of cross-border trade settlement in RMB, China has implemented various strategic reform measures to boost RMB usage in the global market. Anecdotal evidence indicates that China’s concerted effect has made considerable headway in globalizing the RMB. The growing RMB business activities have gradually spread from the Asian region to other parts of the world. The emergence of the RMB as an upcoming global currency has raised a few eyebrows in the international community and triggered assessments and predictions about the prospects and consequences of internationalizing the RMB. The prognosis of RMB internationalization, mostly predicated on China’s extraordinary growth and potential, abound.\(^51\)

In this subsection, we discuss a few quantitative measures of the international RMB usage and global status.

5.1 Share of global reserves

RMB’s anointment as a member of the SDR basket is arguably the most recognizable achievement of China’s efforts to internationalize its currency. The SDR is an international reserve asset created by IMF. Being an SDR currency has positive implications for the passive and active demand for RMB as a global reserve currency.

Even before its SDR inclusion, there are a few predictions about RMB’s role in global reserves. For instance, the Economist Intelligence Unit (2014) indicates that a majority of institutional investors – especially those within China – think that the RMB will overtake the US dollar as the main global reserve currency. Chen and Peng (2010), Hu (2008), and Lee (2014) suggest that, in 10 to 15 years, the RMB could account for 3% to 20% of global international reserves. Lu and Wang (2019) also find a wide range of predictions on the global reserve role of the RMB. The wide range reflects the sensitivity of the prediction to assumptions and methods used in these studies.

What is the RMB share of global reserves in real world? Table 4 presents the global reserve holdings in the five SDR currencies. These data are extracted from the IMF Currency Composition

\(^{50}\) Westermann (2021) shows that the geographic spread of offshore euro trading varies over time but exhibits patterns not identical to that of offshore RMB trading.

\(^{51}\) Chen and Peng (2010) offer an early assessment of a globalized RMB. Frankel [2012] assesses the RMB internationalization process in the context of other historical precedents. Eichengreen and Kawai [2015] collect articles discussing various issues related to RMB internationalization. Chen, Peng, and Shu (2009), Lee (2014) and Subramanian (2011a, b) suggest that the RMB was well prepared to be a main global currency while Eichengreen (2013) and Yu and Gao (2011) express a more reserved view.
of Official Foreign Exchange Reserves (COFER) database, which first identified the amount of global reserves held in the RMB in the last quarter of 2016.\textsuperscript{52} The latest observation that is available at the time of writing is first quarter of 2021. The allocated data are compiled from those countries/jurisdictions that report the currency portfolios of their reserve holdings. The share of known currency allocation data gradually increased to about 94% in 2018 Q4 and has stabilized around that level since then. The US dollar and the euro are the two leading global reserve currencies; they account for 80% to 85% of allocated global reserves. The five SDR currencies collectively accounted for slightly less than 94% of allocated global reserves.

Table 4. Holdings of Global FX Reserves (Billion US Dollar); Selected Dates

<table>
<thead>
<tr>
<th></th>
<th>2016 Q4</th>
<th>2017 Q4</th>
<th>Q4 2018</th>
<th>Q4 2019</th>
<th>Q4 2020</th>
<th>Q1 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>10725.71</td>
<td>11457.43</td>
<td>11436.23</td>
<td>11827.04</td>
<td>12698.83</td>
<td>12570.60</td>
</tr>
<tr>
<td><strong>Allocated</strong></td>
<td>8418.16</td>
<td>10012.73</td>
<td>10727.09</td>
<td>11076.07</td>
<td>11871.00</td>
<td>11742.29</td>
</tr>
<tr>
<td><strong>Unallocated</strong></td>
<td>2307.54</td>
<td>1444.71</td>
<td>709.14</td>
<td>750.97</td>
<td>827.83</td>
<td>828.31</td>
</tr>
<tr>
<td><strong>allocated/total (%)</strong></td>
<td>78.49</td>
<td>87.39</td>
<td>93.80</td>
<td>93.65</td>
<td>93.48</td>
<td>93.41</td>
</tr>
<tr>
<td><strong>USD</strong></td>
<td>5502.07</td>
<td>6280.66</td>
<td>6623.43</td>
<td>6725.92</td>
<td>6996.36</td>
<td>6991.19</td>
</tr>
<tr>
<td><strong>Euro</strong></td>
<td>1611.03</td>
<td>2019.38</td>
<td>2217.58</td>
<td>2279.46</td>
<td>2526.78</td>
<td>2415.69</td>
</tr>
<tr>
<td><strong>JPY</strong></td>
<td>332.93</td>
<td>490.34</td>
<td>556.94</td>
<td>652.00</td>
<td>717.64</td>
<td>692.10</td>
</tr>
<tr>
<td><strong>GBP</strong></td>
<td>365.86</td>
<td>454.79</td>
<td>474.88</td>
<td>513.52</td>
<td>561.34</td>
<td>552.46</td>
</tr>
<tr>
<td><strong>RMB</strong></td>
<td>90.78</td>
<td>123.47</td>
<td>203.08</td>
<td>214.46</td>
<td>269.49</td>
<td>287.46</td>
</tr>
<tr>
<td><strong>Allocated shares (%)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>USD</strong></td>
<td>65.36</td>
<td>62.73</td>
<td>61.74</td>
<td>60.72</td>
<td>58.94</td>
<td>59.54</td>
</tr>
<tr>
<td><strong>JPY</strong></td>
<td>3.95</td>
<td>4.90</td>
<td>5.19</td>
<td>5.89</td>
<td>6.05</td>
<td>5.89</td>
</tr>
<tr>
<td><strong>GBP</strong></td>
<td>4.35</td>
<td>4.54</td>
<td>4.43</td>
<td>4.64</td>
<td>4.73</td>
<td>4.70</td>
</tr>
<tr>
<td><strong>RMB</strong></td>
<td>1.08</td>
<td>1.23</td>
<td>1.89</td>
<td>1.94</td>
<td>2.27</td>
<td>2.45</td>
</tr>
<tr>
<td><strong>SDR-5</strong></td>
<td>93.88</td>
<td>93.57</td>
<td>93.93</td>
<td>93.76</td>
<td>93.27</td>
<td>93.16</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>2.33</td>
<td>2.43</td>
<td>2.47</td>
<td>2.53</td>
<td>2.66</td>
<td>2.74</td>
</tr>
</tbody>
</table>

Note: The breakdown of allocated global reserves in either billions of US dollar or percentages of total is listed. Data are from the COFER database.

The RMB share of global reserves grew by 75% from 1.08% in 2016 to 1.89% in 2018, surpassed the Australian and Canadian dollars, and became the fifth largest reserve currency. The RMB share grew by 20% in the next two years to 2.27% by 2020 Q4, and another 8% to 2.45% by 2021 Q1. More than 70 central banks and monetary authorities at the end of 2020 included the RMB in their reserve assets. (People’s Bank of China 2021).

The growth of the RMB share of global reserves is quite impressive. Concurrently, the US dollar share of global reserves has dropped from 65.36% in 2016 Q4 to slightly below 60% by 2021 Q1. It is not certain whether the RMB inclusion to SDR undercuts the primacy of the US dollar. Note that the euro, Japanese yen, and the British pound also registered gains in their shares in global reserves during the same period.

\textsuperscript{52} Since then, five SDR currencies and three non-SDR currencies have been ‘distinguished’ in the COFER data. COFER compiles data reported from 149 countries and economies.
Figure 9 plots the US dollar share of global reserves between 1965 and 2020. The US dollar share was above 80% in the 1970s and dropped below 50% in 1990 and 1991. Is the recent decline in the US dollar share part of its general cyclical movements or its secular downward trend? Arslanalp et al. (2022), for instance, show that the recent decline reflects active portfolio diversification by central bank reserve managers. It is worth noting that some countries have sought to diversify away from the US dollar. Russia, which has the fourth-largest holding of international reserves in the world, exemplifies the situation. It dramatically reduced the dollar share of its holding of international reserves from 45.8% to 22.7% between the beginning of 2018 and the beginning of 2021 (Bank of Russia, 2019, 2020, 2021). By the beginning of 2021, Russia’s international reserves held more gold (23.3%) than the US dollar. Russia’s move away from the US dollar reduces the dollar share in global reserves.

Growth aside, the RMB share is small compared to the other four SDR currencies; especially the US dollar and the euro. Also, the amount of global reserves held in the RMB is relatively minute. For instance, between 2016 Q1 and 2021 Q1, the global reserves held in dollars rose by US$1,489.12 billion, which is almost eight times more than the corresponding increase in the dollar value of global reserves held in the RMB, and five times the total value of global reserves held in the RMB in 2021 Q1.

One caveat in reading these COFER data is the so-called valuation effect – the data are obtained from converting holdings of global reserves in different currencies into US dollars. Consequently, fluctuations of the US dollar exchange rate can affect the dollar share.

Further, China’s gradual disclosure of its currency composition to the COFER in two to three years since 2015 Q2 can affect the currency composition of reported global reserves. The State Administration of Foreign Exchange of China (2019, 2020, 2021) reports that China’s holding of global reserves is more diversified than the world average; the US dollar accounted for 58% of China’s global reserves in 2014 and 2015, and 59% in 2016, while the US dollar share of the world total is 65% in 2014 and 2016, and 66% in 2015. In these three years, China’s holding of global reserves was between US$3.0 trillion in 2016 and US$3.8 trillion in 2014 while the total reported allocated global reserves were between US$6.8 trillion in 2014 and US$8.4 trillion in 2016. Given its relatively large holding, China’s installment-approach to reporting the currency composition of its international reserves holding can influence the reported US dollar share of global reserves.

5.2 FX trading
International trade and finance transactions typically involve converting one national currency into another. Exchanges of national currencies are conducted in the global FX market, the world’s largest decentralized financial market. Trading activity in the global FX market is a barometer gauging a currency’s prominence in the international monetary system. The BIS triennial central bank surveys present a detailed account of turnover in the global FX market. The surveys have documented the growing role of the RMB in the global FX market.

According to the surveys, the average RMB daily FX turnover volume in 2019 is US$285.0 billion, which is almost ten times its turnover volume of US$29.2 billion in 2010. The growth rate
of the turnover was at a very high level of 300% between 2010 and 2013. Then, it slowed down to 69% between 2013 and 2016 and 41% between 2016 and 2019. The RMB’s global trading share has increased from 0.9% to 4.3% and improved from the 17th most traded currency to the 8th most traded one between the 2010 and 2019 BIS triennial surveys (Bank for International Settlements 2010; 2013; 2016; 2019).

Despite its rapid ascent in global FX trading, the RMB’s turnover volume is still low compared with China’s economic size and international trade. Table 5 lists the shares of global FX trading, ratios of average daily turnover to GDP, and ratios of average daily turnover to the international trade volume of ten most traded currencies in the 2019 BIS survey. There are a few observations. First, the RMB is the only developing economy currency on the top ten list.

Table 5. Average Daily FX Turnover, Economic Size, and Trade Volume.

<table>
<thead>
<tr>
<th>Turnover share (%)</th>
<th>Turnover/GDP (%)</th>
<th>Turnover/trade (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD</td>
<td>88.3</td>
<td>28.0%</td>
</tr>
<tr>
<td>EUR</td>
<td>32.3</td>
<td>15.8%</td>
</tr>
<tr>
<td>JPY</td>
<td>16.8</td>
<td>22.4%</td>
</tr>
<tr>
<td>GBP</td>
<td>12.8</td>
<td>29.7%</td>
</tr>
<tr>
<td>JPY</td>
<td>16.8</td>
<td>22.4%</td>
</tr>
<tr>
<td>AUD</td>
<td>6.8</td>
<td>31.3%</td>
</tr>
<tr>
<td>CAD</td>
<td>5.0</td>
<td>19.5%</td>
</tr>
<tr>
<td>CHF</td>
<td>5.0</td>
<td>46.7%</td>
</tr>
<tr>
<td>CNY</td>
<td>4.3</td>
<td>2.1%</td>
</tr>
<tr>
<td>HKD</td>
<td>3.5</td>
<td>63.7%</td>
</tr>
<tr>
<td>NZD</td>
<td>2.1</td>
<td>66.8%</td>
</tr>
</tbody>
</table>

Note: The table lists the shares of global FX average daily turnover, average daily turnover to GDP ratios, and average daily turnover to international trade ratios based on data from Bank for International Settlements (2019), IFS and IMF DOTS.

Second, the RMB ranks the eighth most traded currency, while the other four SDR currencies are the top four. The US dollar, in particular, accounts for over 80% of all transactions and has a turnover volume 20 times of the RMB’s. The RMB’s turnover volume even lags Australia, Canada, and Switzerland – the countries that have a much smaller economy and trade sector.

Third, the turnover volume relative to GDP or relative to international trade gives a stark contrast between the RMB and the other top ten currencies. Columns (3) and (4) show that the RMB turnover is relatively low according to the GDP and trade volume economic measures. The RMB’s ratios of average daily FX turnover to GDP and to international trade are noticeably smaller than other top ten most traded currencies. According to these two ratios, the New Zealand dollar is the most traded currency in the table, and the US dollar is arguably the most heavily traded currency among the SDR basket. The RMB has only gained a modest footprint in the global FX market by these counts.

China has been promoting RMB trading in both the onshore and offshore markets. Onshore trading RMB is conducted on CFETS, the official onshore interbank platform established on April 53

Since two currencies are involved in each FX transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%.
18, 1994. In September 2015, China relaxed restrictions on foreign central banks, sovereign wealth funds, and international financial organizations to trade on CFETS. Since then, CFETS has steadily increased its trading members and opened the onshore interbank RMB market to authorized foreign participants. By the end of 2020, there are 735 authorized participants in the RMB spot trading market (People’s Bank of China, 2021).

In addition, China has expanded direct trading of RMB against different individual currencies. Table 6 presents the currencies that are on the list of direct trading against the RMB.54 In the second half of 2020, China waived interbank transaction fees between the RMB and 12 currencies; namely Hungarian forint, Korean won, Malaysian ringgit, New Zealand dollar, Polish złoty, Russian ruble, Saudi riyal, Singapore dollar, South African rand, Thai baht, Turkish lira, and United Arab Emirates dirham for three years to encourage direct trading with non-US currencies. With direct foreign exchange trading with non-US currencies, China can bypass the US dollar in settling cross-border transactions, lower currency conversion costs, and enhance the international RMB use. Note that the currencies that are directly tradable against the RMB under the CFETS platform match the component currencies of the CFETS RMB index.

Table 6. Currencies Directly Traded with the RMB in CFETS

<table>
<thead>
<tr>
<th>Starting date</th>
<th>Currency</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2010</td>
<td>Malaysian ringgit</td>
</tr>
<tr>
<td>December 2010</td>
<td>Russian ruble</td>
</tr>
<tr>
<td>June 2012</td>
<td>Japanese yen</td>
</tr>
<tr>
<td>April 2013</td>
<td>Australian dollar</td>
</tr>
<tr>
<td>March 2014</td>
<td>New Zealand dollar</td>
</tr>
<tr>
<td>June 2014</td>
<td>British pound</td>
</tr>
<tr>
<td>September 2014</td>
<td>Euro</td>
</tr>
<tr>
<td>October 2014</td>
<td>Singapore dollar</td>
</tr>
<tr>
<td>November 2015</td>
<td>Swiss franc</td>
</tr>
<tr>
<td>June 2016</td>
<td>Korean won</td>
</tr>
<tr>
<td>June 2016</td>
<td>South African rand</td>
</tr>
<tr>
<td>September 2016</td>
<td>UAE dirham</td>
</tr>
<tr>
<td>September 2016</td>
<td>Saudi riyal</td>
</tr>
<tr>
<td>November 2016</td>
<td>Canadian dollar</td>
</tr>
<tr>
<td>December 2016</td>
<td>Hungarian forint</td>
</tr>
<tr>
<td>December 2016</td>
<td>Danish krone</td>
</tr>
<tr>
<td>December 2016</td>
<td>Polish złoty</td>
</tr>
<tr>
<td>December 2016</td>
<td>Swedish krona</td>
</tr>
<tr>
<td>December 2016</td>
<td>Norwegian kroner</td>
</tr>
<tr>
<td>December 2016</td>
<td>Turkish lira</td>
</tr>
<tr>
<td>December 2016</td>
<td>Mexican peso</td>
</tr>
<tr>
<td>February 2018</td>
<td>Thai baht</td>
</tr>
</tbody>
</table>

Note: The table lists, besides the Hong Kong dollar and the US dollar, the currencies that have official direct bilateral currency trading arrangements with the RMB in CFETS.

Comparable to its offshore trading, the domestic RMB FX spot trading turnover increased from US$5.93 trillion in 2016 to US$7.9 trillion in 2019 and registered a 33% growth rate

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54 Direct trading against the US and Hong Kong currencies was available before 2010. In addition to these currencies, the CFETS also supports regional trading of KZT, MNT, and KHR against the RMB.
The RMB FX trading in both onshore and offshore markets is mainly against the US dollar – in both cases, trading against the US dollar in the past few years accounted for over 90% of total turnover volume and is higher than the US dollar share (87.6% in 2016 and 88.3% in 2019) of global FX trading. While the RMB has established its foothold in the global FX market, its trading reflects the dominance of the US dollar.

5.3 Global Payment Currency

China is the second largest economy and the largest trader in the world. In advocating the international use of the RMB, China emphasizes its role in facilitating trade and cross-border transactions. Figure 10 presents the data on the RMB usage for global payments by value from SWIFT, the Society for Worldwide Interbank Financial Telecommunication. [Insert Figure 10 here]

After touching the low rank of 20th and accounted for 0.25% of global payments in early 2012 (SWIFT, 2012), the RMB made strides to expand its roles in cross-border payments. It became the fourth rank currency and accounted for 2.79% of global payments in August 2015 (SWIFT, 2015). Then, the ranking hovered between fifth and seventh until the second half of 2020 when the share showed some upward momentum. In December 2021, the RMB scored the second highest share level of 2.70% and the fourth ranking. The performance of the RMB as a world payment currency reflects China’s emphasis on trade facilitation and its substantial presence in international trade (SWIFT, 2022).

Undoubtedly, the RMB has secured a solid position in global payment usage. However, the RMB’s share in world payments is still small compared with the US dollar and the euro. For instance, in December 2021, the US dollar and the euro account for, respectively, 40.51% and 36.65% of the world payments. The RMB’s 2.70% share of global payments is disproportionate to China’s 17% share of the global GDP and 13% share of international trade.

5.4 Renminbi Globalisation Index

Figure 11 presents the Renminbi Globalisation Index (RGI) between December 2010 and October 2021. The Standard Chartered Bank has launched the proprietary Index that aggregates overseas RMB business activities to obtain an operational measure of the level of RMB internationalization (Standard Chartered Bank, 2012). Starting with a base value of 100 in December 2010, RGI multiplied 25 times in slightly less than five years to reach the height of 2,563 in September 2015. The increase in RGI reflects both the growth in the number of offshore financial centers included in the Index and the proliferation of RMB businesses in these centers. The RGI movement manifests the strong momentum of international RMB usage. [Insert Figure 11 here]

After September 2015, the RGI reversed its trend for about three years before resuming a steady upward trend in late 2018. The Index in March 2021 surpassed the September 2015 high

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55 The domestic RMB FX spot trading turnover was US$8.38 trillion in 2020 (People’s Bank of China, 2021).
and reached a new high of 2698 in August 2021. It is conceived that the steady increase in the global uses of the RMB is at least partially attributable to the resilience of the Chinese economy and the strength and stability of the RMB under coronavirus pandemics (Standard Chartered Bank, 2021).

5.5 Discussions

The previous subsections show that China’s stated-led and assisted policies have propelled the RMB’s penetration of the world economy. It has established its positions in the areas of international reserves, global FX trading, and global transactions with an initially strong growth rate. The dynamics of the internationalization process have changed since late 2015. Specifically, around August 2015, data on both the SWIFT share of global payments and the Standard Chartered Bank RGI indicate that the international RMB use has dipped for a few years before re-gaining an upward, albeit a weaker, momentum in 2019. At the same time, the RMB share of global reserves and global FX trading also exhibited a weaker growth in the past few years. The expansion of the RMB into the global system is uneven over time and across areas.

The culprits of the dip in the international RMB use are the various unexpected foreign exchange and financial market management measures introduced after revamping the RMB central parity formation mechanism in August 2015. Without clear communications with the market, the authorities reined in capital outflows triggered by RMB depreciation expectations and financial deleveraging policy by fiat and hastily formulated policies. Among other things, these policies affected investment overseas and remittance of profits by foreign institutions. The abrupt implementation of these measures surprised foreign investors, who had to re-evaluate China’s market reform policy and investment environment. To a certain extent, these administrative measures reinforce the perception of China’s asymmetric policy framework of welcoming capital inflows while limiting outflows and highlight the risk of regulatory uncertainty.

The 2015 fiasco has created considerable uncertainty surrounding China’s financial liberalization policy and the RMB globalization process for foreign investors. It also has rekindled concerns on China’s inextricable link of economic policy and political ideology. These unexpected policy measures highlight the deterring effects of non-transparent policies and capital controls on the RMB use overseas and adversely affect the trust and confidence foreign investors have had on the global role of the RMB. Foreign investors After capital outflow stabilized, China has relaxed restrictions on foreign investors participating in the bond, stock, and commodity futures markets to lure them back to these onshore markets. It also removed the quota limit of the RQFII program and introduced specific policies to promote onshore RMB trading.

The recent China-US trade dispute has further impeded the expansion of the RMB in the global market (Cheung, Grimm and Westermann, 2021). The trade dispute does not affect only China’s trade and economic relationship with the US, but also with its allies. And the effect has gone beyond the economic uncertainty associated with the resulting tariffs and re-structuring of global supply chains – it has extended to conflicts in different areas, including technology and national security, that lead to strained geopolitical conditions. The economic and geopolitical tensions further hinder the global usage of the RMB.
After a few years of sluggish development, the COVID-19 pandemic presents China new opportunities to revive its RMB internationalization process. With its tenacious quarantine policy, China swiftly exited from pandemic lockdowns and asserted its resilience to the pandemic. Since the COVID-19 pandemic, China has increased its shares of world GDP and international trade. By successfully weathering the pandemic storm in late 2020 and 2021, China avoided quantitative easing policies and stabilized the RMB value. The resilient economy and stable currency form a formidable basis to advance the RMB internationalization process and attract foreign investors to RMB-denominated assets. Both the share of the RMB in global payments and the RGI registered gains in 2020 and 2021.

6. Geopolitics

Besides economic incentives, a globalized RMB offers China a financial apparatus for fortifying its global influence, prestige of a globally significant country and reduces its vulnerability to the US dollar. In addition to bolstering the RMB’s role in international trade, global financial markets and global reserves, China has pursued other strategies to strengthen its geopolitical weight to lift its stature on the global stage. The improved geopolitical clout can, in turn, enhance the creditability and acceptability of the RMB, and elevate its bargaining power with the US.

Participation in international organizations provides a venue for a country to promulgate its views, influence others, and gain access to information about the latest economic and geopolitical developments. The role of a country in international organizations; especially those of global significance, reflects its global standing and prestige. After securing the status of the only legitimated representative to the United Nations in 1971, China has actively and methodically joined international organizations, including those under supranational ones such as the United Nations, the IMF, and the World Bank, and those have a specific focus. With its sizable shares of world GDP and global trade, China aspires to play a prominent role in international organizations. To that end, China has adopted a shrewd and schematic strategy of securing key positions in international organizations and showed how to use its growing economic clout to build a significant geopolitical force.

China has steadily increased its assertiveness and influences in international organizations, especially after showing its resilience to the 2007-8 GFC. For instance, the then governor of the People’s Bank of China, Zhou Xiaochuan, in 2009 drew considerable global attention by implicitly challenging the US dollar hegemony. He suggested to replace a single super-sovereign reserve currency (the US dollar) with a supranational reserve currency (the SDR), which the RMB should play a role (Zhou, 2009). His successor, Yi Gang, echoed the message and called for the allocation of new SDR to cushion the adverse impact of the pandemic and support recovery (Yi, 2020). The promotion of SDR can be a short cut to undermine the primacy of the US dollar in the international monetary system and increase the role of the RMB in global reserves.

57 On October 25, 1971, the United Nations General Assembly passed the Albania’s Resolution 2758 and replaced Republic of China — the then representative of China — with People’s Republic of China.
In addition to pushing for a louder voice and a more significant role in existing international organizations, China is developing its own global economic and financial networks that mimic some existing organizations. Some examples are the Asian Infrastructure Investment Bank, the Belt and Road Initiative, CIPS, the New Development Bank, and the Shanghai Cooperation Organisation. Apparently, China does not intend to replace the existing international organizations with these new establishments. However, these “sino-centric” organizations offer China alternative platforms to engage with the rest of the world and propagate its agenda without being constrained by norms and restrictions of existing international organizations, which the US and its allies dominate.

China’s admirable growth and resilience to both the 2007-8 GFC and COVID-19 pandemic have steadily strengthened its geopolitical clout and bargaining power in the international community over time. It has gradually extended its political and economic influences and cultivated its credibility by participating in these existing and new international organizations. Besides advancing its influences and interests in the global arena. China’s roles in these organizations help to enlist support for using RMB globally.

While China has actively advocated the international RMB use, some of its other policies are counter-productive. For instance, the revamp of the RMB daily fixing mechanism in 2015 and the subsequent measures on capital outflows illustrate the deterring effect of non-transparent policies on globalizing the RMB.

China’s regulatory crackdowns on selected privately-owned companies is a recent example (XXX). Since the regulatory authorities abruptly suspended the mega IPO of Ant Financial in November 2020, the crackdown has subsequently affected corporations in the technology, education, and real estate sectors. These crackdown actions sparked volatile movements in Chinese equity prices in both onshore and offshore markets. The scale of the regulatory crackdown is unforeseen and caught most foreign investors off guard. While the objectives of these regulatory actions are understandable, investors are dismayed by the opaque policymaking process that leads to these actions. The resulting market volatility does not bode well for foreign investors, worsens investment sentiment in Chinese equities, and impedes international uses of the RMB (Standard Chartered 2021).

The RMB global status depends on China’s domestic economic and political fundamentals, credibility, and global leadership perceived by foreign investors. Economic strength is an important factor but not the only factor determining the use of the RMB overseas. Despite China’s growing economic prowess and rising geopolitical power, non-economic factors not entirely controlled by China can dictate the evolution process of RMB internationalization. For instance, China’s territorial disputes with neighboring countries, especially in the South China Sea, have revived antagonistic memories of historical territorial disputes and ancient grudges. The fatal confrontation at their disputed border in June 2020 has escalated the tension between China and

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60 The investment sentiment is also impacted by the possible de-listing of Chinese corporations by 2023 from the US exchanges if they do not provide US regulators with their audited accounts.
61 See, for example, Huang and Billo (2015). Stokes (2015) indicates that the territorial disputes undermined China’s popularity in the region.
India – two established nuclear powers. These territorial disputes that mirror a legacy of previous conflicts undercut China’s proclamation of peaceful development strategy. The perceived military aggressiveness and (regional) hegemon image do not help to persuade other countries to accept the global role of the RMB.

Does China solid economic performance; especially during crisis periods, justify its major country status and new role in global affairs. In establishing its "major country diplomacy (daguo waijiao 大國外交 in Chineses)” or “great power diplomacy” with Chinese characteristics and international image, China displays implacable attempts to play down the Western economic and political values and develop a global and ideological environment favorable to its expansion. Its responses to perceived violations of its core interests by foreign governments and corporations can be assertive and confrontational. At times, the reaction to foreign critics and perceived slights is bellicose and aggressive. In addition to diplomatic protects and condemnation, it can come with trade sanctions, travel bans, and mass social media ridiculing the offending party. The combative approach sometimes is dubbed as "Wolf Warrior” diplomacy. The bellicose and aggressive behaviour expectedly has provoked a backlash.

China engaged in diplomatic rows that triggered economic and trade consequences with some countries, including Australia, Japan, Korea, Singapore, and the US in the past few years. The Australia-China diplomatic row exemplifies the weaponization of trade policy for political disputes. Since Australia warned of growing China’s influences on its politics in 2017, the diplomatic relationship between the two countries has become strained. It reached a low point when Australia called for an investigation of the source of COVID-19 in 2020 (Trian, 2020). China has imposed sanctions and/or anti-dumping tariffs on beef, barley, coal, wine and warned its citizens not to travel to Australia. China did not admit a connection between these sanctions and diplomatic disputes. The sequence of events has dramatically altered the Australian’s view on China. For instance, the Australian’s trust (XXX) in China fell to a new record low in a 2021 survey: only 16% of them say they trusted (XXX) China ‘a great deal’ or ‘somewhat’ to act responsibly in the world, while 52% of them (XXX) trusted China in the 2018 survey (Natasha Kassam, 2021),

The resentment at China’s retribution against Lithuania illustrates a recent blowback to its policy of weaponizing trade. After Lithuania housed a Taiwanese Representative Office in 2021, China stoutly denounced the action and ferociously retaliated with economic coercion of unusual scope. Both imports from and exports to Lithuania are literally halted. In addition, corporations, especially those in Europe, are pressured to cut Lithuania from their supply chains. Similar to other political disputes, China did not formally declare any sanctions or punitive measures against Lithuania. In January 2022, the European Union lodged a complaint with WTO over China's discriminatory trade practices against its member state Lithuania.

62 Xi Jingping laid out the idea of major country diplomacy in his speech to the 2014 The Central Conference on Work Relating to Foreign Affairs.
63 Some called it coercive diplomacy (Hanson, Currey, and Beattie 2020).
64 Citing national security reasons, Australia banned the Chinese Huawei from its 5G network project in 2018.
65 The harsh relationship is also built upon the Lithuanian parliament’s decisions in May 2021 to label China's campaign against Uyghur Muslims as genocide and call on China to rescind the national security law in Hong Kong.
The assertive diplomacy with Chinese characteristics followed by weaponized trade policy can deliver a demonstration effect and direct other countries to respect China’s core interest. On the other hand, the punishment diplomacy is likely to obliterate trust (XXX) and credibility and forces countries to re-assess the costs and benefits of close economic ties with China and adopting the RMB for cross-border business. Even though these diplomatic confrontations may be short-lived, they can weaken commitments of adopting the RMB for international transactions.

Since Donald Trump entered the White House, the conflict between China and the US has been the talk of the global community. The conflict reflects the concerns about China’s economic and political influences amid its assertiveness and global expansion. The China-US trade dispute is a case in point – the US mounts pushback against China’s (perceived) unfair trade expansion supported by state-led nonmarket practices (Mavroidis and Sapir, 2021). China’s interactions with the rest of the world are affected by tariffs and global supply chain restructuring triggered by the trade dispute. The trade dispute is only part of abysmal US-China rivalry that has taken place in multiple areas, including technology, finance, intelligence, influences in the Asia-Pacific region, and control of international organizations. The rivalry goes beyond dispute about economic issues in specific areas and has evolved into one between competing systems of values and ideologies – the US seeks like-minded allies to contain China strategically, diplomatically, and economically.

The hostile rivalry with China and unprecedented COVID-19 pandemic have negatively affected views on China in the US. The Gallup poll surveys quite well demonstrate the evolution of the view of the US public on China. Figure 12 shows that the percentage of favorable views of China has declined from the recent high of 53% in 2018 to a historical low of 20% in 2021. At the same time, the unfavorable rate reached a historical high of 79%.

The increasingly negative sentiment is also recorded by the 2021 PEW Research Center Survey that covers public opinions of China in 17 advanced economies in North America, Europe, and the Asia-Pacific region (Silver, Devlin and Huang, 2021). The percentage of respondents in the US that have an unfavorable view of China steadily increased to 76% in 2021. Of the 17 economies in the Survey, Greece and Singapore are the only two with a percentage of unfavorable views below the 50% level. The economies including Australia, Japan, and South Korea that experienced various diplomatic and political disputes with China in the last few years have a percentage of unfavorable views higher than the US one. The median percentage of unfavorable views across the 17 economies is 69%.

The conflict and the accompanying belligerent rhetoric give rise to geopolitical discord and volatile external market conditions for China. The pushback from the US and other developed economies against China’s economic practices and foreign policy further aggravated its external situations. The shift in geopolitical sentiment and attitudes towards China can, at least temporarily, adversely affect foreign investors’ views on RMB-denominated assets and their commitments to support the internationalization of the RMB.

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66 See https://news.gallup.com/poll/331082/china-russia-images-hit-historic-lows.aspx. The percentage of “favorable” views is the sum of those of the “very favorable” and “mostly favorable” views. The “unfavorable” views comprise “mostly unfavorable” and “very unfavorable” views. The choice of “No Opinion” is available to respondents.
7. Concluding Remarks

China’s remarkable and sustained economic growth bolsters its growing influences on the global stage. Its rise has fundamentally shifted the global balance of power between the East and the West, and triggered the race for economic and geopolitical superiority. While economic clout constitutes a solid base buttressing China’s geopolitical development and global reach, it is not the only factor. A case in point is the international RMB use.

When China kicked off its RMB internationalization program after the 2007-8 GFC, the world anxiously anticipated a global RMB that matches its economic might. In the early 2010s, the RMB appeared to be on its destined path to be a key global currency. However, the RMB internationalization process had stalled for a few years when it achieved a remarkable triumph and won the SDR currency status in 2015. The process appears to regain some advancement opportunities with China’s resilience to the COVID-19 pandemic.67

Despite the rapid growth registered in the early 2010s and the steady improvement afterward, the role of the RMB in the global monetary system is relatively small and not commensurate with China’s standing in the global economy. For instance, the RMB accounts for 4.3% of global FX trading (2019), 2.45% of global reserves (2021Q1) and 2.70% of world payments (2022M1). These shares are low compared with China’s GDP and trade volume, which account for 17% and 13% of their respective world totals in 2020. These shares also are small compared with the other SDR currencies; especially the US dollar and the euro.

With its strong economic performance in the last few decades, China is getting confident to act like a major country in the world. It has methodologically asserted its international role and global influences to match its economic and trade weights. Its remarkable economic prowess provides the potency of the RMB internationalization policy. Undoubtedly, the RMB is under-represented in the global market and its global role does not match China’s economic might. Why?

One observation is that, in the history of international finance, very few countries can successfully make their currencies into a major global currency. Also, the process of replacing an incumbent global currency takes a long time and does not happen often. The last time it happened was the US dollar replaced the British pound during the World Wars of the 20th century. Since then, there have been a few (unsuccesful) attempts – the Deutsche mark, the Japanese yen, and the euro – to challenge the US dollar’s global dominance.68 Even supported by China’s global economic standing and tactical strategies, the RMB path to becoming a full-fledged global currency can be a long process. Given China’s track record of achieving its trade dominance, there is a reason to believe China contrived to internationalize the RMB with a similar gradualist approach that combines strategic market-oriented programs with state-led policies. Government controls and regulatory intervention are imposed whenever deemed necessary to maintain stability. However, the unexpected, though occasional, reversions to administrative foreign exchange and financial market controls tend to erode the market’s confidence and trust in the RMB’s global role.

67 The effectiveness and efficiency of China’s resource-intensive zero-Covid policy were questioned in 2022, especially given the economic impacts of mass testing and large-scale lockdowns to the contagious Omicron variant.
Another observation is that the US dollar has been the world’s dominant global currency since the Second World War. The global primacy of the US dollar is not preordained. The US has earned it with its strong economic and political attributes, which include sophisticated financial markets, a transparent legal system, credible public institutions, and global economic and military leadership. The US has maintained mainly a flexible exchange rate with a convertible capital account, which enhances the acceptance of the US dollar overseas. Over time, the US dollar has earned substantial credibility and trust from the global community and become a prominent international (reserves) currency. While some have noted that the Trump administration weakened the US global image and that US growth is behind China, it is uncertain if these render the RMB a definite edge over the US dollar.

Some observers point out that China’s capital controls and immature financial system limit the international usage of the RMB. Outsourcing RMB businesses to offshore financial centers does not resolve all the issues associated with policy and domestic market constraints. There are concerns about the scope and the pace of China’s reform programs. However, even without complete convertibility and exchange rate flexibility, foreign central banks have included RMB-denominated assets in their holdings of foreign reserves, and global investors have made RMB-denominated assets part of their portfolios. Anecdotal evidence suggests that, in addition to offshore RMB channels, China has continuously opened its domestic markets to foreign investors and financial institutions, albeit at its own pace.

Apparently, capital controls and insufficient liberalization of the financial system alone are not entirely responsible for the slow progress of RMB internationalization. For instance, the historical capital control experiences of the pound sterling in the 1950s and the US dollar in the 1970s show that full convertibility is neither a necessary nor sufficient pre-condition of a global currency. Of course, when most major currencies are largely convertible, the imposition of (unexpected) capital controls can erode a currency’s global status.

Do the Chinese currency internationalization policies better the prospect of unfettered capital flows at market-driven exchange rates and convince the global community to generate sufficient demand for RMB-denominated assets? The RMB’s global role has to be accepted by the world before becoming a major international currency. The global investor’s acceptance of a globalized RMB depends on their confidence and trust in the currency. The confidence and trust the RMB earned, in turn, affect the rate at which it penetrates the international financial market and its prospect of becoming a key global currency. Confidence and trust are not derived only from economic strengths. They depend on, for example, policy transparency and predictability. Both the unexpected foreign exchange management measures following the 2015 exchange rate policy change and the 2020 regulatory crackdowns illustrate the effects of policy uncertainty on the confidence and trust of foreign investors.

While China’s incredible economic progress has provided a solid base for globalizing the RMB, the internationalization process is hampered by the headwind from the deteriorating geopolitical environment. As discussed earlier, both China’s actions and the policies of some developed countries contribute to the geopolitical tensions developed in the past few years. The China-US conflict manifests the differences of values underlying the Chinese economic and
political model and the Western economic and political system. As China is expanding its
effect globally amidst its economic expansion, it pushes for an environment that favors its
continuous growth and challenges the existing global order. In the last few years, the US and its
allies took different actions to rein in China’s influences. In the world of realpolitik that is based
on national interests, practical and material matters, the paths of mutual economic gain and
national superiority can diverge. The China-US rivalry makes the global market less
accommodating to China’s state-led economic practices and, subsequently, weakens the
international demand for RMB-denominated assets. The geopolitical conflict and anti-China
rhetoric play a role in determining the path of the RMB internationalization process.

Moving forward, China’s promising growth prospects and integration into the global
economy can pull in global players to further the international use of the RMB; especially, if it
continues to liberalize its financial markets, enhance market liquidity, loosen its grip on the RMB,
 improve capital mobility, and enforce the rule of law. The presence of sophisticated financial
markets, open public institutions, the rule of law, and trusted political system are key factors
underpinning a full-fledged global currency. The RMB internationalization is not an objective by
itself but is the result of financial liberalization and global acceptance. To weaken or even revert
geopolitical headwinds, China has to be embraced by global community, cooperate with the global
system of values, and undertake international responsibilities in improving global security and
governance.

The US dollar, which plays a prevalent role in the global monetary system, definitely
enjoys the so-called incumbency advantage. The prominence of the US dollar has reinforced the
US economic and political clout, and vice versa. China’s gradualist approach, which takes up the
style of “subtlety, indirection, and the patient accumulation of relative advantage” that Henry
Kissinger admired (Kissinger, 2011), will likely deliver the tactically planned outcome and elevate
the global RMB stature. The US dollar global role, on the other hand, is interwoven in the current
global monetary system. The RMB, a relative new member of the global market, has to gain the
trust and the confidence of the international community to further its standing. The marketing of
the RMB to the world must be met by international demand, which is limited though increasing.
While the RMB is likely to surpass some SDR currencies in the near to medium future, the process
of dethroning the US dollar can be a long one.
### Appendix

#### Table A1. Offshore RMB Clearing Banks

<table>
<thead>
<tr>
<th>Offshore Financial Center</th>
<th>Authorized Date</th>
<th>Authorized Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hong Kong, China</td>
<td>December 2003</td>
<td>Bank of China, Hong Kong</td>
</tr>
<tr>
<td>Macau, China</td>
<td>September 2004</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Taiwan</td>
<td>December 2012</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Singapore</td>
<td>February 2013</td>
<td>Industrial and Commercial Bank of China</td>
</tr>
<tr>
<td>London, UK</td>
<td>June 2014</td>
<td>China Construction Bank</td>
</tr>
<tr>
<td>Frankfurt, Germany</td>
<td>June 2014</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Seoul, South Korea</td>
<td>July 2014</td>
<td>Bank of Communications</td>
</tr>
<tr>
<td>Paris, France</td>
<td>September 2014</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>September 2014</td>
<td>Industrial and Commercial Bank of China</td>
</tr>
<tr>
<td>Doha, Qatar</td>
<td>November 2014</td>
<td>Industrial and Commercial Bank of China</td>
</tr>
<tr>
<td>Toronto, Canada</td>
<td>November 2014</td>
<td>Industrial and Commercial Bank of China</td>
</tr>
<tr>
<td>Sydney, Australia</td>
<td>November 2014</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Bangkok, Thailand</td>
<td>January 2015</td>
<td>Industrial and Commercial Bank of China</td>
</tr>
<tr>
<td>Kuala Lumpur, Malaysia</td>
<td>January 2015</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Santiago, Chile</td>
<td>May 2015</td>
<td>China Construction Bank</td>
</tr>
<tr>
<td>Budapest, Hungary</td>
<td>June 2015</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Johannesburg, South Africa</td>
<td>July 2015</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Buenos Aires, Argentina</td>
<td>September 2015</td>
<td>Industrial and Commercial Bank of China</td>
</tr>
<tr>
<td>Zambia</td>
<td>September 2015</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Zurich, Switzerland</td>
<td>November 2015</td>
<td>China Construction Bank</td>
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<tr>
<td>New York, US</td>
<td>September 2016</td>
<td>Bank of China</td>
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<tr>
<td></td>
<td>February 2018</td>
<td>J.P. Morgan</td>
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<tr>
<td>Moscow, Russia</td>
<td>September 2016</td>
<td>Industrial and Commercial Bank of China</td>
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<td>Dubai, UAE</td>
<td>December 2016</td>
<td>Agricultural Bank of China</td>
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<tr>
<td>Karachi, Pakistan</td>
<td>May 2018</td>
<td>Bank of China</td>
</tr>
<tr>
<td>Tokyo, Japan</td>
<td>October 2018</td>
<td>Bank of China</td>
</tr>
<tr>
<td></td>
<td>May 2019</td>
<td>MUFG Bank</td>
</tr>
<tr>
<td>Manila, Philippines</td>
<td>September 2019</td>
<td>Bank of China</td>
</tr>
</tbody>
</table>

Note: Information collected from Bloomberg, People’s Bank of China, and the State Administration of Foreign Exchange of China.

#### Table A2. Bilateral RMB Currency Swap Agreements

<table>
<thead>
<tr>
<th>Date</th>
<th>Counterparty</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-Jan-09</td>
<td>Hong Kong Monetary Authority</td>
<td>RMB200 billion and HK$227 billion</td>
</tr>
<tr>
<td>8-Feb-09</td>
<td>Bank Negara Malaysia</td>
<td>RMB80 billion and MYR40 billion</td>
</tr>
<tr>
<td>11-Mar-09</td>
<td>National Bank of the Republic of Belarus</td>
<td>RMB20 billion and BYR 8 trillion</td>
</tr>
<tr>
<td>23-Mar-09</td>
<td>Bank Indonesia</td>
<td>RMB100 billion and IDR175 trillion</td>
</tr>
<tr>
<td>2-Apr-09</td>
<td>Central Bank of Argentina</td>
<td>RMB70 billion and ARS38 billion</td>
</tr>
<tr>
<td>20-Apr-09</td>
<td>Bank of Korea</td>
<td>RMB180 billion and KRW38 trillion</td>
</tr>
<tr>
<td>9-Jun-10</td>
<td>The Central Bank of Iceland</td>
<td>RMB3.5 billion and ISK66 billion</td>
</tr>
<tr>
<td>23-Jul-10</td>
<td>Monetary Authority of Iceland</td>
<td>RMB150 billion and SGP30 billion</td>
</tr>
<tr>
<td>18-Apr-11</td>
<td>Reserve Bank of New Zealand</td>
<td>RMB25 billion and NZD5 billion</td>
</tr>
<tr>
<td>19-Apr-11</td>
<td>Central Bank of the Republic of Uzbekistan</td>
<td>RMB0.7 billion and UZS167 billion</td>
</tr>
<tr>
<td>6-May-11</td>
<td>Bank of Mongolia</td>
<td>RMB5 billion and MNT1 trillion</td>
</tr>
<tr>
<td>13-Jun-11</td>
<td>National Bank of Kazakhstan</td>
<td>RMB7 billion and KZT150 billion</td>
</tr>
<tr>
<td>Date</td>
<td>Institution</td>
<td>Currency 1</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>26-Oct-11</td>
<td>Bank of Korea</td>
<td>RMB360 billion</td>
</tr>
<tr>
<td>22-Nov-11</td>
<td>Hong Kong Monetary Authority</td>
<td>RMB400 billion</td>
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<tr>
<td>22-Dec-11</td>
<td>Bank of Thailand</td>
<td>RMB70 billion</td>
</tr>
<tr>
<td>23-Dec-11</td>
<td>State Bank of Pakistan</td>
<td>RMB10 billion</td>
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<tr>
<td>17-Jan-12</td>
<td>Central Bank of the United Arab Emirates</td>
<td>RMB35 billion</td>
</tr>
<tr>
<td>8-Feb-12</td>
<td>Bank Negara Malaysia</td>
<td>RMB180 billion</td>
</tr>
<tr>
<td>21-Feb-12</td>
<td>Central Bank of the Republic of Turkey</td>
<td>RMB10 billion</td>
</tr>
<tr>
<td>20-Mar-12</td>
<td>Bank of Mongolia</td>
<td>RMB10 billion</td>
</tr>
<tr>
<td>22-Mar-12</td>
<td>Reserve Bank of Australia</td>
<td>RMB200 billion</td>
</tr>
<tr>
<td>26-Jun-12</td>
<td>National Bank of Ukraine</td>
<td>RMB15 billion</td>
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<tr>
<td>7-Mar-13</td>
<td>Monetary Authority of Singapore</td>
<td>RMB300 billion</td>
</tr>
<tr>
<td>26-Mar-13</td>
<td>Central Bank of Brazil</td>
<td>RMB190 billion</td>
</tr>
<tr>
<td>22-Jun-13</td>
<td>Bank of England</td>
<td>RMB200 billion</td>
</tr>
<tr>
<td>9-Sep-13</td>
<td>Hungarian National Bank</td>
<td>RMB10 billion</td>
</tr>
<tr>
<td>12-Sep-13</td>
<td>Bank of Albania</td>
<td>RMB2 billion</td>
</tr>
<tr>
<td>30-Sep-13</td>
<td>The Central Bank of Iceland</td>
<td>RMB3.5 billion</td>
</tr>
<tr>
<td>9-Oct-13</td>
<td>European Central Bank</td>
<td>RMB350 billion</td>
</tr>
<tr>
<td>25-Apr-14</td>
<td>Reserve Bank of New Zealand</td>
<td>RMB25 billion</td>
</tr>
<tr>
<td>18-Jul-14</td>
<td>Central Bank of Argentina</td>
<td>RMB70 billion</td>
</tr>
<tr>
<td>21-Jul-14</td>
<td>Swiss National Bank</td>
<td>RMB150 billion</td>
</tr>
<tr>
<td>21-Aug-14</td>
<td>Bank of Mongolia</td>
<td>RMB15 billion</td>
</tr>
<tr>
<td>16-Sep-14</td>
<td>Central Bank of Sri Lanka</td>
<td>RMB10 billion</td>
</tr>
<tr>
<td>11-Oct-14</td>
<td>Bank of Korea</td>
<td>RMB360 billion</td>
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<tr>
<td>13-Oct-14</td>
<td>Central Bank of the Russian Federation</td>
<td>RMB150 billion</td>
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<tr>
<td>3-Nov-14</td>
<td>Qatar Central Bank</td>
<td>RMB35 billion</td>
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<tr>
<td>8-Nov-14</td>
<td>Bank of Canada</td>
<td>RMB200 billion</td>
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<tr>
<td>22-Nov-14</td>
<td>Hong Kong Monetary Authority</td>
<td>RMB400 billion</td>
</tr>
<tr>
<td>14-Dec-14</td>
<td>National Bank of Kazakhstan</td>
<td>RMB7 billion</td>
</tr>
<tr>
<td>22-Dec-14</td>
<td>Bank of Thailand</td>
<td>RMB70 billion</td>
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<tr>
<td>23-Dec-14</td>
<td>State Bank of Pakistan</td>
<td>RMB10 billion</td>
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<tr>
<td>18-Mar-15</td>
<td>Central Bank of Suriname</td>
<td>RMB 1 billion</td>
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<tr>
<td>25-Mar-15</td>
<td>Central Bank of Armenia</td>
<td>RMB 1 billion</td>
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<tr>
<td>30-Mar-15</td>
<td>Reserve Bank of Australia</td>
<td>RMB200 billion</td>
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<tr>
<td>10-Apr-15</td>
<td>South African Reserve Bank</td>
<td>RMB 30 billion</td>
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<tr>
<td>17-Apr-15</td>
<td>Bank Negara Malaysia</td>
<td>RMB180 billion</td>
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<tr>
<td>10-May-15</td>
<td>National Bank of the Republic of Belarus</td>
<td>RMB 7 billion</td>
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<tr>
<td>15-May-15</td>
<td>National Bank of Ukraine</td>
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<tr>
<td>25-May-15</td>
<td>Central Bank of Chile</td>
<td>RMB 22 billion</td>
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<tr>
<td>3-Sep-15</td>
<td>National Bank of Tajikistan</td>
<td>RMB 3 billion</td>
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<tr>
<td>26-Sep-15</td>
<td>Central Bank of the Republic of Turkey</td>
<td>RMB12 billion</td>
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<tr>
<td>20-Oct-15</td>
<td>Bank of England</td>
<td>RMB 350 billion</td>
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<tr>
<td>14-Dec-15</td>
<td>Central Bank of the United Arab Emirates</td>
<td>RMB35 billion</td>
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<tr>
<td>7-Mar-16</td>
<td>Monetary Authority of Singapore</td>
<td>RMB300 billion</td>
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<tr>
<td>11-May-16</td>
<td>Bank Al-Maghrib, Morocco</td>
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<tr>
<td>17-Jun-16</td>
<td>National Bank of Serbia</td>
<td>RMB 1.5 billion</td>
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<tr>
<td>12-Sep-16</td>
<td>Hungarian National Bank</td>
<td>RMB10 billion</td>
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<tr>
<td>27-Sep-16</td>
<td>European Central Bank</td>
<td>RMB350 billion</td>
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</table>

Note: These agreements usually have a maturity of three years and are renewable. A few exceptions are the latest agreements with Korea, Hong Kong, Thailand and Canada have a 5 years term. Information collected from Bloomberg, People’s Bank of China, and the State Administration of Foreign Exchange of China.
References

41


Eichengreen, B. & Flandreau, M. (2009). The rise and fall of the dollar (or when did the dollar replace sterling as the leading international currency?). European Review of Economic History, 13(3), 377-411.


State Administration of Foreign Exchange of China. (2003b). Notice for Issues relating to Domestic Institutions Using RMB as Denominated Currency in Foreign Trade (guanyu


SWIFT. (2013). RMB Tracker – April 2013. SWIFT.


Westermann, F. (2021). On the Geographical Dispersion of Euro Currency Trading: An Analysis of the First 20 Years and a Comparison to the RMB. *HKIMR WP No. 25/2021*


Figure 1. China’s Real GDP and Growth Rate in Local Currency, 1979 to 2020

Note: Data from the World Bank.
Figure 2. China and the US GDP in Current Billion of US Dollar, 1979 to 2020

Note: Data from the World Bank.
Figure 3. Shares of World GDP – China Vs the US, 1979 to 2020

Note: Data from the World Bank.
Figure 4. GDP *per Capita* – China Vs the US, 1979 to 2020

Note: Data from the World Bank.
Figure 5. Shares of World Trade – China Vs the US, 1979 to 2020 (12-Month Average)

Note: Data on import CIF and export FOB in US dollar from the World Bank.
Figure 6. The Nominal and Real (reversed) RMB Exchange Rates against the US Dollar

Note: Data from IMF, OECD and the US Department of Commerce.
Figure 7. China’s Trade Balance per GDP and Holding of International Reserves: January 1981 to December 2020

Note: Data from IMF.
Figure 8. Share of China’s Trade Settled in the RMB (Percentage)

Note: Data from CEIC.
**Figure 9. The US Dollar Share of Allocated Global Official Reserves (Percentage)**

Note: Data from COFER.
Figure 10. The RMB as a Global Payment Currency

Note: Data from SWIFT RMB Tracker, various issues.
Figure 11. Renminbi Globalization Index, December 2010 to October 2021

Note: Data from Standard Chartered Bank.
Figure 12. Views on China

Note: Data from Gallup poll surveys