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A JOURNEY TO WHERE? : INTERNATIONALIZATION AND DIGITALIZATION OF THE RMB AND THE BELT AND ROAD INITIATIVE

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Abstract

China, as the world's second-largest economy, contrasts its economic power with the modest international status of its currency, the renminbi (RMB). Despite the declining dominance of the U.S. dollar, the RMB lags behind the euro, pound sterling, and yen. The Belt and Road Initiative (BRI), launched in 2013, was anticipated to boost RMB internationalization through significant global infrastructure investments. Yet, a decade later, the RMB's global status remains limited. This study explores the BRI's impact on RMB internationalization, beginning from the post-2008 financial crisis period when efforts intensified. Utilizing recently collected comprehensive data, the research examines RMB flows domestically and internationally, finding minimal offshore net outflows. The study highlights China's strategic caution, balancing RMB inflow and outflow while prioritizing capital control, despite public rhetoric supporting RMB internationalization.

Keywords: Renminbi, Internationalization of Currency, post-2008 financial crisis, digital currency, the US-China competition

I. Introduction

China stands as the world's second-largest economy and the foremost global trading nation. However, despite China's rapid rise, the status of the renminbi (RMB) remains modest. Although the prominence of the dollar in the global financial currency system is continuously declining, the RMB has yet to surpass, let alone match, other major international currencies such as the euro, pound sterling, or yen.[1] In this context, the Belt and Road Initiative (BRI), launched in 2013, was anticipated to offer a new opportunity for the internationalization of the RMB due to the substantial global infrastructure investments made in a short period. However, even a decade after the launch of the BRI, the RMB has not achieved a status commensurate with China's economic standing.

[1] See figure 1.

This study analyzes the impact of the BRI on the internationalization of the RMB within this backdrop. It begins by briefly outlining the context in which the RMB's internationalization started in earnest following the 2008 global financial crisis. China has been reticent in disclosing information regarding the BRI and its foreign investments. Only recently has comprehensive data, although limited, been collected through collaboration with international researchers. Accordingly, this study will utilize this data to examine the BRI's influence on the internationalization of the RMB.

Subsequently, it revisits the early stages of RMB internationalization by reviewing the inflows and outflows of the RMB both domestically and internationally, confirming that the net outflow of the RMB offshore is not substantial. By closely examining domestic discussions in China at the time, the study will demonstrate that China was avoiding the costs and risks associated with the imbalance of RMB inflows and outflows. This analysis will reveal that despite China's outward rhetoric of actively promoting RMB internationalization, it has maintained a cautious and conservative approach, prioritizing capital control.

II. The Rise of China and the Internationalization of the Renminbi

1. Long-standing Distrust in the Dollar and the Lack of Alternatives

Doubts about the dollar's role as a key reserve currency have been present for a long time. The Bretton Woods system and the gold exchange standard centered around the dollar, established after World War II, ended in August 1971 when President Nixon announced the suspension of the dollar's convertibility into gold, leading to the adoption of the floating exchange rate system in 1973. During the 1980s, the United States experienced persistent current account and fiscal deficits, known as the "twin deficits," which led to a continuous decline in the dollar's value. Simultaneously, emerging Asian economies saw accelerated trade surpluses and increasing dollar reserves. As global imbalances deepened, skepticism about the sustainability of the international monetary and financial system grew (Kim Kisoo, 2011; Eichengreen, 2007).

Despite global imbalances and the declining value of the dollar, the international monetary and financial system continued without significant changes. This persistence was due to the functioning of the so-called "Bretton Woods II" system (Dooley et al., 2003; Baek Changjae et al., 2012). Emerging Asian countries, including China, continued to absorb dollars as they pursued economic growth through foreign trade, allowing the United States to issue dollars without much restraint. These Asian economies effectively replaced the role that Europe, centered around Germany, played in the original Bretton Woods system. The global imbalance system was sustainable because it aligned with the interests of emerging countries pursuing economic growth and the United States maintaining its economic standing through dollar issuance. In other words, the Bretton Woods II system was sustainable because it enabled emerging countries to accumulate dollar reserves while supporting U.S. economic stability

Moreover, the lack of viable alternatives to the dollar, coupled with the overwhelming economic power of the United States, contributed to the system's persistence. After World War II, as Germany's economy rapidly recovered and grew, the Deutsche Mark was initially considered a potential competitor to the dollar. However, the German government prioritized controlling inflation and strictly limited the inflow of foreign capital, making it unattractive to foreign

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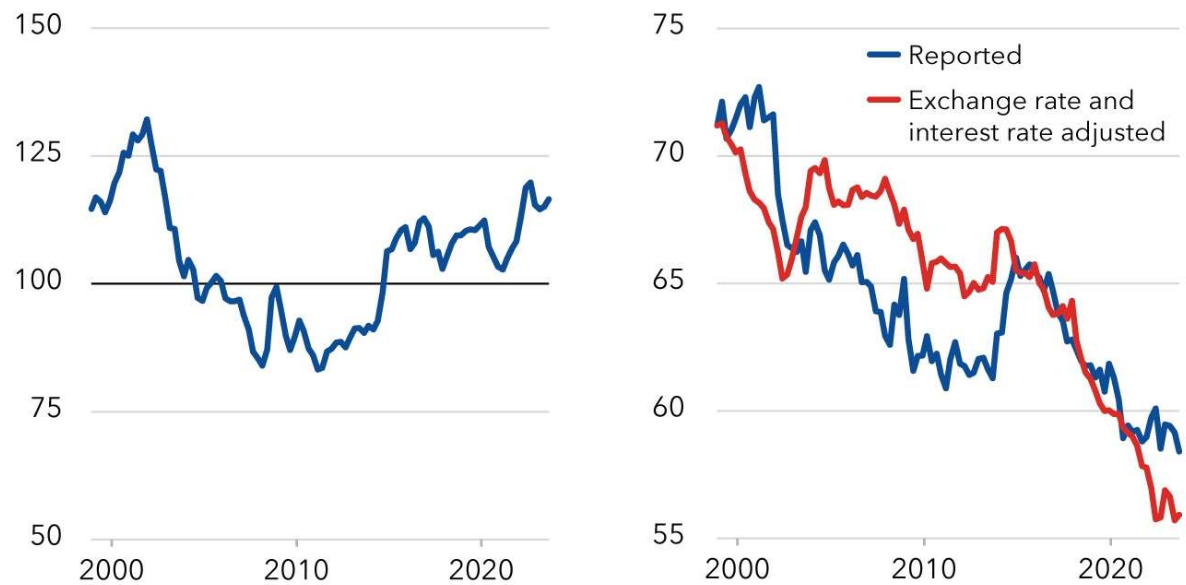
investors. Subsequently, the growth of Japan's economy positioned the yen as a new alternative. Japan initially avoided internationalizing the yen to maintain export-led growth, but in the 1980s, it shifted policy towards internationalization. However, the bursting of Japan's economic bubble in 1989 and the Gulf War in 1991 exposed Japan's economic vulnerabilities and underscored its political lag behind the United States, preventing the yen from challenging the dollar's status (Kim Kisoo, 2011; Eichengreen, 2011; Nakao, 1995; Cohen, 1998). Crucially, despite rapid economic growth, neither Germany nor Japan achieved parity with the United States in terms of political stature or economic scale.

<Figure 1> US Dollar Erosion

US Dollar Index (Jan 2006=100) US Dollar Share of FX Reserve (%)



Source: IMF COFER

Note: Federal Reserve Board Trade-Weighted Dollar Index (Advanced Economy).

With the introduction of the euro as the European Union's single currency in 1999, the dollar finally seemed to have a formidable alternative. The European Union boasted an economy comparable in scale to the United States, presenting a competitor of a different magnitude than Germany or Japan. Additionally, it had sound macroeconomic policies, a stable political system, and a financial market capable of rivaling the U.S. Other non-member European countries, Mediterranean nations, and parts of Africa were already using the euro as a trading currency, establishing a broad distribution network. However, the euro had significant political weaknesses. The absence of a unified government complicated policy decision-making, making it difficult to reconcile national interests and raising doubts about crisis management capabilities. Furthermore, the expansive inclusion of heavily indebted countries in the monetary union exposed it to economic vulnerability (Eichengreen, 2011; Helleiner et al., 2009). Following the 2008 global financial

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crisis, a series of sovereign debt crises in countries like Greece and the occurrence of Brexit caused the euro to falter and lose momentum as a contender to the dollar.

2. The Global Financial Crisis and RMB Internationalization

China has multiple motivations for pursuing the internationalization of the renminbi (RMB). Countries that hold the dollar as a major reserve currency often peg their currencies to the dollar, which can lead to a loss of monetary policy autonomy. The United States is the only country that enjoys autonomy free from such constraints. Furthermore, stabilizing a currency pegged to the dollar requires holding large reserves of dollars, which entails accepting losses due to low interest rates and dollar depreciation. While these monetary challenges are common to other countries, China has distinct political motivations. It seeks to assert independence from U.S. influence and intends to alter the U.S.-led global order, including the international monetary and financial system. Domestically, RMB internationalization could also serve as a tool to accelerate internal economic reforms (Lai 2021, 37-59). However, China has yet to achieve an economic scale capable of challenging the dollar's hegemony and has continued its economic growth relying on the hegemonic structure of the U.S. and the dollar, as exemplified by the "Bretton Woods II" framework.

The 2008 global financial crisis altered perceptions and conditions both globally and within China. One key rationale supporting trust in the dollar was the belief that the U.S. was relatively immune to economic crises and could easily overcome them (Tavlas 1997, 707-747). However, the financial crisis originating in the U.S. weakened the dollar's appeal and spread doubts about its status (Eichengreen 2011, 209-211; Chey 2012, 63). Furthermore, the fiscal crisis that began in Greece in 2009 and spread across the Eurozone shook the status of the euro, the second most important currency after the dollar (Bae Byeongin 2011, 109-131). In this context, despite the financial crisis, China's RMB, which maintained growth and stability, inevitably drew attention. Unlike the period when the U.S. unilaterally led the global economy, Asia, centered on China along with the EU, emerged as a major trading partner. This shift led to the recognition that RMB could become an international currency and that diversification of international currencies, including RMB internationalization, could contribute to the stability of the international monetary system (Lee 2010).

Within China, prior to the financial crisis, there was a prevailing view that while global imbalances might not persist indefinitely due to the unsustainable expansion of the U.S. twin deficits and dollar reserves, dollar hegemony was sustainable in the short term because it benefited both sides and there were no alternatives (Li Xiangyang 2005, 14-19; Chen Taixian et al. 2006, 41-49; Zhou Xianping 2007, 44-50). However, criticism grew that the U.S. was shifting the crisis burden to other countries by addressing the financial crisis through quantitative easing without fundamental reflection or solutions (Chang Zhongyi 2010, 18-34; Guo Lijun et al. 2011, 118-128). Most Chinese scholars believed that although the financial crisis might not fundamentally alter the international political system, the crisis, rooted in excessive U.S. current account deficits and Wall Street corruption, would inevitably impact the U.S. financial sector (Wang Shishan et al. 2010, 52-58). Consequently, there emerged a perspective that dollar hegemony would inevitably end in the long term, leading to a multipolar system with multiple coexisting international currencies. This view was accompanied by an argument that China should actively pursue RMB internationalization in preparation for such changes. Some nationalistic views even advocated dismantling dollar hegemony and establishing the RMB as a replacement reserve currency. However, the prevailing prediction was that the RMB would become one of the three main international currencies alongside the dollar and euro, and policy should aim to achieve this goal (Guo Lijun et al. 2011, 191; Wang Xiangsui 2009, 5-12; Chen Bingcai et al. 2010; Wang Xiangsui 2011, 10-24, 155).

Despite these shifts in perception across academia and society, in authoritarian China, the views and actual policies of the Communist Party and its leaders are paramount. Initially, Chinese authorities did not overtly challenge dollar hegemony or actively pursue RMB internationalization. For instance, then-President Hu Jintao stated in a 2011 written interview with The Washington Post that it would take a long time for the RMB to become an international currency and that China's efforts to expand RMB usage in foreign trade and investment were aimed at enhancing trade and investment facilitation, as part of the response to the international financial crisis (The Washington Post 2011/01/16). Although he did not deny the long-term goal of RMB internationalization, he emphasized its role as a temporary response to the financial crisis. From this period, China began to earnestly pursue RMB internationalization, but the policy direction was highly gradual.

China cautiously advanced monetary and financial policies directly related to internationalization, such as expanding the convertibility of the RMB through capital account liberalization and developing financial markets. Simultaneously, it sought to elevate the RMB's status by leveraging its rapidly rising international stature, which contrasted with the relatively declining status of the U.S. and the dollar due to the financial crisis. This could be characterized as political expansion in contrast to monetary and financial expansion. For example, then-Governor of the People's Bank of China, Zhou Xiaochuan, criticized the dollar-centered international monetary system in March 2009 and proposed using the IMF's Special Drawing Rights (SDR), detached from any specific country, as an international reserve currency. However, for SDRs to become a reserve currency, they must be tradable in private markets, requiring high-interest issuance to increase liquidity, which no one is willing to bear. Additionally, the issuing institution, the IMF, would need to function as the world's central bank. Therefore, China's proposal was seen as a symbolic gesture to criticize U.S. monetary hegemony and express its discontent (Kim Kisoo 2011, 365-380; Eichengreen 2011, 234-243).

Concurrently, China began taking tangible steps to include the RMB in the SDR currency basket. The IMF stipulated "freely usable currency" as a condition for basket inclusion, and existing member countries like the U.S. argued that China must ensure RMB convertibility and adopt a floating exchange rate to meet these conditions, opposing RMB inclusion. China countered that complete convertibility and a floating exchange rate were not prerequisites for inclusion, citing the cases of Japan and others. In May 2012, during the fourth U.S.-China Strategic and Economic Dialogue in Beijing, China secured U.S. support for RMB inclusion in the SDR. Through these efforts, the RMB was included in the SDR in October 2016.

Additionally, China significantly increased its bilateral currency swap agreements in response to the financial crisis. These agreements have continued steadily, reaching 40 countries and regions with a total of 4.02 trillion RMB by the end of 2021 (People's Bank of China 2022, 17). However, currency swaps themselves are unlikely to have a significant impact on RMB internationalization. The amounts involved are small compared to total trade volume or financial markets, and with the current level of RMB internationalization, there is little room for other countries to use the RMB in foreign exchange market interventions and external debt repayments. Although China could expand its political influence by offering currency swaps in dollars, this would not contribute to RMB internationalization (Eichengreen 2011, 243-246). RMB currency swaps would only have a meaningful effect and further aid internationalization once RMB internationalization is more fully realized.

While China has aimed to expand internationalization politically and indirectly, it has not neglected direct changes in finance and currency. After the financial crisis, China moved from the peg system in place since July 2008 to a managed floating system (±0.5% fluctuation per day) in June 2010. The RMB has consistently appreciated since then. In April 2012, the daily fluctuation band was widened to ±1%. Furthermore, since July 2007, China has authorized the issuance of RMB-denominated bonds, known as "dim sum bonds," in the Hong Kong financial market. Additionally, in May 2010, foreign banks began issuing RMB bonds in China. Despite steady progress, capital account liberalization and financial sector reforms are still considered slow. Externally, China has fully opened RMB convertibility through Hong Kong and other channels, but internally, it has not relinquished capital controls. The state continues to exert strong control over banks, and state-owned enterprises still enjoy financial privileges. The stock and bond markets remain small compared to the economy's size, and excessive government intervention is frequent (Lai 2021, 58-94, 138-193).

In this context, trade settlement stands out as a particularly successful aspect of RMB internationalization. In July 2009, China initiated a pilot project to expand RMB trade settlement in Shanghai and Guangdong province. At the time, China explained that due to the financial crisis, the exchange rate volatility of major international settlement currencies like the dollar and euro had increased, heightening the risk of exchange rate fluctuations for China and other countries during trade settlements. Therefore, RMB trade settlement was implemented to eliminate exchange rate risk and reduce conversion costs (People's Bank of China Monetary Policy Analysis Group 2009Q3, 10). As shown in Table 1, which outlines the expansion process of RMB trade settlement, China gradually expanded the pilot regions and subjects, allowing settlements for all regions and enterprises from 2012 onwards.

III. The Belt and Road Initiative and the Internationalization of the Renminbi

1. BRI's Strategic Goals

In March 2015, China's National Development and Reform Commission, Ministry of Foreign Affairs, and Ministry of Commerce jointly released the first official document on the Belt and Road Initiative (BRI) titled "Vision and Actions on Jointly Building the Silk Road Economic Belt and 21st-Century Maritime Silk Road." This document included content related to the internationalization of the renminbi (RMB). Regarding capital flow, it stated, "Support will be given to the governments, high-credit-rated enterprises, and financial institutions of countries along the Belt and Road to issue RMB bonds within China. Chinese financial institutions and enterprises that meet certain conditions will be encouraged to issue RMB and foreign currency bonds offshore and use the funds raised in countries along the Belt and Road." Additionally, at the second Belt and Road Forum held in Beijing in April 2019, China released "Building the Belt and

Road Initiative: Progress, Contributions, and Prospects." This report also highlighted the expansion of bond markets, including RMB-denominated Panda Bonds, and the increasing international use of the RMB in payments, investment, trade, and reserves. It further mentioned the signing of currency swap agreements with countries along the Belt and Road and the expanded use of the RMB International Payment System (CIPS). Moreover, since 2015, the People's Bank of China has published an annual "RMB Internationalization Report," describing the BRI's role in RMB internationalization, focusing on trade settlements and currency swaps.

According to China's official stance, the internationalization of the RMB is part of the BRI's objectives. However, as indicated by the limited references to RMB internationalization in the aforementioned documents, it is not a core goal of the BRI. Primarily, the BRI can be seen as a response to the economic challenges China faced following the 2008 financial crisis. As China's economy and industry rapidly developed, structural changes began in the late 1990s. Rising wages weakened the comparative advantage of labor-intensive industries, and overproduction occurred in several sectors. It was within this context that China intensified its "Go Global" strategy, promoting the overseas expansion of its enterprises. The structural issues in China worsened with the 2008 financial crisis, as the global economic downturn made it difficult to maintain export-led growth, and chronic stagnation was anticipated in major developed countries due to aging populations. This marked the onset of the "New Normal[2]," a period of structural long-term stagnation. Additionally, China overcame the crisis through artificial economic stimulation, primarily focusing on domestic infrastructure investment. Once the crisis subsided, it had to manage the excess infrastructure and production capacity, as well as the high unemployment rate. Initially, the BRI was pursued to relocate surplus investments and production capacity, and excess labor exposed by high unemployment, beyond China's borders (Shen et al. 2018, 2-5; Dreher et al. 2022, 282-287).

The U.S. government and Western international political scholars perceive the BRI as a national strategy through which China uses its economic power to alter the U.S.-led international order. From this perspective, the BRI is seen as serving China's goals of territorial preservation, energy security, and expanding international influence. By leveraging investments to connect pipelines to strategic overseas locations and secure port usage rights, the BRI is directly linked to military strategy. Particularly, the U.S. authorities are concerned about the BRI's geographic expansion in Africa, the Middle East, and its spread into diverse sectors such as healthcare, digital technology, and the environment (U.S. Department of Defense 2022, 24-26). Some even interpret it as an attempt to encircle and replace the U.S. by linking developing countries with China through the BRI, akin to Mao Zedong's revolutionary strategy of encircling cities from the countryside (Doshi 2021, 264).

Regardless of China's actual objectives with the BRI, it is perceived as a potential catalyst for the substantial internationalization of the RMB. The primary determinant of an international currency is its size, with trade volume being particularly significant historically (Helleiner et al. 2009, 9). Given China's status as the world's second-largest economy and the leading trade nation,

[2] The New Normal" refers to emerging phenomena as economic environments change and began to be widely used in the process of addressing the global financial crisis and Covid-19 Pandemic (Jamaludin et a 2020). The "New Normal" is based on reflection and revision of the Old Normal. The "Old Normal" era defines the period before the financial crisis saw increased high-risk investments and asset price bubbles due to deregulation based on trust and the international health issues such as the pandemic.

the current low status of the RMB appears exceptional. This is because the RMB is not widely used or held outside of China. The most direct and crucial task for RMB internationalization is the provision of RMB liquidity. In this context, the BRI is assessed as having the potential to induce RMB usage by deepening financial and trade transactions between China and other regions (Eichengreen et al. 2017, 186, 223-234).

Moreover, the international monetary system has a strong tendency for status quo maintenance and self-reinforcement, with existing international currencies enjoying incumbency premiums. There is a strong inertia and path dependence among actors to continue using established international currencies, as trading with a few highly liquid currencies reduces costs. This is known as the network externalities of international currencies (Eichengreen 2011, 215, 253-254; Helleiner 2008, 354–378). Therefore, for a new currency to be incorporated into the international monetary system and become an international currency, a shock that disrupts the existing system is necessary. The BRI's ambition to invest large sums globally, including in Eurasia, could provide a substantial supply of RMB liquidity in a short period, serving as a springboard for the RMB to become an international currency.

Historically, the U.S. Marshall Plan played a similar role in establishing the dollar as a reserve currency. China officially rejects comparisons between the Marshall Plan and the BRI (Prasad 2017, 242-243). They are unlikely to equate the process of establishing U.S. hegemony during the Cold War with their pursuit of the BRI. However, the Marshall Plan helps elucidate the implications of the BRI for RMB internationalization. The Marshall Plan was implemented as the U.S. established economic hegemony through the Bretton Woods system immediately after World War II. At that time, war-torn Europe and Japan naturally faced a shortage of dollars. Earning dollars through exports required time, and investments and equipment first had to be expanded through dollars. Without resolving this "dollar gap," the open trade system desired by the U.S. could not be established. The Marshall Plan for Europe and the similar Dodge Plan for Japan addressed this issue by supplying large amounts of dollars. Known as the European Recovery Program and the Japanese Recovery Program, respectively, the Marshall and Dodge Plans were important not only for rebuilding liberal allies to counter communist forces centered on the Soviet Union but also for establishing dollar hegemony. The Marshall Plan injected $13 billion into Europe, equivalent to $100 billion in today's value. Dollars were used as subsidies, enabling European countries to purchase American products with their currencies. The Dodge Plan played a similar role. Despite the clear hegemonic position of the U.S. following World War II, at that time, there was still ambiguity over which currency would dominate international trade. There were even discussions about restoring the British pound as the reserve currency, but this was unfeasible due to Britain's decline and debt. In this situation, the global dissemination of dollars through the Marshall and Dodge Plans was a decisive factor in establishing the dollar as the reserve currency and setting up the Bretton Woods system (Eichengreen 2011, 94-96; Shen et al. 2018, 5).

In this context, if the BRI facilitates the rapid distribution and international use of the RMB outside China, it could disrupt the network externalities of existing international currencies. Specifically, according to Lai (2021, 257), indicators of currency internationalization include international debt and loans denominated in the currency, foreign exchange transactions, use as an international payment medium, and foreign exchange reserves. The BRI could exert two effects on RMB internationalization. First, increased trade between China and BRI-participating countries would lead to greater use of the RMB as an international payment medium. Second, financing for

BRI projects denominated in RMB, particularly the issuance of RMB-denominated bonds, would increase

2. Impact of RMB Internationalization

Has the Belt and Road Initiative (BRI) effectively increased the international use of the renminbi (RMB) as a payment method and led to a rise in RMB-denominated bonds outside China? Accurately measuring this impact is challenging because China does not disclose the specific amounts and forms of its BRI investments. Despite the prominence of the BRI as a key foreign policy under President Xi Jinping, information about the initiative remains largely opaque. Even the exact number and identity of the so-called "Belt and Road countries" involved are unclear. Consequently, we must indirectly assess the progress of RMB internationalization since the BRI was first proposed in 2013 and began substantial overseas investments and projects in 2015.

<Table 2> Percentage of Daily Transaction Volumes of Major Currencies in the International Foreign Exchange Market

Unit: %

Year	1989	1992	1995	1998	2001	2004	2007	2010	2013	2016	2019	2022
USD	89.94	81.73	83.02	86.80	89.86	88.01	85.60	84.86	87.04	87.58	88.30	88.45
Euro	-	-	-	-	37.91	37.41	37.04	39.04	33.41	31.39	32.31	30.54
Yen	28.03	23.19	24.60	21.72	23.53	20.83	17.25	18.99	23.05	21.62	16.83	16.70
Pound	14.51	13.65	9.27	11.02	13.05	16.50	14.87	12.88	11.82	12.80	12.81	12.90
Yuan	-	-	-	0.01	0.01	0.10	0.45	0.86	2.23	3.99	4.33	7.01
Won	-	-	-	0.15	0.80	1.14	1.16	1.52	1.20	1.65	2.00	1.89

Note: Since two currencies are used in one foreign exchange transaction, the total percentage of all currencies sums to 200%.

Source: Compiled by the author from data in the "Triennial Central Bank Survey of foreign exchange and Over-the-counter (OTC) derivatives markets in 2022" from the Bank for International Settlements (BIS) website.

<Table 3> Proportion of Major Currencies in Global Foreign Exchange Reserves

Unit: %

Year (Quarter)	1999 Q4	2000 Q4	2005 Q4	2010 Q4	2015 Q4	2016 Q4	2017 Q4	2018 Q4	2019 Q4	2020 Q4	2021 Q4	2022 Q3
USD	71.01	71.14	66.52	62.25	65.75	65.36	62.73	61.76	60.75	58.92	58.81	59.79
Euro	17.90	18.29	23.89	25.76	19.15	19.14	20.17	20.67	20.59	21.29	20.60	19.66
Yen	6.37	6.07	3.96	3.66	3.75	3.95	4.90	5.19	5.87	6.03	5.52	5.26
Pound	2.89	2.75	3.75	3.94	4.72	4.35	4.54	4.43	4.64	4.73	4.81	4.62
Yuan	-	-	-	-	-	1.08	1.23	1.89	1.94	2.29	2.80	2.76
Canadian Dollar	-	-	-	-	1.78	1.94	2.03	1.84	1.86	2.08	2.38	2.45
Australian Dollar	-	-	-	-	1.77	1.69	1.80	1.63	1.70	1.83	1.84	1.91
Swiss Franc	0.23	0.27	0.15	0.13	0.27	0.16	0.18	0.14	0.15	0.17	0.17	0.23

Note: The Yuan has been included in the IMF's foreign exchange reserve statistics since Q4 2016. Due to space limitations, only Q4 data is provided every five years before 2015, and from 2016 onwards, Q4 data is provided annually. Since 2022 data is not yet fully released, Q3 data is provided.

Source: Compiled by the author from selected data in the "World Currency Composition of Official Foreign Exchange Reserves (COFER)" section on the IMF website.

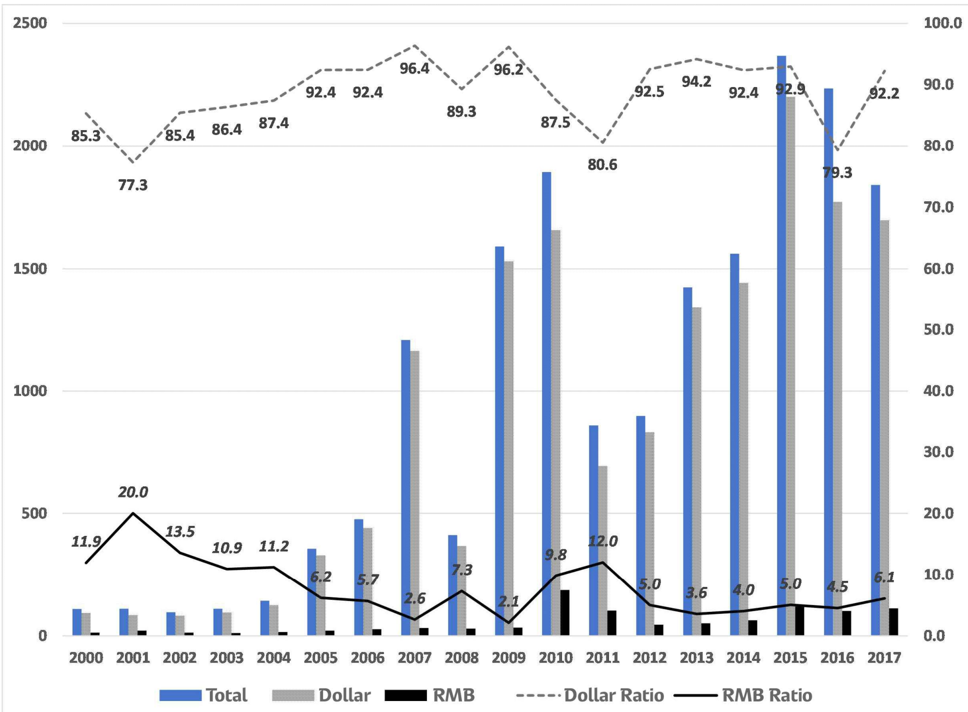
As seen in Tables 2 and 3, which measure indicators commonly used to assess the international status of currencies, such as daily currency transaction volumes and foreign exchange reserve proportions, the status of the RMB has been steadily rising. According to the IMF, the status of the dollar has been consistently declining over the past quarter-century, as evidenced by its share in foreign exchange reserves. While long-term changes in status are anticipated, the dollar still maintains its dominant position as a reserve currency (Arslanalp et al. 2021). Competing currencies like the euro, yen, and pound have either stagnated or slightly declined in their shares. However, the RMB still lags behind major currencies in both trading and reserve proportions. This suggests that the BRI's impact has not been significant during this period. Even recent empirical studies, despite limited data, have assessed the BRI's effects as modest (Lai 2021, 259-261).

As shown in Table 4, the internationalization of the RMB in the bond market is even less pronounced. No significant progress is evident after the BRI's implementation. Even studies that optimistically estimate the BRI's impact on RMB-denominated bonds project that without the BRI, the share of RMB-denominated bonds would reach 2.7% by the first quarter of 2030, while with the BRI, it would be 5.4% in the same period. Although the BRI has some effect, it is expected to only potentially catch up with the yen, not surpass the pound (Lai 2021, 261-265).

There are significant issues with discussions on RMB internationalization and the BRI related to bonds. As seen in official BRI documents, Chinese authorities describe domestic and international bond issuance as major investment tools for BRI projects. However, in practice, investments have been conducted through intergovernmental negotiations and loans from state-controlled Chinese banks rather than through the bond market. Therefore, the open bond market does not fully capture the extent of RMB's role in countries' external debts or the BRI's influence.

<Figure 2> Proportion of USD and RMB in Capital Investment for China's Overseas Development Programs

Unit: (Left) Billions of USD as of 2017, (Right) %



Source: Author's compilation from AidData (2021).

The problem lies in the lack of transparency surrounding the BRI, similar to the secrecy maintained about China's foreign aid and loans, making it difficult to ascertain accurate targets and figures. Data has been partially collected regionally and sectorally, but comprehensive data has only recently been compiled through international cooperation led by AidData (AidData 2021; Dreher et al. 2022, 8-9). Even this data does not fully encompass China's foreign aid and loans, nor does it specifically identify BRI-related projects. However, given the ambiguous scope of the BRI and the comprehensiveness of this data, it serves as a basis to examine the proportion of RMB in China's foreign aid and loans, providing an estimate of how much RMB spread overseas through the BRI.

AidData's calculations of China's overseas development project financing aim to assess the increase in offshore RMB deployment, focusing solely on the types of currency used, rather than distinguishing between aid, loans, or other forms of capital deployment. The total funds deployed and the amounts in dollars and RMB are compiled for each year, and the ratios of dollars and RMB to the total are calculated, excluding other currencies with negligible proportions. AidData's data, collected through various methods due to non-disclosure, contains many gaps and may omit certain projects entirely. Therefore, as depicted in Figure 2, precise figures and changes cannot be confirmed, and only general trends can be discerned.

It is evident that most of China's overseas development program investments have been conducted in dollars rather than RMB. This characteristic remained unchanged even after the launch of the BRI. In fact, the proportion of RMB-deployed investments was higher in the early 21st century. Historically, China supported impoverished and developing countries through aid rather than loans, resulting in a higher proportion of RMB. This was likely due to dollar shortages at the time. China provided RMB subsidies as interest-free loans to developing countries. However, with the intensification of the "Go Global" strategy in the 21st century, support for overseas development projects surged, leading to a higher ratio of commercial loans over aid and a reduced proportion of RMB-denominated loans. Research utilizing AidData's data to analyze the historical trajectory of China's overseas development programs indicates that China has transitioned from being a "benefactor" providing aid to becoming a "banker" lending debt (Dreher et al. 2022, 37-38, 105-107; Malik et al. 2021, 15-16).

IV. Balancing RMB Inflows and Outflows

1. Imbalance of Inflows and Outflows in RMB Internationalization

Since the 2008 financial crisis, the internationalization of the renminbi (RMB) has steadily progressed, with the Belt and Road Initiative (BRI) contributing to some extent, though not achieving a fundamental breakthrough. Additionally, the BRI has not significantly increased the international dissemination of RMB, thus having a limited impact on RMB internationalization. However, indirectly, the BRI may have elevated China's stature, leading to increased cooperation with other countries and potentially boosting RMB usage. Yet, as seen from the daily transaction volumes of major currencies, this has not resulted in substantial growth. In this context, it is essential to examine the inflows and outflows of RMB as disclosed by Chinese authorities, reflecting the amounts exchanged across China's borders through exports and imports of goods and services, as well as capital account movements.

An increase in these amounts could suggest greater international use of the RMB. However, logically, a high volume of RMB crossing China's borders does not necessarily equate to proportional progress in RMB internationalization, as it does not account for the RMB's liquidity outside of transactions with China. The U.S. dollar's hegemonic status is due not only to its use in U.S. transactions but also to the circulation of large volumes of dollars in third-party transactions outside the U.S., often beyond the U.S.'s control. Such circulation is challenging to quantify and varies in definition. Given the current status of the RMB, it is unlikely to be widely used in third-party transactions outside China. According to a study cited earlier, as of 2016, the RMB's share in total international settlements was estimated at 1.62%, ranking eighth globally, behind the Canadian dollar, Swiss franc, and Australian dollar (Lai 2021, 261). The SWIFT RMB Tracker, a key indicator of RMB transaction volume, shows that as of February 2023, the RMB ranked fifth,

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with a 2.19% share, following the dollar (41.10%), euro (36.43%), pound (6.58%), and yen (2.98%) (SWIFT 2023).

Table 1. Expansion Process of RMB Trade Settlement

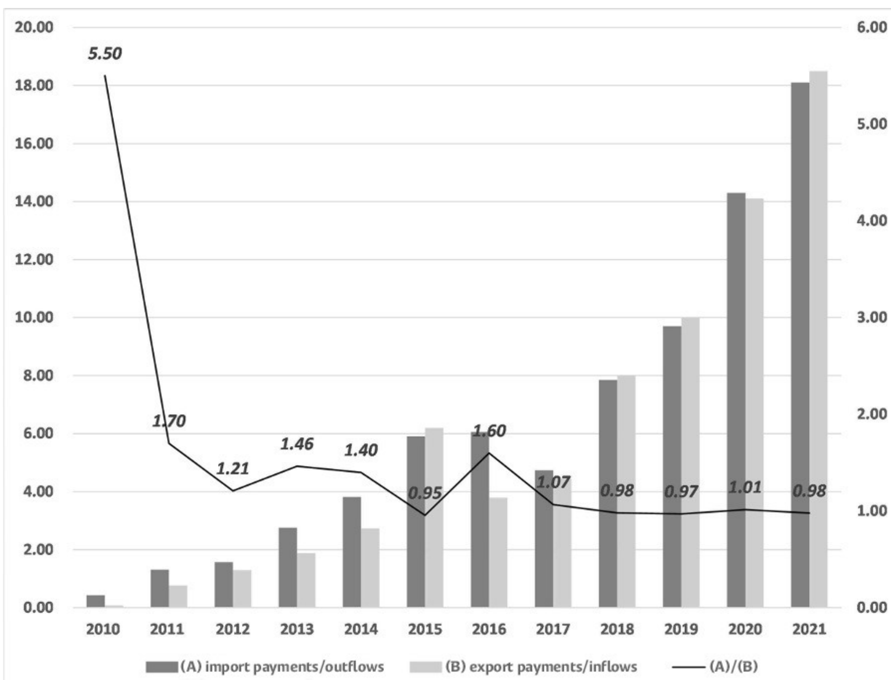
Date	Description
2003	Mutual currency settlement agreements with 8 neighboring countries - Russia, Mongolia, North Korea, Nepal, Pakistan, Vietnam, Myanmar, Laos
January 2004	Introduction of a pilot for duty-free small-scale RMB border trade settlement - Yunnan Province
March 2009	Approval for the establishment of an RMB international settlement center in Hong Kong
July 2009	Introduction of a pilot for RMB trade settlement - Limited to trade between Shanghai, Guangzhou, Shenzhen, Zhuhai, Dongguan in Guangdong Province and Hong Kong, Macau, ASEAN - No restrictions on China's import settlement, but export settlement allowed only for 365 pilot enterprises
April 2010	Expansion of duty-free small-scale RMB border trade settlement areas - Added Inner Mongolia, Guangxi, Xinjiang, Tibet, and three northeastern provinces
June 2010	Expansion of trade settlement from 5 cities to 20 provincial-level regions - Limited to trade between these regions and the world - No restrictions on import settlement, but export settlement limited to pilot enterprises in 16 provincial-level regions
December 2010	Expansion of companies permitted for export settlement from 365 to 67,724
January 2011	Allowed domestic enterprises to use RMB in overseas direct investments
August 2011	Abolished regional restrictions on RMB trade settlement, allowing settlements nationwide
October 2011	Allowed foreigners to use RMB in domestic direct investments
March 2012	Allowed RMB settlement for all import and export enterprises

Nonetheless, examining China's RMB inflows and outflows is insightful because, as seen in Table 1, trade settlement is a practically concluded component of RMB internationalization, and unlike other indicators, relatively accurate figures can be verified through Chinese data. This allows for a more accurate evaluation of RMB internationalization, albeit limited. Specifically, this analysis looks back to the period immediately after the 2008 financial crisis when RMB internationalization began in earnest, to explore domestic Chinese discussions on RMB inflows and outflows. This approach seeks to uncover the true intentions behind China's official stance on RMB internationalization, which is often adorned with rhetoric. It suggests that China's RMB internationalization strategy maintains a conservative, stability-oriented approach focused on avoiding costs and risks, a stance that persists even after the BRI's inception.

By examining the amounts of RMB outflows and inflows between China's domestic and foreign markets, and the proportional differences between these amounts, several insights can be drawn. However, data from 2010 to 2014 only includes trade export and import settlement amounts, posing limitations. Nonetheless, as observed, RMB outflows and inflows have expanded significantly and consistently. Not only have they increased quantitatively, but the proportion of RMB in China's total monetary flows has also risen. For instance, in the second quarter of 2011, RMB accounted for approximately 10% of China's export and import settlements (Zhang Ming 2012a, 293). By 2021, the proportion of RMB in China's monetary flows had increased substantially to 47.4% (People's Bank of China 2022, 3).

<Figure 3> China's RMB import payments/outflows and export payments/inflows

Units: (left) trillion yuan



Source: Compiled by the author from the fourth quarter report, which contains the annual statistics, of the Monetary Policy Implementation Report published quarterly by the Monetary Policy Analysis Group of the People's Bank of China.

Analyzing the ratio of import settlement amounts/outflows to export settlement amounts/inflows reveals that initially, the import settlement amounts/outflows significantly exceeded export settlement amounts/inflows, but recent trends show stability. In other words, following the 2008 financial crisis, during the early stages of aggressively pursuing RMB internationalization, there was a much higher volume of RMB outflows than inflows, which gradually balanced out. This appears to be a healthy development. The fundamental issue for the U.S. as a reserve currency issuer is that increasing dollar supply for international transactions implies worsening the U.S. balance of payments and devaluing the dollar, leading to declining trust in the dollar and weakening its status as a reserve currency—a situation known as Triffin's dilemma (Kim Kisoo 2011, 362-363). However, this logic underpinned both the Bretton Woods system and the Bretton Woods II system, which sustained dollar hegemony and economic growth in developing countries (Baek Changjae et al. 2012, 301-323). The rapid dollar outflows to Europe and Japan through the Marshall Plan and Dodge Plan provided the monetary backdrop for the Bretton Woods system.

Setting aside the complex logic related to dollar hegemony, for the RMB to be widely used internationally, it must first be extensively exported beyond China's borders. However, as depicted in Figure 3, recent trends show that the net outflow of RMB was initially high but has since stagnated or declined. Logically, one might assume that RMB exported offshore could circulate multiple times before returning, but given the current level of RMB internationalization, frequent transactions in intermediate stages of inflows and outflows seem unlikely. Even after the aggressive push for RMB internationalization following the 2008 financial crisis and the launch of the BRI, there appears to be limited circulation and transactions of RMB among third parties outside China's borders.

2. Chinese Perspective on the Imbalance of Renminbi Inflows and Outflows

The maintenance of inflow-outflow balance may reflect external factors of the current international economic and monetary-financial system, rather than the intentions of Chinese authorities. However, the People's Bank of China's "Monetary Policy Execution Report" noted improvements in the inflow-outflow balance of cross-border RMB settlements, with the ratio of import settlement to export settlement changing from 5.5 in 2010 to 1.7 in 2011 (People's Bank of China Monetary Policy Analysis Group 2011Q4, 15). In 2018 and 2019, the growth of cross-border RMB business and the basic balance of inflows and outflows were positively highlighted (People's Bank of China Monetary Policy Analysis Group 2018Q4, 10; 2011Q4, 9). While avoiding the imbalance caused by net RMB outflows seems paradoxical in the pursuit of RMB internationalization, the official documents do not provide clear reasons.

This perspective can be further examined and understood through contemporary Chinese academic discussions. Some Chinese scholars argue that for the RMB to develop into an international currency, liquidity must be supplied offshore, making inflow-outflow imbalance a necessary phenomenon for RMB internationalization. They predicted that due to the scarcity of RMB offshore, inflows were challenging, leading to larger outflows, but stabilization would gradually occur as sufficient liquidity was provided (Wang Xin 2011, 51-55, 65). However, the majority view is negative, as reflected in academic terminology. Chinese authorities officially refer to significant differences in RMB inflows and outflows as "unbalanced supply-demand balance" ('收付平衡' or '收支平衡'), while academia and media in China liken the imbalance to a "limping" phenomenon ('跛足') due to differing lengths of legs.

The most direct reason for viewing the "limping" phenomenon negatively is the substantial costs it incurs. The significant outflow of RMB compared to inflow suggests that foreign currency that would have otherwise exited China remains domestically, thereby increasing foreign exchange reserves. While an increase in foreign exchange reserves might be welcomed by countries with shortages, China already holds excessive foreign reserves. The impact of the "limping" phenomenon on foreign exchange reserve growth depends on the calculation method, with some studies suggesting it could increase reserves by about 20%. This results in the paradox of RMB settlements, intended to reduce excessive reliance on the dollar, instead increasing foreign exchange reserves. Consequently, domestic liquidity growth exacerbates inflationary pressures, and if monetary authorities intervene through bond issuance or sterilization, costs such as bond interest are incurred (Zhang Ming 2012a, 296-298; Zhang Bin 2011).

The "limping" phenomenon was particularly pronounced before 2011, as shown in Table 1, because RMB settlement outflows for import companies were fully opened initially, while inflows for export companies were restricted (Wang Xin 2011, 51-55, 65; Lee Bonggul 2012). The restriction on export settlement companies was to prevent the smuggling of funds. There was a risk that offshore companies might inflate export payments to transfer funds into China, potentially burdening the Chinese economy through investments in real estate and undermining China's capital control system. For these reasons, only reliable export companies were initially allowed RMB settlements (Eichengreen 2011, 243-244). Even after expanding export settlement companies and permitting all enterprises in 2012, the imbalance persisted, albeit less pronounced.

Chinese scholars attributed the inflow-outflow imbalance not to short-term institutional issues but to structural problems reflecting weaknesses in China's economy and speculative elements. They argued that Chinese companies suffered from a lack of competitiveness. The OEM (Original Equipment Manufacturer) model, prevalent among Chinese exporters, inherently put producers at a negotiation disadvantage compared to buyers. Similarly, during the yen's internationalization attempt, Japanese exporters' low negotiation power due to OEM models resulted in a low yen trade settlement ratio (Yin Jianfeng 2011, 58-62). This situation also applies to the "limping" phenomenon. If foreign importers had incentives to pay in dollars and foreign exporters preferred receiving RMB, the weak negotiation power of Chinese companies could contribute to the "limping" phenomenon.

Another related issue is the arbitrage incentive arising from expected RMB appreciation and exchange rate differences between onshore and offshore markets. China faced pressure from the U.S. for RMB appreciation, and long-term, consistent RMB appreciation was anticipated in the market. Consequently, foreign companies preferred receiving RMB, which was expected to appreciate, in transactions with Chinese companies, while paying with other currencies like the dollar, expected to depreciate. A more complex mechanism arose due to the controlled exchange rate in China and the uncontrolled rate in Hong Kong. The RMB-dollar exchange rate in the relatively small Hong Kong RMB market, where RMB was expected to appreciate continuously, was significantly higher than in China's onshore market, where RMB appreciation was controlled. Consequently, import companies, which previously purchased dollars with RMB in the Chinese foreign exchange market, now purchased dollars in the Hong Kong market for import payments. As these import companies transferred RMB offshore from China to exchange for dollars in Hong Kong, RMB import settlements increased (Zhang Ming 2012a, 295; Zhang Ming 2012b).

Thus, the "limping" phenomenon entailed more than merely increasing foreign exchange reserves and inflationary pressures. It involved exchanging the strong currency, RMB, expected to appreciate, for the weak currency, dollar, expected to depreciate. Due to the low negotiation power of Chinese economic actors and arbitrage-driven foreign exchange transactions, even if China's imports and exports balanced, RMB outflows and dollar inflows could still occur, increasing foreign exchange reserves (Yin Jianfeng 2011, 57-58). Ultimately, the continued exchange of appreciating RMB for depreciating dollars resulted in a sustained outflow of national wealth. As evidenced by academic perspectives, China prioritized cautious responses to immediate costs and risks over the grand objective of RMB internationalization. This cautious approach has remained unchanged even after the BRI and continues to this day.

V. The Progression of China's De-Dollarization

1. Evolution of RMB Payment Network, The Cross-border Interbank Payment System (CIPS)

The Chinese government developed the Cross-border Interbank Payment System (CIPS) to facilitate large-scale offshore renminbi (RMB) settlements, operational since October 2015. CIPS is theoretically an international payment system allowing cross-border RMB transactions by exchanging financial transaction messages electronically, independent of the SWIFT system. Yang Weimin, Vice Chairman of the National Committee of the Chinese People's Political Consultative Conference, publicly stated at a business forum in 2019 that "China should collaborate with third countries to establish one or two independent international payment systems in response to the U.S. using extraterritorial jurisdiction through SWIFT(Wang 2019)." In essence, CIPS was launched as an alternative payment system to reduce reliance on SWIFT, which is politically leveraged by the U.S. and monopolizes cross-border settlements globally with over 11,000 corporate and financial institution users. The critical issue is whether CIPS can operate at the scale necessary to bypass SWIFT (Simes 2020). As of September 2022, CIPS has 76 direct participating institutions, primarily overseas branches of Chinese banks, and 1,265 indirect participants in over 100 countries, with the number growing relatively quickly. However, with around 20,000 daily financial transaction messages processed, it pales in comparison to SWIFT's 42 million messages. Nonetheless, CIPS extended its operating hours from 12 to 24 hours since May 2018, and transactions using CIPS have been steadily increasing.

CIPS's development gained momentum in the context of Sino-Russian de-dollarization cooperation following Western sanctions against Russia after its annexation of Crimea in 2014, and it was revisited amid Western financial sanctions against Russia following the 2022 Russo-Ukrainian War (Eichengreen 2022). To minimize the impact of exclusion from SWIFT, Russia has developed the SPFS (System for Transfer of Financial Messages) since 2014, serving as an alternative for sending, receiving, and monitoring financial transaction messages. As of April 2018, SPFS was used by all major Russian banks and key commodity export companies, with Russia's Deputy Prime Minister Dvorkovich stating that Russia was physically and technologically prepared to sever ties with SWIFT.[3] SPFS is mainly used by over 400 Russian and foreign

[3] RT, "Russian Banks Ready to Switch Off SWIFT–Official," 13 February 2018 https://www.rt.com/ business/418665-russia-banks-

institutions and operates 24/7 (BoR 2022). Additionally, in response to Visa and Mastercard blocking Russian banks as part of sanctions in 2015, Russia developed its own Mir credit card payment system, which was accepted by 90% of Russian ATMs by 2017, less than two years after its launch.

Moreover, China and Russia have explored linking CIPS and SPFS. During the 17th annual meeting of the Financial Cooperation Subcommittee, co-chaired by deputy central bank governors of both countries in October 2016, they discussed implementing a joint badge card combining their payment systems, leading to the launch of a dual-badge card in October 2018 that uses the Mir payment system domestically in Russia and the UnionPay system internationally. Following the outbreak of the Russo-Ukrainian War in March 2022, a survey indicated that 35% of Russian respondents planned to apply for a Mir-UnionPay joint badge card if Visa and Mastercard ceased operations (BoR 2016).

Collaboration between SPFS and CIPS extends beyond creating a SWIFT alternative to evade sanctions, aiming to establish a payment system among countries outside U.S. extraterritorial jurisdiction and expand its participating entities (NDB 2017: 72-73). Increasing international demand for CIPS could enhance RMB international settlements and contribute to the de-dollarization trend. In a speech at the BRICS Business Forum in June 2022, Russian President Vladimir Putin noted that BRICS banks could freely connect to SPFS, an alternative to SWIFT. At the Shanghai Cooperation Organization (SCO) forum in Tashkent in August 2022, Russian Minister of Economic Development Reshetnikov proposed SCO member banks join SPFS for uninterrupted cooperation, also noting that a quarter of Sino-Russian bilateral trade was settled in rubles and RMB. Chinese President Xi Jinping, at the SCO summit in Samarkand on September 16, 2022, suggested increasing the share of international settlements in member state currencies, enhancing the development of offshore payment systems, and establishing an SCO development bank to promote regional economic integration (Xi 2022).

While approximately 90% of Russia's foreign transactions were conducted in dollars at the end of 2015, this share significantly decreased to 51% by 2019. Furthermore, in 2020, the Russian Ministry of Finance drastically adjusted the asset structure of its National Wealth Fund, reducing the share of dollar assets from 35% to 0%, and increasing the holdings of euro, RMB, and gold to 39.7%, 30.4%, and 20.2%, respectively.[4] Russia has also steadily increased the share of RMB in its foreign exchange reserve assets.

2. Petro-Renminbi as an Alternative Petro Dollar

The oil market, estimated at approximately $14 trillion as of 2017, is the largest commodity market in the world, and the currency used for oil trade significantly impacts global finance (Alshareef 2022). Consequently, China's initiative to promote renminbi-denominated oil futures trading, known as "petro-renminbi," can be seen as a challenge to the existing oil trade system dominated by the U.S. dollar since the early 1970s, known as the "petrodollar." In the medium to

ready-shut-swift/.

[4] Xinhua, USD excluded from Russia's national wealth fund, RMB share up to 30.4 pct, http://www.xinhuanet.com/english/2021-07/07/c_1310046531.htm

long term, if companies conduct oil transactions in renminbi, it could create global demand for the currency and serve as a favorable strategy for RMB internationalization. This mirrors the U.S. strategy of reinforcing the dollar's status through oil trade.

The petrodollar system was established in 1974 through an agreement between the United States and Saudi Arabia, stipulating that all Saudi oil sales would be conducted in U.S. dollars, and Saudi Arabia would reinvest the dollar proceeds into U.S. Treasury bonds. As a result, Saudi Arabia became the largest holder of U.S. government debt among Gulf Cooperation Council (GCC) countries and was compensated with U.S. security guarantees and arms sales (Spiro 1999). This fundamental understanding between the two nations has persisted for decades. Leveraging Saudi Arabia's influence in the Gulf region as the largest oil producer, the Organization of the Petroleum Exporting Countries (OPEC) announced in 1975 that it would issue invoices for oil sales to all customers exclusively in U.S. dollars (Momani 2008). The petrodollar system, strictly adhered to by Saudi Arabia and OPEC member states, remains the foundation of the dollar-centered international commodity trading system and has contributed to extending U.S. dollar hegemony (Mathews and Seldon 2018). For example, futures markets such as the New York Mercantile Exchange (NYMEX), London ICE Futures Exchange, Singapore Mercantile Exchange (SMX), and Dubai Mercantile Exchange (DME) all price and settle oil in dollars per barrel. Only a few countries, like Venezuela and Iran, which face U.S. financial sanctions and cannot use the dollar, engage in non-dollar transactions.

However, with China surpassing the U.S. as the world's largest single-country oil importer in 2017, it gained the capacity to demand oil purchases in renminbi. A significant portion of the global oil market is already traded in Chinese renminbi.[5] For example, oil supply contracts with China's major oil suppliers, including Russia, Iraq, Angola, Iran, Venezuela, and Indonesia, are settled in renminbi.[6] Iran's adoption of renminbi payments was aimed at circumventing U.S. sanctions on oil transactions that came into effect in early November 2018. Similarly, Venezuela, under U.S. sanctions, has accepted renminbi for oil supplies since 2017 and proposed renminbi transactions for oil sales with other countries through accounts based in China (Arms and Pons 2019).

China is actively utilizing the Shanghai International Energy Exchange (INE), launched in March 2018, to advance the "petro-renminbi" initiative. Initially, major oil companies were reluctant to use the INE due to concerns about China's foreign exchange market interventions and a lack of trust in the Chinese government. However, the situation changed significantly after the COVID-19 pandemic in 2020, which increased global reliance on China's oil market. While countries worldwide reduced oil imports due to declining demand, China significantly increased its oil imports by approximately 34% year-on-year, providing a lifeline to oil-producing countries. In July 2020, British Petroleum (BP) delivered 3 million barrels of Iraqi oil to China using renminbi settlement, marking the first instance of a major oil company trading oil in Chinese renminbi.

[5] Sri Jegarajah, "China Has Grand Ambitions to Dethrone the Dollar. It May Make A Powerful Move This Year," CNBC, 24 October 2017. https://www.cnbc.com/

[6] Rachel Adams-Heard and Nick Wadhams, "China Rejects US Request to Cut Iran Oil Imports," Bloomberg, 3 August 2018. https://www.bloomberg.com/news/articles/2018-08-03/china-is-said-to-reject-u-s-request-to-cut-iran-oil-imports.

In early 2022, there were media reports suggesting that Saudi Arabia was actively negotiating with China to allow renminbi settlements for some of its oil exports to China.[7] Saudi Arabia appeared to be drawing closer to China by considering not only renminbi settlements for its exports to China but also allowing "petro-renminbi" through its state-owned oil company, Aramco. The backdrop to these discussions includes the shift in Saudi Arabia's largest oil customer from the U.S. to China, which has become the largest demand center. Allowing renminbi settlements for over a quarter of Saudi Arabia's oil exports to China, which exclusively accepts dollars for its daily export of 6.2 million barrels, could have significant ripple effects in the international oil market. Given Saudi Arabia's role in establishing the petrodollar system, the Saudi-China relationship is noteworthy, and Saudi Arabia's allowance of renminbi payments symbolizes a formidable competitive threat to the dollar. However, subsequent media coverage regarding Saudi renminbi settlements has been absent, and there has been no movement within OPEC to adopt the renminbi. This indicates that it may be premature to expect a full-fledged "petro-renminbi" system.

3. Digitalization of RMB and Development of Central Bank Digital Currency (CBDC)

Many countries are expressing interest in Central Bank Digital Currencies (CBDCs), with ten countries, including Nigeria and Jamaica, having launched their own CBDCs.[8] China has been piloting CBDC projects and plans to expand these initiatives in 2023. Russia is also developing a digital ruble (BoR 2022). Two major factors have been identified as driving the development of CBDCs globally (Kumar and Lipsky 2022; Prasad 2022). First is the significant development of private cryptocurrencies up to recently. Cryptocurrencies like Bitcoin and stablecoins utilize distributed ledger technology to maximize payment convenience, threatening central banks' traditional currency monopoly. Second, the COVID-19 crisis in 2020 led to a global expansion of demand for contactless financial services, creating new demand for digital payment methods.

In China's case, the government has significantly restricted private cryptocurrency use while advancing its own digital yuan project In July 2019, the People's Bank of China announced plans to issue a CBDC known as the digital yuan (e-CNY). Cashless digital retail payments are already widespread in China, surpassing other developed countries like the U.S. in terms of technological sophistication in digital payment systems (Prasad 2020). As of 2019, Alibaba's Alipay and Tencent's WeChat Pay dominated the Chinese electronic payment market, holding market shares of 54.4% and 39.4%, respectively, forming a duopoly of major tech firms. Digital retail payments have advanced significantly in terms of scale and penetration, surpassing traditional credit card companies due to the convenience of mobile payments. This development is attributed not only to the leading innovative technologies of these companies but also to substantial state subsidies. The Chinese government can leverage the technology of existing private fintech companies in developing CBDCs, potentially securing a leading position in the international CBDC race.

The use of CBDC technology reflects the characteristics of China's authoritarian state. First, in terms of technological control, authoritarian states prefer centrally controlled systems. The CBDC is strictly managed by the People's Bank of China, differing from private cryptocurrencies

[7] Summer Said, "Saudi Arabia Considers Accepting Yuan Instead of Dollars for Chinese Oil Sales" Wall Street Journal, 15 March 2022. https://www.wsj.com/articles/saudiarabia-considers-accepting-yuan-instead-of-dollars-for-chinese-oil-sales-11647351541

[8] Central Bank Digital Currency Tracker, Atlantic Council. https://www.atlanticcouncil.org/cbdctracker/

that operate on decentralized systems. Unlike CBDCs being pursued by other countries, China's digital yuan is not a complete digitalization of legal tender but partially replaces only cash (M0), not affecting bank deposits. Thus, the introduction of digital currency, with its inevitable impact on bank disintermediation and status reduction, is managed in a limited manner.

Second, authoritarian states can exert significant coercion in the introduction and implementation of new systems. To commercialize CBDCs, China conducted seven trials totaling 150 million yuan of digital yuan across four major cities, including Shenzhen and Chengdu, by February 2021. Subsequently, the commercial use of the digital yuan began with the Beijing Winter Olympics in February 2022. The government actively supported the digital yuan by providing guarantees and preventing private businesses from refusing digital yuan payments (Paulson Jr. 2020).

Although China's CBDC is in its initial phase and unlikely to weaken the dollar's dominance significantly, it can facilitate China's efforts toward RMB internationalization. In countries with unstable currencies, like Venezuela, a CBDC could be an attractive alternative to local currency. Chinese companies like Tencent already have a significant presence in developing countries in Africa and Latin America, potentially contributing to increased market share for the digital yuan.

China may focus on using CBDCs for offshore payments. CBDCs can reduce costs in large-scale cross-border transactions, enhancing the appeal of the RMB as a payment unit. The 2021 RMB Internationalization Report by the Renmin University of China's International Monetary Research Institute states, "China will leverage its leading advantages in digital currency, mobile payments, and AI to develop all types of intermediary and transaction platforms and strengthen RMB's payment function. ASEAN, Central Asia, the Middle East, and Africa will be key areas for promoting RMB circulation (IMI 2021)." For example, if China enhances speed and ease through digitalization in international payments, reduces transaction costs, and strengthens demands for CBDC settlements in export-import contracts with Chinese companies, it could expand RMB's influence in the international financial order (Chorzempa 2019). The Hong Kong BIS Innovation Hub, in collaboration with the Hong Kong Monetary Authority (HKMA), Bank of Thailand, People's Bank of China Digital Currency Research Institute, and UAE Central Bank, is already working on ensuring functional compatibility of CBDC-based cross-border wholesale payment systems (BoR 2022: 8.).

However, despite the advantages of lower costs and greater convenience, overcoming security concerns remains a significant challenge for CBDC usage. Foreign companies and banks, particularly central banks, may have concerns about whether transactions using the digital yuan are anonymous and whether information security is maintained (Eichengreen 2021).

VI. Conclusion

As examined thus far, despite the necessity of renminbi (RMB) outflows for its internationalization, China has been reluctant to incur the associated costs and risks. This stance remained consistent even with the Belt and Road Initiative (BRI), which seemed like an opportunity to significantly expand RMB liquidity by transferring large amounts of RMB offshore. Whether in the form of aid or loans, if RMB moved to BRI target countries, and these countries, similar to the post-World War II Marshall Plan and Dodge Plan, used it to grow their economies and return RMB to China, the international circulation of RMB could stabilize. This scenario could resemble a small-scale Bretton Woods system centered on RMB. However, China did not pursue this path. Not only has there been limited direct RMB outflow through the BRI, but by maintaining a balance of RMB inflows and outflows, the amount of RMB outflow through trade settlements has also been limited.

China's decision can be analyzed from several perspectives. First, the logic of the Triffin Dilemma applies even to the BRI. If BRI projects were conducted with RMB as the main currency, target countries would need to maintain trade surpluses with China to obtain RMB for debt repayment, or foreign actors would need to be able to issue large amounts of RMB-denominated bonds like Panda Bonds. China would have to tolerate trade deficits and open the capital account and reform financial markets to allow RMB bonds to circulate freely, similar to the Bretton Woods system (Liang 2020, 325-326). However, China prioritized maintaining control over capital rather than increasing RMB liquidity to advance internationalization. For sustained growth, China must continue reforms and opening up, but in an open economy, the open-economy trilemma dictates that monetary policy autonomy, stable exchange rates, and free capital mobility cannot all be achieved simultaneously. Here, China strives to maintain capital controls and stable exchange rates, thus being highly cautious of the risks that free capital mobility could bring. This inevitably hinders RMB internationalization (Lai 2021, 270).

China prioritizes capital control over RMB internationalization because the costs of inflow-outflow imbalances can be significant in a context of excessive foreign exchange reserves. More importantly, weakening capital control could lead to weakened control over enterprises, the economy, and ultimately society. This reflects the systemic factors of an authoritarian party-state system. After the 20th Party Congress, the consolidated Xi Jinping administration may pivot to a proactive and radical RMB internationalization policy to respond to strategic competition with the U.S. However, so far, China has maintained a gradual and conservative approach to RMB internationalization, as evidenced by its awareness and response to early inflow-outflow imbalances and its cautious RMB deployment in the BRI.

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