The Evolution of Offshore Renminbi Trading: 2016 to 2019

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ABSTRACT

We study the evolution of offshore renminbi trading between 2016 and 2019. The geographical pattern of changes in offshore renminbi trading during this period is different from the one between 2013 and 2016. The pattern of changes in the 2016-2019 period, in addition to the previously reported convergence to the geographical trading pattern of all currencies, is affected by (geopolitical) disputes and trade intensity. Further, China-specific RQFII investment quota arrangements and offshore market's equity market capitalization and level of financial development play a role in shaping the offshore RMB trading pattern.

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1. Introduction

China is a major player in the world, and linked to the rest of the world via a vast and complex trade network. The international community is anxious to embrace the coming of the Chinese currency – the renminbi (RMB) – to the international monetary system. Indeed, the role of the RMB as an international currency has been quickly progressing since China approved the pilot scheme of RMB cross-border trade settlement in 2009.[1] The inclusion of the RMB in the basket of Special Drawing Rights (SDR) currencies in 2016 is lauded as a validation of China's efforts to internationalize the RMB, and the SDR membership is perceived to catapult the RMB's global status.

China has strategically guided the use of the RMB overseas; anecdotal evidence suggests that its offshore use has an initial concentration around the Asian region and has then gradually spread to other parts of the world.[2] Eichengreen *et al.* (2016), He *et al. (2016),* He and Yu (2016), Mehl (2017) and Wójcik *et al.* (2017), for example, discuss the economic, political, and technical factors that affect offshore trading of international currencies. The US dollar which is arguably the most predominant global currency illustrates the complementary and supporting roles of offshore markets in popularizing dollar transactions around the world.

In the last ten years, China has introduced strategic policies to establish its network of offshore RMB markets to advance its currency's global status. These policies include a) the establishment of RMB clearing banks in offshore markets to facilitate settlements of RMB transactions overseas, b) the signing of bilateral RMB currency swap agreements to provide emergency RMB liquidity, and c) the provision of RMB qualified foreign institutional investor (RQFII) quotas that allow investing offshore RMB in China's onshore bond and equity markets. These arrangements encourage the international use of the RMB and facilitate the development of offshore trading in regional, international, and global settings.

The data provided by the Society for Worldwide Interbank Financial Telecommunication (SWIFT) attest that cross-border uses of the RMB have experienced a sharp increase since the early 2010s. For instance, the RMB was the 20th most used world payments currency by value in January 2012 and, in less than four years, it was the fifth ranked currency in December 2014

[1] The use of RMB to settle cross-border trade could be traced back to at least 2003 (State Administration of Foreign Exchange, 2003a, 2003b). However, these cross-border settlements in the RMB were adopted to reduce the burden of using hard currencies such as the US dollar and not a policy to internationalize the RMB.

[2] See, for example, Cheung (2015), Ehlers and Packer (2013), Ehlers *et al.* (2016).

(SWIFT, 2012; 2015). The stellar performance of the RMB as a world payments currency also reflects China's emphasis on trade facilitation and its strong presence in international trade.

The triennial surveys of the global foreign exchange (FX) market conducted by the Bank for International Settlements (BIS) offer information on RMB trading around the world. According to the BIS surveys, the average RMB daily FX turnover in the global market surged from US$ 29.2 billion in 2010 to US$ 285.0 billion in 2019, and its share of global FX trading increased to 4.3% in 2019 from a mere 0.9% in 2010 (Bank for International Settlements, 2010, 2019). The rapid growth in offshore trading contributes to the fast expansion of RMB turnover,[3] and takes place concurrently when the RMB is transiting from a regional role to a global role.

Does the fast growth of offshore RMB markets follow a specific geographical evolution pattern? For instance, will offshore trading converge to a geographical pattern similar to that of the global FX trading? Cheung *et al.* (2019) posit that "a currency undergoing internationalization experiences a characteristic evolution of its geographical distribution of trading outside its home jurisdiction." In the case of the RMB, its offshore trading pattern will transit from an initial regional one over time towards the global FX trading pattern. Using data from Bank for International Settlements (2013, 2016), these authors showed that the offshore RMB trading indeed appears to converge to the spatial global FX trading pattern.

Despite its fast penetration, the RMB in terms of both scope and scale is a small player in the global financial system relative to the sizes of China's economy and trade sector. Further, global RMB trading displayed a growth rate between April 2016 and April 2019 that is slower than that between April 2013 and April 2016, and took place mostly within the Asian region with a wider spread to other regions (Bank for International Settlements, 2016, 2019; Cheung, 2015; Ehlers and Packer, 2013; Ehlers *et al*., 2016). Despite these observations, China's efforts to internationalize the RMB offer a unique opportunity for analysing the process of internationalizing a currency in the presence of binding capital controls and targeted policy-driven initiatives.[4]

Mundell (1961) aptly notes that "[…] currencies are mainly an expression of national sovereignty, so that actual currency reorganization would be feasible only if it were accompanied

[3] While the global FX market between 2010 and 2019 grew by about 70%, the offshore RMB turnover increased by almost eight times.

[4] The evolution of the major global currencies including the US dollar took place before reasonably comprehensive BIS surveys of FX turnover were available.

by profound political changes." Being symbolic of a country's economic heft and its predominance in the global economy, the international political environment will thus influence a currency's internationalization experiences.

Since Donald Trump entered the White House in the midst of China's expanding foreign policy ambitions under the Xi Jinping regime, China has encountered an increasingly confrontational geopolitical environment. In addition to the China-US dispute, China in recent years engaged in political disputes with a few other countries including Japan and Korea that resulted in various kinds of trade actions. Conceivably, these disputes and the related bellicose rhetoric can adversely affect the environment under which China conducts trade and financial businesses with these countries, and can affect global investors' views and commitments, at least temporarily, on the RMB. In the following, we assess whether disputes and recent changes in geopolitics have implications for the penetration pattern of offshore RMB markets.

Against this backdrop, we study the evolution of the offshore RMB trading pattern between 2016 and 2019, and assess the determinants of the pattern of changes across offshore financial centers. Cheung *et al.* (2019) assess their geographical distribution hypothesis with three variables that describe the FX turnover initial conditions, gaps between initial shares of RMB and total FX trading volumes, and changes in the share of total FX trading. In this study, we postulate that, in addition to these three FX market variables, the offshore RMB trading between 2016 and 2019 is affected by the changing geopolitical environment. Specifically, in view of the debilitating effects of disputes and China's emphasis on the facilitation of international trade, we investigate the roles of disputes, trade relationships, China's policies, other links to China, and the offshore financial center's characteristics in determining the geographical evolution of RMB shares.

To anticipate results, we find that the offshore RMB trading was transiting towards the global FX trading pattern between 2016 and 2019 once the effects of the dispute and trade intensity are accounted for. In addition to the three variables that capture the global FX market conditions, the dispute and trade related variables have statistical and economic implications for the evolution of offshoring RMB trading. Specifically, we find that an engagement in disputes with China implies a negative impact on the offshore RMB share between 2016 and 2019. The "dispute effect" is, however, mitigated by bilateral trade volume. The bilateral trade variable by itself does not display a significant effect – its significance is observed via the interaction with

the dispute variable. This finding suggests that the dispute variable - our proxy for geopolitical factors – is a relevant factor for the current sample, and existing economic linkages represented by trade relationship modify its implications. The inclusion of the dispute, trade and their interaction variables helps to reveal the tendency to converge to the global FX trading pattern and discernibly improves the regression's explanatory power.

The geographical offshore RMB trading pattern is also affected by both China-specific policies and characteristics of offshore markets. Specifically, China's RQFII quotas and the host country's levels of equity market capitalization and financial development positively enhance offshore RMB trading. It is further affirmed that the 2016-2019 dynamics are different from the 2013-2016 one – the latter dynamic process is mostly characterized by the convergence behavior as reported before.

In the next section, we provide a brief overview of RMB internationalization in the last decade, noting the interweaving of policy-driven and market-driven dynamics. Section 3 examines the evolution of the geographical distribution of offshore RMB trading between 2016 and 2019 using the three FX market variables, and evaluates the roles of disputes, trade relationship, China's policies, links to China, and offshore financial center's characteristics. Section 4 offers some concluding remarks.

2. A Brief Overview

Since the 2009 pilot cross-border trade settlement scheme, China has implemented policy initiatives to promote and facilitate the use of the RMB overseas.[5] Indeed, to prepare for cross-border transactions, China stealthily launched its initiative to develop offshore RMB centers in 2003 by authorizing an RMB clearing bank in Hong Kong — the first facility of this kind outside mainland China. The trade settlement scheme was expanded to cover the whole of China in August 2011 from the initial group of five cities that include Shanghai and four cities in Guangdong Province.

Given its unique political and economic characteristics, Hong Kong has been a testing ground for experimenting policies that promote the use of the RMB overseas.[6] The policies for

[5] Some studies on RMB internationalization are Cheung *et al*. (2011), Eichengreen (2013), Eichengreen and Kawai (2015), Frankel (2012), and Prasad (2016).

[6] While China has sovereignty over Hong Kong, it considers Hong Kong an "offshore" market for RMB transactions.

promoting offshore RMB business were typically first introduced in Hong Kong before extending to other regional and international financial centers. Three of these promotional policies - sometimes dubbed the "three gifts" are the appointment of local RMB clearing banks, the setup of bilateral RMB currency swap agreements, and the assignment of RQFII quotas.[7] Other related policy initiatives include stock-connect and bond-connect programs, the issuance of dim sum bonds, the issuance of RMB denominated equities in market overseas, and the Belt and Road Initiative.[8]

The policy push, albeit in a measured manner, has put the RMB in the limelight. In the last decade, the global market has witnessed a surge in RMB related business activities that gradually spread from the Asian region to other parts of the world. The rapid global penetration, coupled with China's economic prowess, has prompted the International Monetary Fund to designate the RMB a SDR currency in November 2015.[9]

The growing role of the RMB in the global market is illustrated by its trading in the global FX market. The BIS triennial central bank surveys present a detailed account of RMB turnover in the global FX market. According to the surveys, the average RMB daily FX turnover in the global market surged from 29.2 billion in 2010, 119.6 billion in 2013, 202.1 billion in 2016, to 285.0 in 2019, and its share of global FX trading increased to 4.3% in 2019 from a mere 0.9% in 2010 (Bank for International Settlements, 2010, 2013, 2016, 2019).

Figures 1 and 2 offer two alternative views on the evolving RMB's global role. Figure 1 is based on SWIFT data on currency usage for world payments. In a decade time, the share of world payments accounted for by the RMB increased from 0.29% by the end of 2011 to 1.65% in January 2020, and its rank improved to the 6th from the 20th (SWIFT, 2012, 2020).

Figure 2 plots the Renminbi Globalisation Index compiled by Standard Chartered Bank that tracks the level of RMB internationalization by assessing offshore RMB business

[7] On September 10, 2019, China announced the removal of the quota limitation on the RQFII program (State Administration of Foreign Exchange, 2019), which took effect on June 6, 2020.

[8] Different countries have different policy stances on internationalizing their currencies. For example, see Eichengreen and Flandreau (2009) for the US policy to support the US dollar's global role, Ministry of Finance, Japan (2003) for the case of Japanese yen, and European Commission (2018) and Juncker (2018) for the international role of the euro. The Bundesbank was perceived reluctant to globalize the Deutsche mark before the euro era (Franke, 1999).

[9] On October 1, 2016, the RMB officially joined the SDR basket with a 10.9% weight. The weights of the other four SDR currencies are the US dollar (41.7%), the euro (30.9%), the Japanese yen (9 %), and the British pound (8.1%).

activities.[10] The Index started in December 2010 with a base value of 100, reached the height of 2405 in September 2015, and settled at 1974 in October 2019.

Despite the fact that the RMB's global share has increased from less than 1% to 4.3% and improved from being the 17th most traded currency to the eighth most traded one between the 2010 and 2019 BIS triennial surveys, the turnover is still low compared with China's economic size and international trade. Table 1 lists the ratios of daily turnover to gross domestic product (GDP) and to international trade volume of the top ten most actively traded currencies in the 2019 BIS triennial survey. Note that because two currencies are involved in each FX transaction, the sum of the percentage shares of individual currencies totals 200% instead of 100%.

The RMB's daily FX turnover to GDP and to international trade ratios are, respectively, 2.09% and 6.17%, and are the smallest among the top ten currencies. Relative to the economic size and international trade volume, the New Zealand dollar is the most heavily traded currency. It is of interest to note that the currency of Hong Kong, which is a China's special administrative region and is 2.6% of China's economy size, ranks the ninth most traded currency, accounts for 3.5% of the global turnover, and has larger FX turnover to GDP and to international trade ratios than the RMB.

The fast ascent of the RMB internationalization process is not monotonic. Both Figures 1 and 2 suggest the RMB internationalization process shows a point of inflection around August 2015.[11] After reaching a high of 2.79% in August 2015, the RMB's share in global payments has drifted down to 1.65% in January 2020 (Figure 1).[12] The Renminbi Globalisation Index, similarly, shows the offshore RMB business has been slowed down since September 2015 (Figure 2). While the RMB FX trading increased in the 2019 BIS triennial survey, the growth of RMB turnover is lower than that of the 2016, and the slower growth has coincided with the relatively slower growth of offshore RMB trading (Packer *et al*., 2019; Schrimpf and Sushko, 2019).

The propagation of the RMB in the global market faced different domestic and global conditions in the last few years. For instance, China introduced various capital control measures in response to the market turmoil that followed the August 2015 modification of the RMB

[10] The Index is designed to measure the overall offshore RMB usage (Standard Chartered Bank, 2019).

[11] On August 11, 2015, China modified its official RMB central parity formation mechanism (People's Bank of China, 2015).

[12] The Hong Kong dollar in January 2020 ranked the eighth and accounted for 1.40% of world payments.

central parity formation mechanism. These capital control measures that aimed at reining in capital outflow and capital repatriation discouraged foreigners from committing to RMB businesses.

The dispute between China and the US – the two largest countries in the world – under Donald Trump's presidency further impedes the RMB internationalization process.[13] For instance, tariffs and the re-revamping of global supply chains triggered by trade disputes affect China's interactions with the rest of the global community. The disrupted global production chain and economic uncertainty affect not only China's trade and economic relationship with the US, but also with its allies.

Besides disputes with the US, China in the last few years engaged in diplomatic rows, which are at times bellicose with other countries including the notable examples of Japan and Korea. China usually reinforces its belligerent rhetoric with, say, some kind of trade restrictions against the related countries. Countries are alarmed by China's assertive diplomacy approach and have to re-assess the economic ties with China and the benefits of adopting the RMB for international transactions. The disputes triggered by economic (and political) discord can swerve countries from the global use of the RMB.

Cheung *et al.* (2019) hypothesize that the geography of offshore RMB trading will over time transit towards the geographical distribution of global FX trading. They showed that the data from Bank for International Settlements (2013, 2016) are supportive of the hypothesis, and the pattern of RMB shares of offshore financial centers appears to converge to the spatial global FX trading pattern. The convergence result, however, is obtained with the 2013 and 2016 data, which are *not* seriously affected by the disputes between China and other countries in the last few years.

While the changing environment has not completely stalled the RMB internationalization process, it can affect the evolution of its offshore trading across financial centers. With geopolitical conditions turning confrontational, we stipulate that disputes and trade relationships with China, in addition to other factors, can affect the global usage of the RMB and, hence, the evolution of offshoring RMB trading across financial centers between 2016 and 2019.

In the next section, we follow previous studies and employ data from the BIS *Triennial Central Bank Survey of Foreign Exchange and Derivatives Turnover* to study the evolution of

[13] The growing populism and the reversal of globalization also do not favour the globalization of the RMB.

offshore RMB trading across financial centers. Specifically, our analysis focuses on the RMB turnover data from the 2016 and 2019 Surveys. In addition, we briefly discuss some further results from data on the 2013 to 2016 offshore RMB trading, and on the other four SDR currencies.

3. Empirical Analyses

3.1 The Basic Specification

The geographical evolution of RMB offshoring trading between 2016 and 2019 is investigated using FX turnover data reported in the 2016 and 2019 BIS triennial surveys (Bank for International Settlements, 2016, 2019). Excluding China which has a domestic RMB market, our sample includes central banks and other authorities in 50 jurisdictions reporting RMB trading. For convenience, we use the terms "jurisdiction" and "financial center" interchangeably, without any legal connotations. The basic cross-sectional regression specification is

$$\Delta Y_{i,19} = \alpha + \beta Z_{i,16} + \gamma \Delta X_{i,19} + \delta W_{i,16} + \mu D_i + \zeta BT_{i,19} + \lambda BT_{i,19}*D_i + \varepsilon_i. \quad (1)$$

The dependent variable $\Delta Y_{i,19} \equiv Y_{i,2019} - Y_{i,2016}$ measures the change in the share of RMB trading experienced by the i-th jurisdiction between 2016 and 2019, where $Y_{i,2019}$ is jurisdiction i's share of offshore RMB trading given by the ratio of its average RMB daily turnover to the average global offshore RMB daily turnover reported in the 2019 BIS triennial survey. Appendix lists the definitions, sources and some descriptive statistics of the variables in equation (1), and other variables considered in the rest of the current study.

There are two groups of explanatory variables in our basic specification. The first group comprises $Z_{i,16}$, $\Delta X_{i,19}$, and $W_{i,16}$. These three variables are proxies for FX market information used to examine changes of offshore RMB trading shares (Cheung *et al.*, 2019). In our exercise, we interpret that they also capture the relevant general market-based information.

The change in jurisdiction i's share of global FX trading is given by $\Delta X_{i,19} \equiv X_{i,2019} - X_{i,2016}$, where $X_{i,2019}$ is the jurisdiction i's share of 2019 global currency trading given by the ratio of its average daily FX turnover to the global FX turnover. The variable is included to assess the implication of a jurisdiction's standing in global FX trading for its RMB share.

The convergence towards the global FX trading pattern is captured by the gap variable $Z_{i,16} \equiv Y_{i,2016} - X_{i,2016}$ that represents the gap between jurisdiction i's share of offshore RMB trading and its share of global FX trading. The gap variable $Z_{i,16}$ is one of the key variables of the

exercise. When the RMB is transiting to be a global currency, one anticipates the process will reduce the gap between an initial geographic trading distribution and the distribution pattern of global FX trading. Under this stipulation, we expect the β-coefficient is negative.[14]

The correlation estimate is 0.5357 between the 2016 shares of offshore RMB trading ($Y_{i,2016}$) and of global FX trading ($X_{i,2016}$), is 0.4940 between $Y_{i,2019}$ and $X_{i,2019}$, and is 0.4247 between $Y_{i,2013}$ and $X_{i,2013}$. The increase between the 2013 and 2106 correlation estimates is in accordance with the notation that the offshore RMB trading pattern is converging toward to the global FX trading pattern. However, the 2019 correlation estimate is smaller than the 2016 one; indicating the two patterns are getting relatively dis-similar, and the RMB did not transit closer to a trading pattern similar to that of all FX trading between 2016 and 2019. In the following, we will investigate whether the inference based on bivariate correlation carries over to multivariate regression analyses.

The variable $W_{i,16}$ gives jurisdiction i's RMB turnover as a share of its total FX turnover, and is included to account for the initial relative importance of RMB trading.

The second group of explanatory variables includes D_i , $BT_{i,19}$, and $BT_{i,19}*D_i$. They are included to capture the possible effects of specific geopolitical conditions faced by the promotion of RMB uses overseas. On top of disputes with the US, China's image and its interactions with the global community are gradually altered by the assertive foreign policy approach adopted by the Xi Jinping's regime.[15] For instance, in the past few years, China engaged in some serious disputes that triggered economic consequences with, say, Japan, Korea, Singapore and Australia. To capture effects of these disputes on offshore RMB trading, the dummy variable D_i assumes a value of one for financial centers in the US, Japan, Korea, Singapore and Australia.

The US is selected as the China-US dispute has been the headline of the international news in the last few years. The ebbs and flows of the China and Japan relation is overshadowed by the intensified territorial dispute surrounding "Diaoyu/Senkaku Islands" that triggered sanctions against Japanese businesses and trade between the two countries (Li and Liu, 2019). In response to Korea's decision to deploy THAAD (a US-based missile defense system), China launched a belligerent rhetoric against the decision and initiated various sanctions against Korean

[14] An acute reader notes that the dependent variable $\Delta Y_{i,19}$ and the gap variable $Z_{i,16}$ share a common component $Y_{i,2016}$. Under some distributional assumptions, we can derive a specific correlation between $\Delta Y_{i,19}$ and $Z_{i,16}$. Nevertheless, the gap variable effect reported in the following multiple regression exercise (e.g. Table 2, Column 1) is not likely attributed to this observation.

[15] See, for instance, Anderlini (2020).

business in China and in Korea (Han, 2019).[16] China's displeasure of Singapore's ties with Taiwan was dramatically voiced by its seizure of nine armoured vehicles that Singapore shipped through Hong Kong after a training exercise in Taiwan in November 2016, and not inviting Singapore to its Belt and Road Initiative meeting in 2017.[17] Lastly, the relation between China and Australia has become strained since Australia warned of growing China's influences on its politics in 2017[18] and reached a low point when Australia called for an investigation of the source of COVID-19 in 2020.[19] China has imposed sanctions on beef, barley and coal, as well as an anti-dumping tariff of more than 200% on wine.

Even though these confrontational episodes may be short-lived, they affect China's goodwill and trustworthiness and can swerve or weaken commitments of adopting the RMB for international transactions. Thus, we expect the dispute dummy variable D_i to have a negative coefficient.

China's foreign exchange and trade policies are closely related – the foreign exchange policy is typically devised with trade facilitation in view. For instance, in the early phase of the cross-border trade settlement program, authorities were urged to ensure that offshore RMB transactions are supported by genuine cross-border trades.[20] The jurisdiction i's variable $BT_{i,19}$, given by the sum of its imports from and exports to China normalized by its total international trade volume between April 2018 to March 2019 is included to capture the trade effect on offshore RMB trading. According to People's Bank of China (2020), 13.4% of the total cross-border goods trade was settled with the RMB. Thus, the trade volume itself – rather than its change - provides a good and a less noisy proxy for the potential increase in using RMB in settling trade.[21] We expect the variable $BT_{i,19}$ to have a positive coefficient.

The effects of the two variables D_i and $BT_{i,19}$ are likely to influence each other. For instance, the intensity of trade relation can affect the retaliation induced by disputes while both affect the desirability of offshore RMB trading. Compared with $BT_{i,19}$ that reflects

[16] Meick and Salidjanova (2017) offer an account of China's response to the THAAD deployment.

[17] Singapore is the only Southeast Asian country with an economic partnership agreement with Taiwan. Singapore also hosts US military forces and is viewed being on the US side for the China-US dispute (Lee, 2019). Its return of faulty MTR trains back to China in 2016 is another sign of strained relationships.

[18] Citing national security reasons, Australia banned the Chinese Huawei from its 5G network project in 2018.

[19] See, for example, Trian (2020).

[20] See, for example, Hong Kong Monetary Authority (2010).

[21] When the change in trade volume, instead of trade volume itself, was used in the following regression exercise, it yielded qualitatively similar significant coefficient estimates but noticeably reduced the overall explanatory power as measured by adjusted R2 estimates.

complementary economic benefits that have long-term implications for offshore RMB trading, the dispute variable D_i would plausibly have a rather short term effect. The elected politicians that foster these confrontational episodes have limited terms in office. And the dispute can quickly subside when a new government comes into power. For instance, at the time of writing, the democratic presidential candidate, Joe Biden stated that he would re-evaluate president Trump's tariffs on imports from China upon taking office.[22] In view of trade's mutual beneficial nature, a dispute in the presence of a high trade volume is unlikely to be credible in the longer term. We thus stipulate that the interaction term $BT_{i,19}*D_i$ to have a positive coefficient; indicating that a high trade volume would mitigate the negative dispute effect.

3.2 Empirical Result I

The results of estimating (1) are presented in Table 2. Columns (1) and (2) present results from, respectively, the group of the three FX market variables and the group of the three dispute and trade related variables. Column (3) presents the full specification.

Among the three FX market variables, the change of global FX market share ($\Delta X_{i,19}$) is the only variable that exhibits a statistically significant effect (Column (1)). When a jurisdiction gains (losses) global FX market share, it tends to experience an increase (decrease) in the share of offshore RMB trading. Both the gap between a jurisdiction's RMB trading share and all-currency trading share ($Z_{i,16}$) and the relative importance of RMB trading to a jurisdiction's total FX trading ($W_{i,16}$) garner a small and statistically insignificant coefficient estimate. The insignificant gap variable $Z_{i,16}$ indicates that, in contrast with 2013-2016 data (Cheung et al., 2019), the current 2016-2019 sample displays no evidence of the offshore RMB trading is transiting to the global FX trading pattern. However, this insignificant gap variable finding is, as discussed later, not robust to the presence of the dispute and trade related variables.

Under Column (2), the coefficient estimates of the three dispute and trade related variables have their expected signs - D_i has a negative coefficient estimate while $BT_{i,19}$ and $BT_{i,19}*D_i$ have a positive one. However, only the dispute variable is statistically significant; that is, engaging in confrontational rows with China can impair offshore RMB activities.

[22] See, for example, Anderson (2020). Of course, after election, the newly elected president may change his view, or may not be able to implement policy changes as envisioned. Nevertheless, the possibility of such a change illustrates the relative role of the dispute variable.

Results from the full specification highlight the relevance of jointly evaluating the effects of the two groups of determinants (Column (3)). For instance, the adjusted R^2 estimate of 70% obtained from the full specification is noticeably larger than 60% - the sum of the adjusted R^2 estimates from Columns (1) and (2). That is, the three FX market variables and the three dispute and trade related variables exhibit complementary effects on changes of the offshore RMB trading share across jurisdictions.

Taking the three dispute and trade related variables into consideration, the gap variable $Z_{i,16}$ has a significantly negative coefficient estimate. If a jurisdiction's offshore RMB trading share is larger (smaller) than its total FX trading share, then its RMB share tends to decline (increase) in 2019. Further, if we interpret the total FX trading share is the long-term anchor of the offshore RMB trading share, then the negative gap variable effect suggests the offshore RMB trading share is moving towards its anchor over time. The finding is in accordance with the convergence result reported in Cheung et al. (2019).

It should be noted that $Z_{i,16}$ is only one of the determinants that affects the evolution of offshoring RMB trading, and a jurisdiction's total FX trading share is likely to vary over time and be affected by its own determinants. That is, even the distribution of offshore RMB trading across financial centers is transiting towards the geographical distribution of global FX trading, the observed gap between a jurisdiction's offshore RMB trading share and its total FX trading share may not decline linearly over time. A multivariate setting that accounts for other factors affecting offshore RMB trading shares, instead of a bivariate setting, is likely to be more relevant for studying the transition process.

The coefficient estimates of the total FX market share variable ($\Delta X_{i,19}$) and the jurisdiction i's RMB trading share relative to its own total FX trading variable ($W_{i,16}$) under Column (3) have signs and significance that are different from those under Column (1). It is noted that the coefficient estimates of these two variables are sensitive to control variables included in the following tables. The sensitivity is in contrast with the negative $Z_{i,16}$ effect that is quite robustly reported in the presence of these control variables. As such, we infer the effects of $\Delta X_{i,19}$ and $W_{i,16}$ on changes in offshore RMB trading are not definite.

The coefficient estimates of the three dispute and trade related variables, in the presence of the three FX market variables, retain their expected signs. In addition to the dispute variable (D_i), the interaction variable $BT_{i,19}*D_i$ has become statistically significant. While a dispute with

China implies a decline in offshore RMB trading, the positive $BT_{i,19}$*D_i effect suggests that trade intensity can mitigate the negative dispute effect.[23]

Specifically, for a country engaging a dispute with China, the estimated marginal effect of the dispute on the change in offshore RMB trading share is given by $\hat{\mu} + \hat{\lambda} BT_{i,19}$ and its standard error [$var(\hat{\mu}) + BT_{i,19}^2 \; var(\hat{\lambda}) + 2\, BT_{i,19}\, cov(\hat{\mu}, \hat{\lambda})$]. That is, in addition to the coefficient estimates ($\hat{\mu}$ and $\hat{\lambda}$), the estimated marginal dispute effect depends on the trade intensity variable $BT_{i,19}$. The statistical significance of the marginal effect as inferred from its standard error depends on the variances and covariance of $\hat{\mu}$ and $\hat{\lambda}$, and trade intensity with China.

For the five countries included in our dispute variable D_i, the estimated dispute effects and their standard errors (in parentheses) evaluated at the respective trade variable ($BT_{i,19}$) values are, respectively, US: -0.043 (0.011), Japan: -0.028 (0.008), Korea: -0.023 (0.007), Singapore: -0.048 (0.013) and Australia: -0.007 (0.007). The US and Singapore garner the two largest dispute effects, while Australia has the smallest effect that is statistically insignificant. The relatively small and insignificant Australian effect may attest the fact that China mainly stepped up its rhetoric and sanctions against Australia in late 2019 and 2020.[24]

The dispute variable is arguably a rather coarse measure of China's strained relationships with these countries and the specific geopolitical conditions faced by China in the last few years. The variable and its interaction with the trade variable, after controlling for FX market information, illustrate the conceived dispute effects on offshore RMB trading. Despite its simple dichotomous nature, the dispute variable offers results that warrant further investigation of effects of political disputes and geopolitical conditions on the propagation of offshore RMB trading across financial centers.

We offer two remarks before assessing the sensitivity of results reported under Column (3) to the presence of control variables in the next subsection.

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[23] Similar dispute and trade effects were found with the specification $|Z_{i,2019}| - |Z_{i,2016}| = \beta_0 + \delta W_{i,16} + \mu D_i + \zeta BT_{i,19} + \lambda BT_{i,19}*D_i + \varepsilon_i$, where $|Z_{i,2019}| - |Z_{i,2016}|$ is used to measure "convergence" of the RMB share to total FX share. This specification, however, fits less well to the data and has a lower adjusted R2 estimate of only 0.50. These results are available upon request.

[24] When evaluated at the average of trade values in the sample, the marginal dispute effect and its standard error are, respectively, -0.029 and 0.008.

First, as noted in the previous Section, Hong Kong assumes a special role in China's RMB internationalization initiative. With its first move advantage and China's anointment, Hong Kong accounts for a lion share of offshore RMB business – it accounts for no less than three quarters of offshore RMB payments (SWIFT, 2020) and over 40% of offshore RMB trading (Bank for International Settlements, 2019). To ensure the results are not overwhelmingly driven by the "extreme" Hong Kong observation, we dropped it, re-estimated (1), and reported the result under Column (4) in Table 2. Without the Hong Kong observation, the specification (1) yields an adjusted R^2 estimate of 89% with three statistically significant variables; namely $Z_{i,16}$, D_i, and $BT_{i,19}*D_i$. The coefficient estimates of these three variables are smaller in magnitude but are qualitatively similar to the corresponding ones under Column (3). That is, the main results are not driven by the Hong Kong observation.

The second remark is on the difference between the current 2016-2019 sample and the 2013-2016 data examined in previous studies. In the preliminary analysis, we formally test the null hypothesis that there is no structural break between the 2013-2016 and 2016-19 specifications. For the model that includes only the three FX market information variables, the Chow test statistic of 17.5 strongly rejects the no-structural-break hypothesis. For the model given by (1), the Chow test statistic of 40.9 also strongly rejects the no-structural-break hypothesis. The two groups of variables exhibit very different effects on the evolution of offshoring RMB trading in the 2013-2016 and the 2016-2019 sample; specifically, the 2013-2016 data are not subject to the geopolitical situations faced by China in the 2016 to 2019 period. It is not efficient and effective to study the evolution of offshore RMB trading with data pooled from the two samples. Thus, we focus on the current 2016-2019 sample.

3.3 Empirical Result II

In this subsection, we assess the sensitivity of the empirical effects of $Z_{i,16}$, D_i, and $BT_{i,19}*D_i$ to the presence of variables accounting for China's policies, links with China, and the economic attributes of the economy in which the financial center is located. Specifically, we augment equation (1) with these additional variables:

$$\Delta Y_{i,19} = \alpha + \beta Z_{i,16} + \gamma \Delta X_{i,19} + \delta W_{i,16} + \mu D_i + \zeta BT_{i,19} + \lambda BT_{i,19}*D_i + \tau Q_i + \varepsilon_i, \qquad (2)$$

where Q_i contains the additional explanatory variables. Regression (2) investigates whether these additional variables offer additional power to explain the changes of shares of offshore RMB trading across financial centers.

To facilitate the analysis, we classify these additional variables into three categories. The first category comprises the three main policies introduced to promote an offshore RMB center. These policies are the establishments of a) a local RMB clearing bank in the offshore market for clearing cross-border RMB transactions, b) a bilateral RMB currency swap agreement for providing a liquidity backdrop in the event of RMB shortage, and c) a RQFII quota for accessing China's onshore capital markets. The main stated functionality of the first two policy measures is the provision of RMB liquidity to offshore markets for supporting trade. The third policy measure enhances the attractiveness of holding offshore RMB. These measures are expected to promote offshore RMB turnover. For the swap line and RQFII policies, we consider the effects of either the presence of such an arrangement or the size of the agreement.

The effects of these policy measures are presented in Table 3. Column (1) – in this and the following tables – recaps the results of estimating equation (1) for easy references. The individual marginal effects of these policy variables are presented under Columns (2) to (6); only the variable representing the RQFII quota size is statistically significant and displays the expected positive sign. The column (P) presents the parsimonious specification obtained from sequentially dropping insignificant policy variables from the specification that included all the policy variables. Either individually or in the presence of other policy variables, the RQFII quota size variable is statistically significant. Its marginal explanatory power is relatively substantial – its presence improves the adjusted R^2 estimate to 85% from 70%. Also, its presence alters the statistical significance of $\Delta X_{i,19}$, $W_{i,16}$ and $BT_{i,19}$; the coefficient estimate of $W_{i,16}$ becomes insignificant and the coefficient estimates of $\Delta X_{i,19}$ and-$BT_{i,19}$ significant (Columns (1) and (P)). The coefficient estimates of other variables retain their statistical significance while experiencing a slight decline in magnitude. Overall, the inclusion of the RQFII quota size variable helps to explain changes of shares of offshore RMB trading across financial centers, reinforces the trade variable effect, and does not qualitatively affect the effects of the gap variable ($Z_{i,16}$), the dispute variable (D_i), and the interaction variable ($BT_{i,19}$*D_i).

The second category comprises control variables that quantify links with China. They include bilateral FDI flows with China normalised by the jurisdiction's total FDI flow, and

dummy variables that capture the presence of a free trade agreement with China, the inclusion in the China Foreign Exchange Trade System (CFETS),[25] and the membership of the Belt and Road Initiative. The Belt and Road Initiative membership is included in view of the Initiative's asserted intention to connect China with the global economy and promote trade and investment. In addition, we include the distance from Beijing (China's capital city). The distance variable is included to assess if the offshore market progression has a regional rather than a global favour. The effects of these linkages are presented in Table 4.

Although these selected variables are meant to capture links with China, the results in Table 4 indicate that these variables, either individually or jointly, are statistically insignificant (Columns (2) to (6) and (P)). Apparently, the information of these variables that is relevant for the evolution of offshore RMB trading has already been captured by the FX market information, dispute and trade variables. Once the FX market information, dispute and trade variables are included in the regression, these link-with-China variables offer no marginal explanatory power.

The third category comprises variables that represent the economic attributes of the economy in which the financial center is located. We follow Cheung and Yiu (2017) and Cheung *et al*. (2019) and consider the real GDP growth rate, the equity market capitalisation normalised by GDP, the size of the international bond market normalised by GDP, and the stage of financial development. In essence, these variables are meant to capture the economic strength and the financial sector status of a financial center.

The results in Table 5 indicate that, among these economic strength and financial sector status variables, only the equity market capitalization variable (Columns (3) and (P)) and financial development index (Column (P) have a statistically significant coefficient estimate. These two significant variables display the expected positive effect on offshore RMB trading, and improve the adjusted R^2 estimate to 86% from 70% (Column (P)). That is, the financial market status of a financial center has implications for offshore RMB trading, and contain relevant information about the evolution of offshore RMB trading in addition to the FX market, dispute and trade-related variables.[26]

[25] CFETS established in 1994 is an official interbank RMB FX trading platform in China (http://www.chinamoney.com.cn/english/).

[26] The finding of these effects is new, when compared to the earlier results of Cheung *et al.* (2019), while Cheung and Yiu (2017) reports the effect of GDP on the early period of offshore RMB trading.

Table 6 offers a synthesis of the empirical effects of these three categories of control variables. To conserve the degree of freedom, we consider only those control variables in Tables 3 to 5 that display a statistically significant effect (Columns (2) to (4)). The parsimonious specification presented under column (P) indicates that the three control variables retain their significance as reported in previous tables; they jointly enhance the adjusted R^2 estimate to 89% from 70% registered for specification (1).

In sum, the presence of these control variables helps to explain the changes in the offshore RMB trading share across financial centers, but does not qualitatively change the results of transiting to the global FX trading pattern and the effects of disputes and trade intensity.

Since the dispute variable (D_i) is one of the focal variables of the paper, we also estimated models that include interaction terms between D_i and Q_i. In sum the inclusion of these interaction terms does not have material effects on coefficient estimates of $Z_{i,16}$, D_i, $BT_{i,19}$, and $BT_{i,19}*D_i$. That is the empirical effects of the gap between initial shares of RMB and total FX trading volumes, and the variables related to disputes and trade intensities are quite insensitive to the presence of these additional interaction terms. Finally, we also estimated models that include interaction terms between $BT_{i,19}$ and Q_i. Again, the presence of these interaction terms does not materially affect the empirical effects of $Z_{i,16}$, D_i, $BT_{i,19}$, and $BT_{i,19}*D_i$. These further results are not presented here for brevity, but are available upon request.

Note that the RMB is the newest member and the only developing country currency of the SDR basket. The other four SDR currencies; namely, the US dollar, the euro, the Japanese yen, and the British pound are established global currencies, albeit of different levels of prominence. They arguably acquired their respective status in the international monetary system before the RMB embarked upon its internationalization process a decade ago.[27] Thus, we do not expect – unlike in the case of the RMB – the offshore trading of these currencies to exhibit a "transition" to the global FX trading pattern.

Indeed, the estimation of equation (1) without the explanatory variables D_i, $BT_{i,19}$ and $BT_{i,19}*D_i$ shows that the changes of offshore trading shares of these four SDR currencies, with the exception of the British pound, are mostly explained by the variable $\Delta X_{i,19}$, which measures

[27] These currencies established their global roles before comprehensive BIS surveys of FX turnover were available.

the change in jurisdiction i's total FX trading share.[28] Specifically, $\Delta X_{i,19}$ explains, 100%, 84%, 95%, and 27%, respectively, of the variability of the offshore US dollar trading, offshore euro trading, offshore Japanese yen trading, and offshore British pound trading. Despite the relatively low $\Delta X_{i,19}$ explanatory power, the British pound has a correlation estimate of 0.9862 between $Y_{i,2013}$ and $X_{i,2013}$ and between $Y_{i,2016}$ and $X_{i,2016}$, and 0.9867 between $Y_{i,2019}$ and $X_{i,}2019$; indicating the patterns of offshore British pound trading share and total FX trading share across financial centers are quite similar. The results in general are in accordance with the view that the RMB's transition behavior is unique among the SDR currencies.

4. Concluding Remarks

Against the backdrop of changing global economic and geopolitical environments in the last few years, we study the evolution of offshore RMB trading between 2016 and 2019. In addition to three FX market variables that are used to evaluate the tendency to narrow the gap between shares of offshore RMB trading and shares of all FX trading, we assess the role of disputes and trade intensity in determining the changes of offshore RMB trading. The results indicate that, under the global conditions between 2016 and 2019, the geographical evolution of offshore RMB trading reflects both the transition towards the pattern of global FX trading and the roles of geopolitics captured by the dispute and trade related variables.

The current exercise attests to the view that the forces that determine the geographical spread of RMB trading around the world can vary with the changing global economic and geopolitical environments. The international status of a currency has not only implications for its issuing country's economic well-being; it represents its sovereignty and global image. While government policies can give a head start to the RMB internationalization, both economic and geopolitical factors, and the responses of incumbent global currencies affect the path of the RMB to achieve its global currency stature.

Will the RMB enjoy the global stature commensurate with China's economic strength and its international trade prowess? Undoubtedly, China's economic strength and trade prowess provide strong support for the RMB in the international monetary system. Its ongoing liberalization of financial markets will increase the attractiveness of the RMB to foreign

[28] The dispute variable D_i is not included as it is RMB-specific. When $BT_{i,19}$ is included, it is insignificant and does not qualitatively affect other estimates. These estimation results are available from the authors.

investors. However, in addition to economic and political strengthens, a global currency's status is affected by credibility and desirability perceived by foreign investors. China’s latest assertive foreign policy posture and territorial disputes with neighbouring countries, the confrontation with the US and other countries, and the restructuring of global supply chains can present alternative forces to shape the RMB internationalization experience. The economic and non-economic forces are likely to interact and play their roles in determining the evolution process of offshore RMB trading. Nevertheless, market forces will determine the ultimate geographical trading pattern, which is expected to be similar to the one of all FX trading.

Appendix

A: Definition of Variables and their sources

Variables	Definition	Source
$Z_{i,16}$	Deviation of jurisdiction i's RMB share from its FX share	BIS Triennial Survey 2016
$\Delta X_{i,19}$	Change in jurisdiction i's FX share between April 2019 and April 2016	BIS Triennial Survey 2019, 2016
$W_{i,16}$	Jurisdiction i's RMB trading as a share of its total FX trading	BIS Triennial Survey 2016
$BT_{i,19}$	Sum of imports from and exports to China as % of the jurisdiction's total trade (April 2018 to March 2019)	Directions of Trade Statistics, IMF
$D_{i,19}$	Binary variable for the presence of a dispute with China: Australia, Japan, Korea, Singapore, United States	WTO, news
RQFII	Binary variable for an approved RQFII arrangement as of March 2019	SAFE, Global Capital China
RQFII Size	Approved RQFII quota amount as of March 2019 (RMB, 10 billions)	SAFE, Global Capital China
Swap	Binary variable for the presence of a bilateral RMB swap line as of March 2019	People's Bank of China
Swap Size	The size of the bilateral RMB swap line (RMB billions)	People's Bank of China
Clearing Bank	Binary variable for the presence of a local RMB clearing bank as of March 2019	People's Bank of China, news, and various press releases
FDI Share	Sum of FDI to and from China as % of the jurisdiction's total FDI flows in 2018	Coordinated Direct Investment Survey, IMF
FTA	Binary variable for the presence of a bilateral free trade agreement between the jurisdiction and China as of March 2019	Ministry of Commerce, China
CFETS	Binary variable for being included in the CFETS currency basket	CFETS
Log_Distance	The geophysical distance (ln(km)) between the jurisdiction's capital and Beijing, China	OpenStreetMap (https://www.distance.to/)
GDP Growth	Log difference of the jurisdiction's GDP between 2016 and 2018	World Development Indicators, World Bank
Equity Mkt/GDP	The capitalization of the jurisdiction's largest equity market as % of GDP in 2018	World Federation of Exchange, NASDAQ
Int. Bond Mkt /GDP	The size of the jurisdiction's foreign bond market as % of GDP in 2018	BIS Debt Securities Database
Financial Development	The Financial Development Index in the Financial Development Report 2018	World Economic Forum

B: Some Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
$\Delta Y_{i,19}$	50	0.00009	0.00899	-0.04925	0.02784
$Z_{i,16}$	50	-0.00031	0.05719	-0.17761	0.31802
$\Delta X_{i,19}$	50	-0.00010	0.01076	-0.02967	0.06448
$W_{i,16}$	50	0.01008	0.02810	0	0.17659
$BT_{i,19}$	50	0.11269	0.09520	0.00955	0.49814

Note: The Table lists some descriptive statistics of, except the dispute dummy variable, the variables included in equation (1).

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Table 1. FX Average Daily Turnover, Economic Size, and International Trade Volume

	Turnover Share (%)	Turnover/GDP (%)	Turnover/Trade (%)
USD	88.30	27.98	138.27
EUR	32.28	15.80	22.13
JPY	16.81	22.42	75.44
GBP	12.79	29.65	72.49
AUD	6.77	31.31	90.11
CAD	5.03	19.51	35.66
CHF	4.96	46.73	56.97
CNY	4.32	2.09	6.17
HKD	3.53	63.67	19.70
NZD	2.07	66.84	163.27

Note: The Table lists the top ten most actively traded currencies in the 2019 BIS triennial survey, and their FX average daily turnover shares, daily turnover to GDP ratios, and daily turnover to international trade ratios. Data on FX turnover are from BIS (2019), and data on GDP and international trade volume from Q2 2018 to Q1 2019 are from, respectively, IFS and IMF DOTS.

Table 2. Changes in Shares of Offshore RMB Trading

Variables	(1)	(2)	(3)	(4)
$Z_{i,16}$	0.005		-0.175***	-0.163***
	(0.14)		(2.90)	(8.43)
$\Delta X_{i,19}$	0.377***		-0.244	-0.062
	(4.53)		(1.29)	(0.83)
$W_{i,16}$	-0.001		0.423***	-0.006
	(0.01)		(3.26)	(0.07)
D_i		-0.054*	-0.079***	-0.043***
		(1.90)	(3.73)	(4.39)
$BT_{i,19}$		0.027	0.008	0.001
		(1.47)	(1.23)	(0.40)
$BT_{i,19}*D_i$		0.181	0.240***	0.148***
		(1.55)	(3.29)	(3.36)
Constant	0.000	-0.001	-0.002**	-0.000
	(0.35)	(0.78)	(2.16)	(0.88)
Adjusted R^2	0.15	0.45	0.70	0.89
#Observations	50	50	50	49

Note: The Table presents results on geographical diffusion of offshore RMB trading between 2016 and 2019. See the text for definitions of variables. OLS estimates and their robust t-statistics (in parentheses) are reported. The results in the absence of the Hong Kong observation are reported under Column (4). *, **, *** indicate statistical significance at the 10%, 5%, and 1% level respectively.

Table 3. Changes in Shares of Offshore RMB Trading: China's Policies

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(P)
$Z_{i,16}$	-0.175***	-0.196***	-0.151***	-0.176***	-0.176***	-0.184***	-0.151***
	(2.90)	(3.05)	(5.11)	(2.97)	(2.88)	(3.01)	(5.11)
$\Delta X_{i,19}$	-0.244	-0.265	-0.223**	-0.242	-0.248	-0.248	-0.223**
	(1.29)	(1.41)	(2.13)	(1.30)	(1.29)	(1.33)	(2.13)
$W_{i,16}$	0.423***	0.489***	-0.116	0.435***	0.423***	0.448***	-0.116
	(3.26)	(3.37)	(1.32)	(3.36)	(3.24)	(3.43)	(1.32)
D_i	-0.079***	-0.081***	-0.057***	-0.080***	-0.079***	-0.079***	-0.057***
	(3.73)	(4.05)	(5.24)	(3.76)	(3.71)	(3.87)	(5.24)
$BT_{i,19}$	0.008	0.005	0.011*	0.006	0.010	0.009	0.011*
	(1.23)	(1.01)	(1.91)	(0.76)	(1.24)	(1.22)	(1.91)
$BT_{i,19}*D_i$	0.240***	0.250***	0.163***	0.247***	0.239***	0.241***	0.163***
	(3.29)	(3.63)	(3.83)	(3.34)	(3.27)	(3.44)	(3.83)
RQFII		-0.003					
		(1.00)					
RQFII Size			0.003***				0.003***
			(6.95)				(6.95)
Swap				-0.001			
				(0.76)			
Swap Size					0.003		
					(0.96)		
Clearing Bank						-0.002	
						(0.96)	
Constant	-0.002**	-0.002**	-0.002**	-0.002	-0.003**	-0.002**	-0.002**
	(2.16)	(2.24)	(2.08)	(1.28)	(2.03)	(2.26)	(2.08)
R-Squared (adj)	0.70	0.71	0.85	0.69	0.69	0.70	0.85
Observations	50	50	50	50	50	50	50

Notes: OLS estimates. Robust t-statistics in parentheses; *, **, *** indicate variables significant at 10%, 5%, and 1% level respectively.

Table 4. Changes in Shares of Offshore RMB Trading: Links to China

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(P)
$Z_{i,16}$	-0.175***	-0.171***	-0.164***	-0.172***	-0.174***	-0.169**	-0.175***
	(2.90)	(2.91)	(3.24)	(2.77)	(2.83)	(2.68)	(2.90)
$\Delta X_{i,19}$	-0.244	-0.222	-0.197	-0.236	-0.242	-0.234	-0.244
	(1.29)	(1.20)	(1.25)	(1.21)	(1.25)	(1.20)	(1.29)
$W_{i,16}$	0.423***	0.382***	0.403***	0.409***	0.418***	0.416***	0.423***
	(3.26)	(2.85)	(3.69)	(3.02)	(2.99)	(3.14)	(3.26)
D_i	-0.079***	-0.075***	-0.076***	-0.078***	-0.078***	-0.078***	-0.079***
	(3.73)	(3.74)	(4.23)	(3.60)	(3.68)	(3.60)	(3.73)
$BT_{i,19}$	0.008	0.006	0.023	0.011	0.009	0.008	0.008
	(1.23)	(0.98)	(1.47)	(1.49)	(1.03)	(1.13)	(1.23)
$BT_{i,19}*D_i$	0.240***	0.228***	0.234***	0.235***	0.238***	0.238***	0.240***
	(3.29)	(3.31)	(3.70)	(3.15)	(3.24)	(3.16)	(3.29)
FDI Share		0.020					
		(1.04)					
FTA			-0.005				
			(1.27)				
CFETS				0.001			
				(0.60)			
Log_Distance					-0.029		
					(0.16)		
Belt & Road						-0.001	
						(0.71)	
Constant	-0.002**	-0.002**	-0.003**	-0.003*	0.000	-0.002	-0.002**
	(2.16)	(2.19)	(2.10)	(2.01)	(0.02)	(0.99)	(2.16)
R-Squared (adj)	0.70	0.71	0.73	0.69	0.69	0.70	0.70
Observations	50	50	50	50	50	50	50

Notes: OLS estimates. Robust t-statistics in parentheses; *, **, *** indicate variables significant at 10%, 5%, and 1% level respectively.

Table 5. Changes in Shares of Offshore RMB Trading: Characteristics of Jurisdictions

Variables	(1)	(2)	(3)	(4)	(5)	(P)
$Z_{i,16}$	-0.175***	-0.176***	-0.157***	-0.175***	-0.178***	-0.183***
	(2.90)	(2.90)	(3.64)	(2.87)	(2.78)	(5.43)
$\Delta X_{i,19}$	-0.244	-0.229	-0.160	-0.244	-0.250	-0.184*
	(1.29)	(1.20)	(1.18)	(1.28)	(1.27)	(1.79)
$W_{i,16}$	0.423***	0.428***	0.153	0.422***	0.431***	0.139
	(3.26)	(3.30)	(1.22)	(3.22)	(3.10)	(1.19)
D_i	-0.079***	-0.080***	-0.065***	-0.079***	-0.079***	-0.061***
	(3.73)	(3.83)	(3.96)	(3.68)	(3.72)	(4.72)
$BT_{i,19}$	0.008	0.007	-0.001	0.008	0.008	-0.004
	(1.23)	(1.02)	(0.13)	(1.21)	(1.22)	(0.82)
$BT_{i,19}*D_i$	0.240***	0.249***	0.214***	0.240***	0.241***	0.208***
	(3.29)	(3.42)	(3.44)	(3.25)	(3.29)	(4.05)
GDP Growth		-0.011				
		(1.00)				
Equity Mkt /GDP			0.005***			0.007***
			(3.34)			(4.05)
Int. Bond Mkt /GDP				0.003		
				(0.30)		
Financial Development					0.001	0.008***
					(0.39)	(4.43)
Constant	-0.002**	-0.002	-0.003***	-0.002**	-0.003	-0.008***
	(2.16)	(1.60)	(3.53)	(2.06)	(1.40)	(5.01)
R-Squared (adj)	0.70	0.70	0.81	0.69	0.69	0.86
Observations	50	50	50	50	50	50

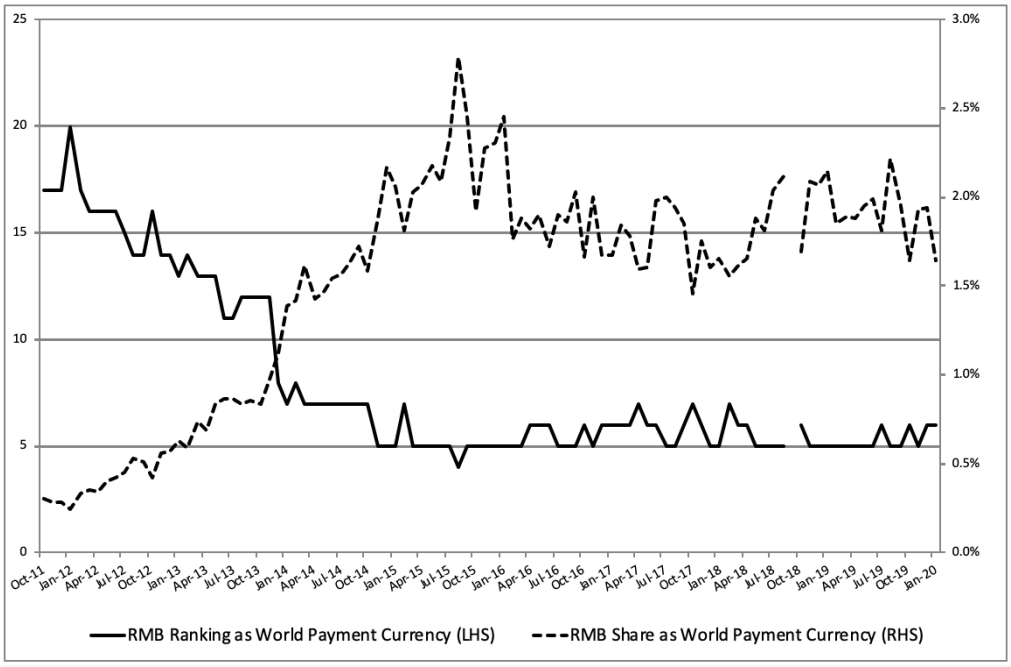
Notes: OLS estimates. Robust t-statistics in parentheses; *, **, *** indicate variables significant at 10%, 5%, and 1% level respectively.

Table 6. Changes in Shares of Offshore RMB Trading: A Synthetic Formulation

Variables	(1)	(2)	(3)	(4)	(P)
$Z_{i,16}$	-0.175***	-0.151***	-0.157***	-0.178***	-0.168***
	(2.90)	(5.11)	(3.64)	(2.78)	(6.81)
$\Delta X_{i,19}$	-0.244	-0.223**	-0.160	-0.250	-0.197**
	(1.29)	(2.13)	(1.18)	(1.27)	(2.08)
$W_{i,16}$	0.423***	-0.116	0.153	0.431***	-0.062
	(3.26)	(1.32)	(1.22)	(3.10)	(0.96)
D_i	-0.079***	-0.057***	-0.065***	-0.079***	-0.055***
	(3.73)	(5.24)	(3.96)	(3.72)	(5.63)
$BT_{i,19}$	0.008	0.011*	-0.001	0.008	0.002
	(1.23)	(1.91)	(0.13)	(1.22)	(0.43)
$BT_{i,19}*D_i$	0.240***	0.163***	0.214***	0.241***	0.176***
	(3.29)	(3.83)	(3.44)	(3.29)	(4.24)
RQFII size		0.003***			0.002**
		(6.95)			(2.60)
Equity Mkt /GDP			0.005***		0.004**
			(3.34)		(2.04)
Financial Development				0.001	0.006***
				(0.39)	(3.11)
Constant	-0.002**	-0.002**	-0.003***	-0.003	-0.006***
	(2.16)	(2.08)	(3.53)	(1.40)	(3.35)
R-Squared (adj)	0.70	0.85	0.81	0.69	0.89
Observations	50	50	50	50	50

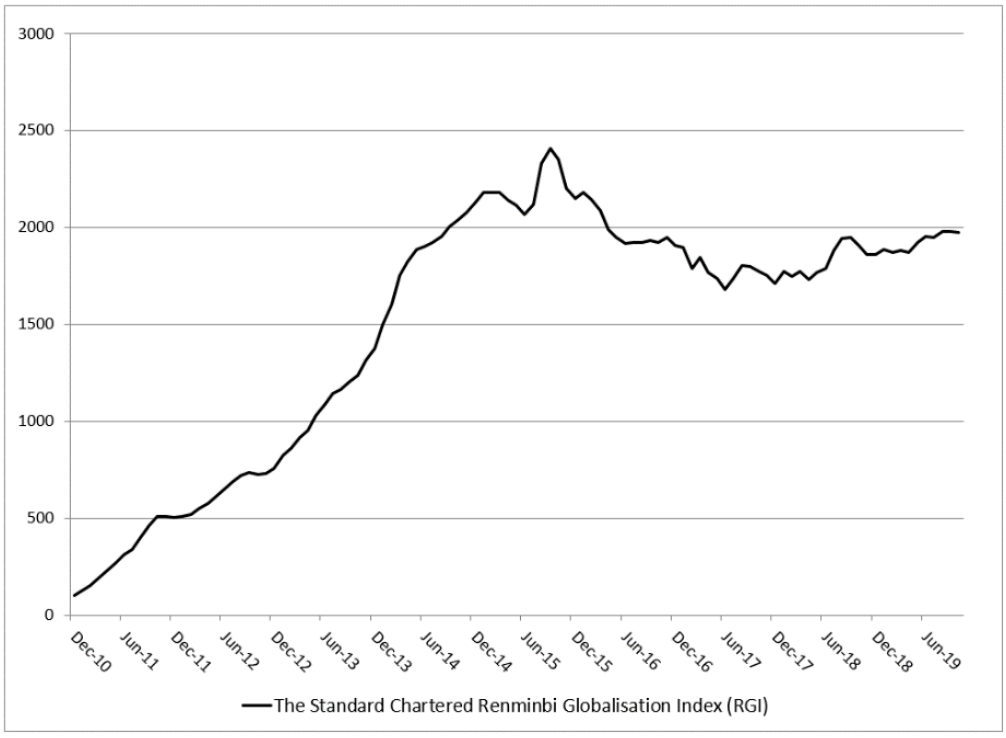
Notes: OLS estimates. Robust t-statistics in parentheses; *, **, *** indicate variables significant at 10%, 5%, and 1% level respectively.

Figure 1. The RMB as a Global Payments Currency



Source: SWIFT RMB Tracker (various issues).

Figure 2. The Standard Chartered Renminbi Globalisation Index



Source: Standard Chartered Bank (2019)