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Research Report

Leveraging Hong Kong as an Offshore Renminbi Centre for Advancing Renminbi Internationalisation

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SUMMARY

The course of the Renminbi (RMB) to become an international currency is the course for it to be extensively used in global trade settlement, cross-border investment and national reserves. With reference to the experience of the US dollar and Japanese yen and given the relatively limited RMB convertibility under China's capital account, an active offshore RMB market is a critical and indispensable supporting factor to achieve this objective. The essential elements of an active offshore centre include a sizable offshore liquidity pool in the currency, an abundant supply of offshore investment products and derivatives for risk management in the currency, as well as sound infrastructures and policy support for the development of offshore assets traded in the currency. The Hong Kong market has already developed itself into a leading offshore RMB centre in the world in terms of these essential elements.

In terms of offshore RMB liquidity pool, Hong Kong has the largest amount of RMB deposits among offshore RMB markets. In terms of offshore RMB products, the Hong Kong listed market offers the largest number and scope of RMB securities and derivative products among world exchanges outside Mainland China. In terms of infrastructure, Hong Kong offers the currently most active Connect schemes with Mainland China covering equities and bonds, along with an efficient, globally integrated financial infrastructure for cross-border RMB payment and settlement. Moreover, the proposition of strengthening Hong Kong's roles as a global financial centre and an offshore RMB hub has been strongly supported by China's central government policies.

With all these advantages, Hong Kong could better serve the needs of Mainland and global issuers and investors through further enhancements and innovations of its RMB products and services. On the product side, these could include more RMB-traded securities covering the various types of equities, fixed-income securities, exchange traded funds and real estate investment trusts for extensive RMB asset allocation by investors, coupled with related tools such as repurchase instruments and RMB derivatives for RMB portfolio and risk management. On the service side, the potential expansion of the scope of the existing Mainland-Hong Kong market connectivity schemes would promote the circulation of the RMB across onshore and offshore markets; and the continuous enhancement of supporting market infrastructure could further activate the offshore RMB product market in Hong Kong.

In such a way, the advantageous position of the Hong Kong market could be effectively leveraged to help advance RMB internationalisation through promoting the further building up of the offshore RMB liquidity pool and the increased utilisation of the RMB in the offshore market.

1. ESSENTIAL FEATURES OF AN OFFSHORE RMB CENTRE AND HONG KONG'S ADVANTAGES

1.1 The importance of the offshore market for RMB internationalisation

Will the Renminbi (RMB) successfully become an international currency to be used extensively in global trade settlement, cross-border investment and national reserves? Given the current state of relatively limited RMB convertibility under the capital account of Mainland China, it is not easy to largely increase the share of the RMB in the global financial system, especially as an instrument for investment and store of value, if RMB internationalisation is only supported by an increasing opening-up of the Mainland domestic market to foreign participation.

The experience of the internationalisation history of the US dollar (USD) and some other major global currencies show that the offshore market plays a critical role in the process of currency internationalisation. In the 1970s, the global financial markets witnessed the rise of the Eurodollar market and the extensive circulation of USD outside the domestic economy. European financial institutions actively traded and financed cross-border businesses in USD, and participated in forward and swap markets to mitigate the risk of foreign currency-denominated businesses. With the sizable offshore dollar liquidity and a wide range of USD products developed to cater for the investment and financing needs of global institutions and corporates, the Eurodollar market became the most important catalyst and foundation to support the internationalisation of the USD. Similar experience can also be found in the internationalisation of the Japanese yen (JPY).

Since 2009, China has seen an increasing use of the RMB in trade settlement since the People's Bank of China (PBOC) allowed for the first time China's cross-border trade to be settled in RMB[1]. However, to increase the usage of the RMB under the capital account by global participants, and to provide greater convenience for cross-border investment and finance in RMB, China still needs a bridge to effectively connect the domestic and international markets before the full convertibility of the RMB. **In addition to the opening-up of the domestic market, a deep and well-developed offshore RMB market would be an essential driver for RMB internationalisation**.

1.2 Essential elements to support the development of an offshore centre

With reference to the experience of the USD and Japanese yen, there are several essential elements to support the extensive circulation of a currency outside its domestic market and the internationalisation of that currency. Such experience provides insights for the internationalisation of the RMB and the development of Hong Kong as an offshore RMB centre. These elements are discussed in sub-sections below.

1.2.1 A sizable offshore liquidity pool in the currency

In its development history, the offshore Eurodollar market has been relatively free of regulation and offshore funds are not subject to the same reserve requirements of the US Federal Reserve. This had led to abundant USD liquidity flowing from onshore to the offshore Eurodollar market, upon which trillions of dollars of offshore funding and investment in securities and reserves were developed, promoting USD to be widely used in the European and Asian markets as a true international currency.

In the 1990s, the proportion of the Eurodollar market in global dollar financing levelled off after the US Federal Reserve relaxed the reserve requirements on onshore deposits,

[1] According to Swift, RMB was the 8th mostly used currency in international trade settlement in 2013, and soon ranked 5th by the end of 2014, just behind USD, euro (EUR), British pound (GBP) and JPY.

attracting offshore US dollars to return to the onshore market. Nevertheless, the offshore proportion of USD in circulation continued to grow in the 2000s. In mid-2010, offshore USD financing accounted for more than 25% of global USD financing intermediation, most of which were pure offshore circulation among non-residents[2]. This provides the foundation for USD-denominated investment and relevant products in the global financial market.

Given the lessons learned, the offshore capital pool will play a vital role in the progress of RMB internationalisation and the development of the offshore RMB market. Driven by the increasing cross-border trade settlement in RMB since 2009, the size of the offshore RMB capital pool in Hong Kong reached a historical high of RMB 1,003 million[3] in 2014, accompanied by booming offshore financial activities including dim-sum bond issuance, cross-border lending and investment through the Connect Schemes and other schemes[4]. According to Swift statistics, the ranking of the RMB has advanced to become one of the most active global payment and trade settlement currency[5]. With the largest offshore RMB capital pool[6], Hong Kong has become the most important clearing hub for global RMB transactions outside Mainland China, handling over 70% of the world's RMB payments[7]. This lays the foundation for the prosperity of offshore RMB financing and asset management in Hong Kong.

Due to the currently sluggish global economy and the decline in China's foreign trade as a result of China-US trade tension, the expansion of the offshore RMB liquidity pool and the development of offshore RMB businesses will inevitably encounter stagnation if the provision of the offshore RMB liquidity pool still relies mainly on cross-border trade under the current account. If the RMB is allowed to be used to a greater extent in cross-border investment and financing in the offshore market, a sizable offshore RMB liquidity pool could be built up to effectively support the pure offshore circulation of RMB among non-residents and the prosperity of offshore RMB products. Moreover, if Mainland investors could invest in offshore assets directly in RMB via Stock Connect[8] and Bond Connect, they would probably prefer to do so in order to largely avoid exchange rate risks in overseas investments to achieve their goal of safely making global asset allocation.

1.2.2 Abundant supply of offshore investment products in the currency

The experience of the USD, the Japanese yen and other major international currencies shows that a truly international currency must satisfy certain basic requirements: international trust in the currency's valuation; the existence of channels and instruments for the convenient possession and use of the currency in the international market; and the extensive use of the currency in international economic and financial activities including international trade, investment and financing. Therefore, the number and variety of products available for investment and financing in that currency, especially in respect of international debt security issuance and international lending, would be an indispensable

[2] Source: "Eurodollar banking and currency internationalisation", *BIS Quarterly Review*, June 2012.

[3] Source: Wind.

[4] Current Connect schemes in Hong Kong comprise the Shanghai-Hong Kong Stock Connect, the Shenzhen-Hong Kong Stock Connect and the Bond Connect. Other cross-border investment schemes include the Qualified Foreign Institutional Investor (QFII) scheme, the Renminbi Qualified Foreign Institutional Investor (RQFII) scheme, Qualified Domestic Institutional Investors (QDII) scheme, the Mainland-Hong Kong Mutual Recognition Funds (MRF) programme, etc.

[5] According to Swift's RMB Tracker reports, the RMB has been among the top ten most active currencies for global payments since November 2013.

[6] The RMB deposits in Hong Kong was RMB 632.2 billion as at the end of 2019, ranking first in offshore RMB markets. Source: "2020 RMB Internationalisation Report", PBOC, August 2020.

[7] Source: "Hong Kong – The Global Offshore Renminbi Business Hub", published on the website of the Hong Kong Monetary Authority (HKMA), January 2016.

[8] Stock Connect schemes comprise the Shanghai-Hong Kong Stock Connect and the Shenzhen-Hong Kong Stock Connect.

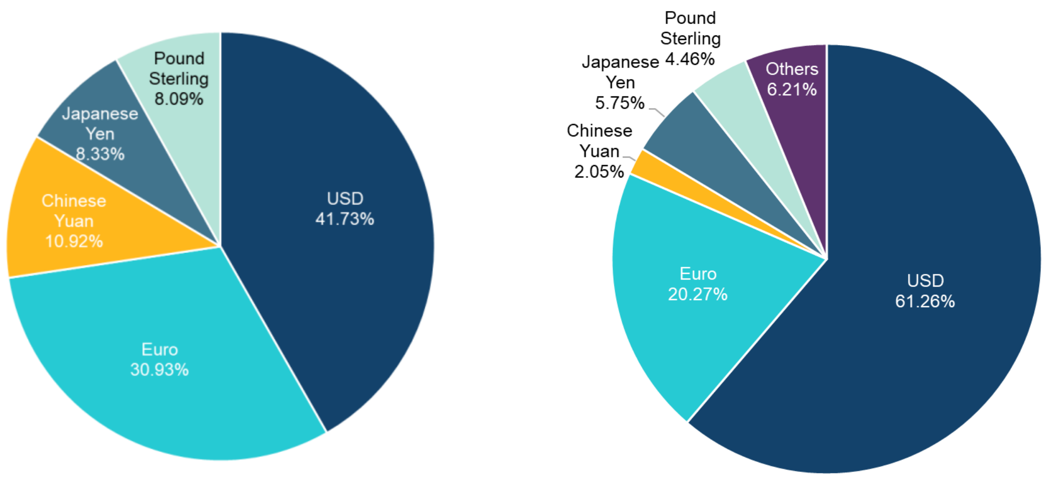
part and a major driver for elevating the share of the currency in global foreign exchange reserves and asset management.

The RMB has maintained its position as one of the top ten most active currencies for global payments by value since November 2013[9]. However, the proportion of global asset management and financing denominated in RMB is still at very low levels. According to the data of the International Monetary Fund (IMF), the RMB's share in global foreign exchange reserves and its use in international lending, bank liabilities and debt issuance are significantly lower than the weighting of the currency (10.92%) upon its inclusion into the IMF Special Drawing Right (SDR) currency basket[10] (see Figure 1).

Figure 1. The share of the RMB in the SDR currency basket and global foreign reserves

(a) Currency weightings in the SDR currency basket

(b) Currency weightings in global foreign reserves (2020Q2)



Total amount: US$12,013 billion

Source: IMF.

Along with more opening-up measures introduced by the Chinese authorities, the integration of RMB assets into the global financial system will accelerate. In the process, Hong Kong can play a critical role to promote the RMB as an international investment currency and as a reserve currency. So far, a wide range of RMB assets have been made available in Hong Kong for global investors. These include dim-sum bonds (RMB-denominated bonds issued in Hong Kong), RMB-denominated investment funds, commodity-linked products, exchange traded funds (ETFs), real estate investment trusts (REITs), equities and insurance products. Moreover, the Connect schemes allow global investors to directly gain exposure to the onshore RMB assets. Through the channels of Stock Connect and Bond Connect, Hong Kong and international investors are able to directly invest in eligible stocks listed on the Mainland exchanges and debt securities in the China Interbank Bond Market (CIBM), the world's second largest bond market worth RMB108 trillion as of June 2020[11].

The Connect schemes between the Hong Kong and Mainland capital markets represent a new channel for the cross-border use and circulation of the RMB which could be further

9 Source: SWIFT. The RMB entered the top five of global payment currencies in November 2014 and lately remained at the 5th position in August 2020.

10 Source: IMF. For more details about the use of the RMB in international lending, bank liabilities and debt issuance, see IMF's report "Review of the method of the valuation of the SDR", 13 November 2015.

11 Source: State Administration of Foreign Exchange (SAFE) (http://m.safe.gov.cn/safe/2020/0703/16571.html).

expanded to cover a wider scope of asset classes, ranging from currency products to commodities. The Hong Kong market is well equipped to increase the supply of products to facilitate global investors' investment in RMB assets and their hedging needs related to RMB assets and also possibly for Southbound trading by Mainland investors through the Connect schemes.

1.2.3 A wide range of offshore derivatives for risk management in the currency

The Bank for International Settlements (BIS) triennial survey presents an overall picture of global foreign exchange (FX) trading denominated in major currencies. Specifically, the share of FX transactions denominated in USD, euro, Japanese yen and British pound accounted for 75% in aggregate of global FX turnover in April 2019[12], reflecting that global FX trading continues to be concentrated in these major international currencies. RMB FX trading (including onshore and offshore) increased with a growth rate at par with that of the entire global FX market, such that its market share in global FX trading remained at 4.3% in 2019, slightly higher than 4.0% in 2016[13].

Following the inclusion of the RMB into the IMF SDR currency basket in 2016 and the inclusion of Chinese assets into the MSCI stock indices since 2018 and global bond indices after that, the role of the RMB in the FX market will continue to be enhanced. Global institutions, including central banks, sovereign funds and foreign pension funds, as well as global investors with active or passive investment strategies are expected to increase their allocations to Chinese assets. Since the reform of the RMB exchange rate mechanism in August 2015, the RMB exchange rate has become more volatile, in terms of both frequency and magnitude. Global investors therefore have greater demand for related RMB derivatives to hedge the exchange rate risks involved.

Currently, FX derivatives trading remains one of the three major non-convertible items in the RMB capital account as the participation of non-residents in the domestic derivatives market is highly restricted. Although China has opened up its domestic capital market to a greater extent to allow foreign participation in the Mainland stock and bond markets, there are only very limited channels and scope for foreign participation in the Mainland derivatives market. Only certain types of foreign "long-term" institutional investors (investors with long-term investment horizons), such as central bank-type institutions, sovereign funds and offshore clearing banks, can easily access the Mainland derivatives market under clearly defined policy framework; and only certain "specified types of futures products" listed on the domestic exchanges are opened up to trading by foreign traders[14].

According to a market survey[15], the common view among foreign investors is that the process of RMB internationalisation has been largely hurdled since onshore RMB-denominated derivatives including foreign exchange derivatives, bond derivatives and interest rate derivatives are not available for most foreign investors.

Hence, it is necessary to develop a wide range of RMB derivatives available to foreign investors to encourage their further participation in RMB investments. These products can be used as hedging tools to reduce the price risk of offshore RMB assets, smoothen RMB investment returns and, thereby attracting investors with relatively low

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12 Source: "Triennial Central Bank Survey — Foreign exchange turnover in April 2019", BIS, 16 September 2019.

13 Source: BIS database.

14 Apart from stock index futures opened to trading by QFIIs and RQFIIs, up to the end of 2020, there were seven "specified futures products" opened up to trading by foreign traders, all are commodity futures — crude oil futures, TSR20 futures, low sulfur fuel oil futures and international copper futures on the Shanghai International Energy Exchange (INE); pure terephthalic acid futures on the Zhengzhou Commodity Exchange (ZCE); and iron ore futures and palm olein futures on the Dalian Commodity Exchange (DCE).

15 Source: The Asian Banker and China Construction Bank, "RMB Internationalisation Report 2018: Optimism towards Belt & Road raises cross-border use of RMB", published on The Asian Banker's website, 6 July 2018.

tolerance of volatility (e.g. sovereign funds and pension funds). This would facilitate an increased involvement of long-term institutional investors in RMB investment, so as to speed up the increase in the ratio of RMB assets in global foreign reserves.

Given the currently limited convertibility of the RMB under the capital account, developing RMB derivatives in the offshore market would help facilitate RMB internationalisation. Hong Kong, as the largest offshore RMB centre[16], is in an advantageous position to provide more RMB risk management products that are related to the onshore capital market, including bond derivatives and equity derivatives. This will play a significant role in facilitating global investors' RMB risk management and accelerating the progress of RMB internationalisation

1.2.4 Sound infrastructures and policy support for the development of offshore assets traded in the currency

Over the years, global financial infrastructural platforms have been undertaking continuous enhancements in order to reduce costs in cross-border transactions and the related risks involved in cross-border trading and settlement, such as liquidity risks and settlement risks. Certain key achievements have been made in advancing market integration, through initiatives such as introducing the settlement methods of delivery versus payment (DVP) and payment versus payment (PVP), and the connection with real time gross settlement (RTGS) systems worldwide through various interfaces. Global systemic institutions, such as Euroclear and Clearstream, together with global banks, have been extending the reach of their services to multiple markets across the world, encompassing multiple currencies used in financial transactions. Financial products and assets denominated in major international currencies can be easily transacted through these financial platforms, with reduced operational risks. Supported by more integrated and widely-reached financial infrastructures, major international currencies are extensively used in securities and derivatives trading and asset management worldwide, promoting the expansion of investor base and the increase in market liquidity.

Similarly, cross-border investments using RMB will go hand-in-hand with RMB internationalisation. This prompts the need for a safe and reliable financial infrastructure and supportive policy environment to handle trillions in currency value of offshore RMB businesses. The financial infrastructure should not only be in line with international standards but should also meet the regulatory requirements stipulated by Mainland policymakers for information transparency.

Over the years, Hong Kong has been continuously enhancing its financial infrastructure to support offshore RMB payment and settlement. These include the introduction of DVP and PVP settlement across currencies and the connection with RTGS systems for USD, euro and Hong Kong dollar (HKD), to facilitate banks from all over the world to make RMB payments through the Hong Kong platform. At the end of 2019, these were 204 banks participating directly in the RMB RTGS system[17]. The average daily turnover through the RMB RTGS system by July 2020 amounted to around RMB 1 trillion, reflecting the critical role it plays in serving RMB cross-border payments, and more importantly global payments in the offshore market (see Figure 2).

[16] For more details, please see "2019 RMB Internationalisation Report", PBOC, June 2019.

[17] Source: HKMA website (https://www.hkma.gov.hk/media/chi/doc/about-the-hkma/legislative-council-issues/20200504c1.pdf).

Figure 2. Daily transaction value in the Hong Kong RTGS system cleared in RMB

Source: Hong Kong Interbank Clearing Limited.

Along with the launch of Stock Connect in 2014 and Northbound trading of Bond Connect in 2017 are enhancements in the Hong Kong's financial market infrastructures to handle cross-border RMB investment flows to and from Mainland China. These channels enable overseas investors to efficiently access the Mainland capital markets without the otherwise costly pre-filing process and domestic account management. The subsequent inclusion of RMB assets into global stock and bond indices are largely attributable to the efficiency and user-friendly operational environment provided by the Connect schemes.

Going forward, the increase in RMB transactions under the capital account as a result of increased trading activities under Stock Connect and Bond Connect, offshore RMB bond issuance, offshore RMB stock issuance and related derivatives trading, etc. will need further enhancements of the financial infrastructure and related policies to offer support.

1.2.5 Hong Kong's advantages as an offshore RMB centre

To sum up, Hong Kong is well positioned with its unique advantages in terms of the established critical mass of RMB liquidity, product diversity and financial services in line with international practices to support a wide range of offshore RMB financing and investment activities in the form of RMB bonds, loans, equities and other securities products, as well as RMB derivative products.

The vibrant and diversified Hong Kong market provides value-added services and products that meet the specific needs of different types of investor from the Mainland and the rest of the world. Through Hong Kong, international investors can capture opportunities of the Mainland market while continuing to operate under their familiar legal and regulatory frameworks, market practices and languages. To Mainland investors, Hong Kong can capitalise on its unique market system and financial environment to introduce high-quality assets from the international market, providing them with a wider range of product choices.

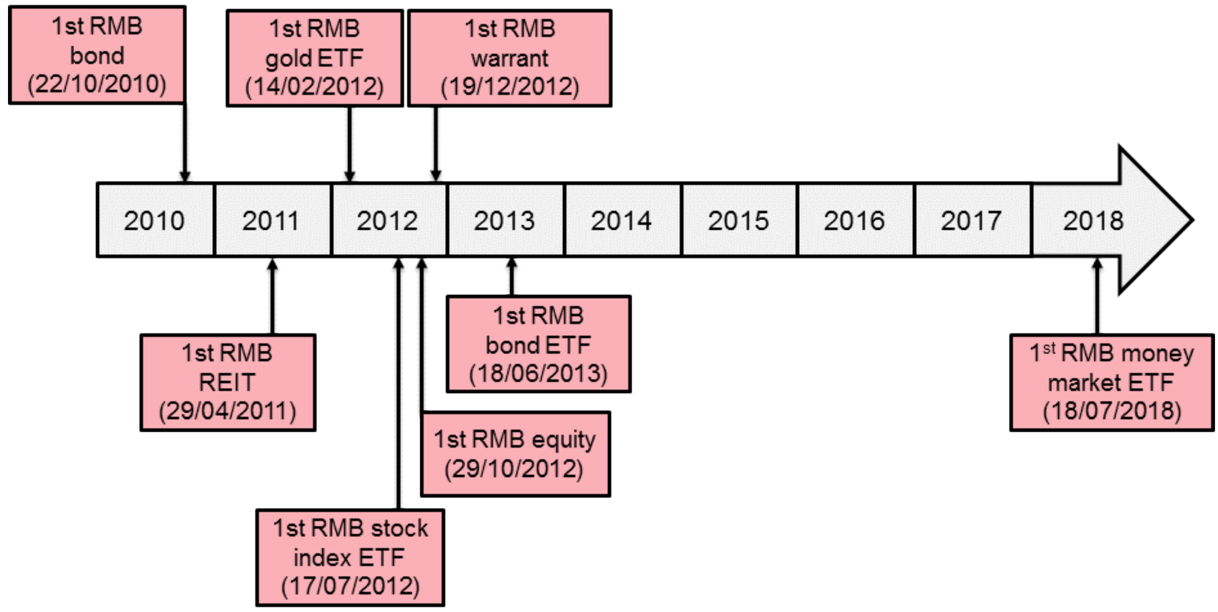
As a "super-connector" between Mainland China and the international market, Hong Kong has a high degree of flexibility to tackle the interactions between Mainland China and the international market during the course of the RMB's internationalisation. This unique role as the gateway between Mainland and the rest of the world is hard to be replaced or replicated.

2. CURRENT STATUS OF OFFSHORE RMB SECURITIES AND RISK MANAGEMENT TOOLS

2.1 RMB securities products in Hong Kong

The Hong Kong securities market saw the first RMB bond listing on 22 October 2010. This was followed by the first RMB REIT in 2011, and by the first RMB ETF (on gold), the first RMB equity and the first RMB warrant in 2012. (See Figure 3.)

Figure 3. Timeline of the launch of new RMB securities product types on HKEX (up to Dec 2020)



Source: HKEX.

The total number of listed RMB securities rose to the peak of 189 (or 2% of total number of securities on the HKEX Main Board) in 2015. After that, a significant drop in number was observed in 2017, mainly due to the delisting on maturity of a large number of RMB bonds that were listed during 2012 to 2015 and the number of new listings could not make up for the decrease. By the end of 2020, the total number of listed RMB securities was 119 (about 0.7% of the Main Board total), the lowest since 2012. Most of these (63%) were RMB bonds, followed by ETFs (35%).

Notably, RMB ETFs experienced the first-time year-on-year decrease in number in 2019, and a further decrease in 2020. Among RMB ETFs, stock index ETFs constituted the most (29% of all RMB securities). The proportion of RMB securities in number, though small in respect of all securities on the Main Board, was rather significant for ETFs (36%)[18].

There is only one RMB REIT[19] listed so far on HKEX. Unlike RMB ETFs which have multiple currency counters (RMB, HKD and/or USD) for trading, the RMB REIT only has a RMB counter for trading which is relatively active. Following the listing of the first RMB equity security[20] in 2012, another one was listed in 2014[21] but this was subsequently delisted in December 2019. (See Figures 4 to 6.)

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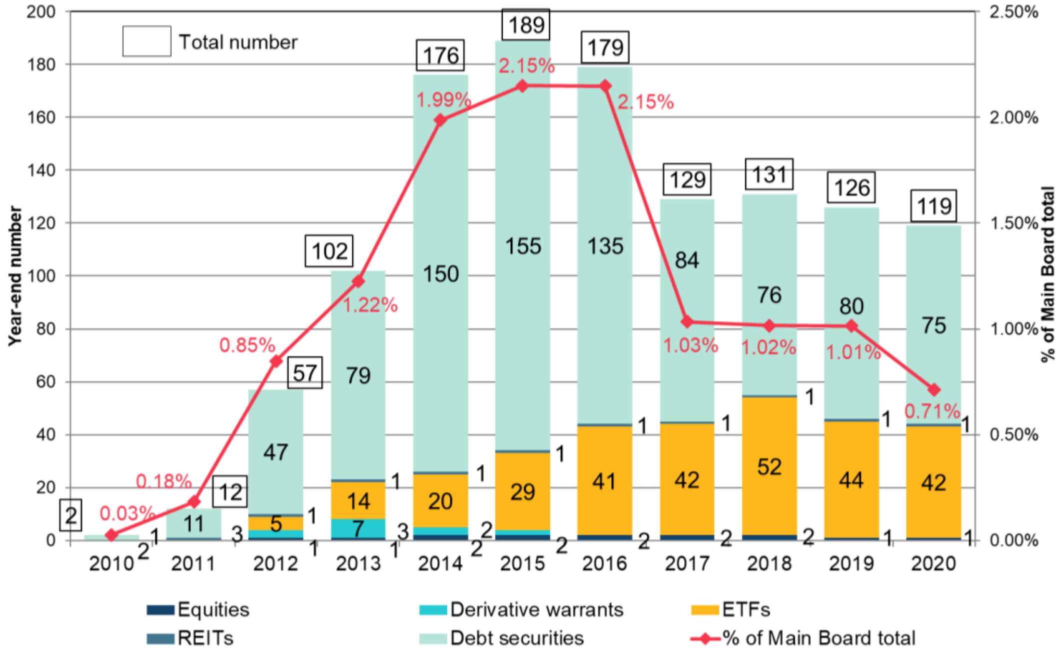
18 All except one (a RMB gold ETF) of these ETFs are ETFs with dual or multiple counters for trading in RMB and other currencies (Hong Kong dollars (HKD) and/or US dollars (USD)).

19 Hui Xian Real Estate Investment Trust.

20 Hopewell Highway Infrastructure, now renamed Shenzhen Investment Holdings Bay Area Development Co. Ltd.

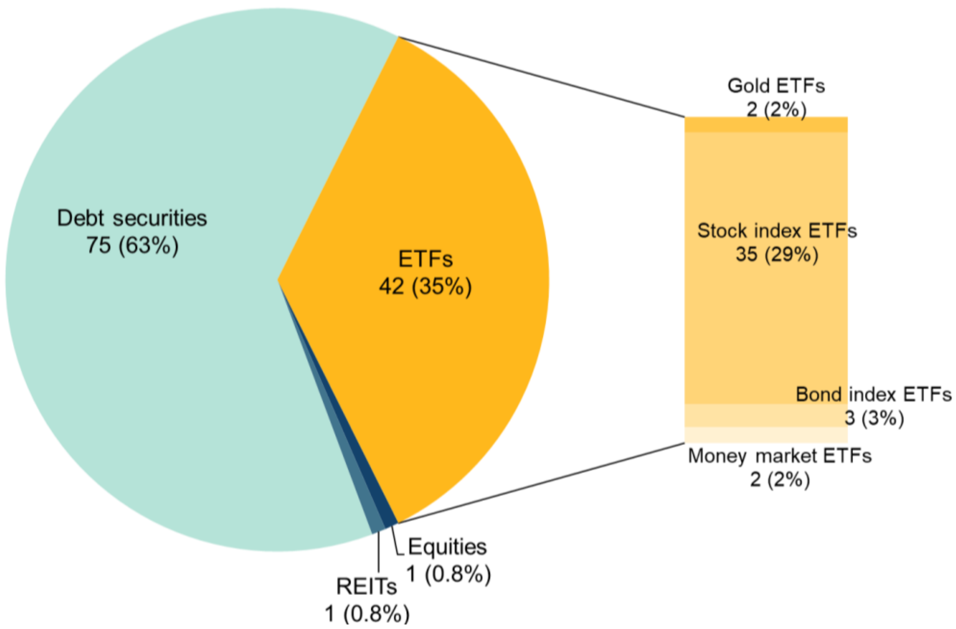
21 ICBC RMB 6.00% Non-Cum, Non-Part, Perpetual Offshore preference shares, listed on 12 November 2014.

Figure 4. Year-end number of RMB securities listed on HKEX by type (2010 – 2020)



Source: HKEX.

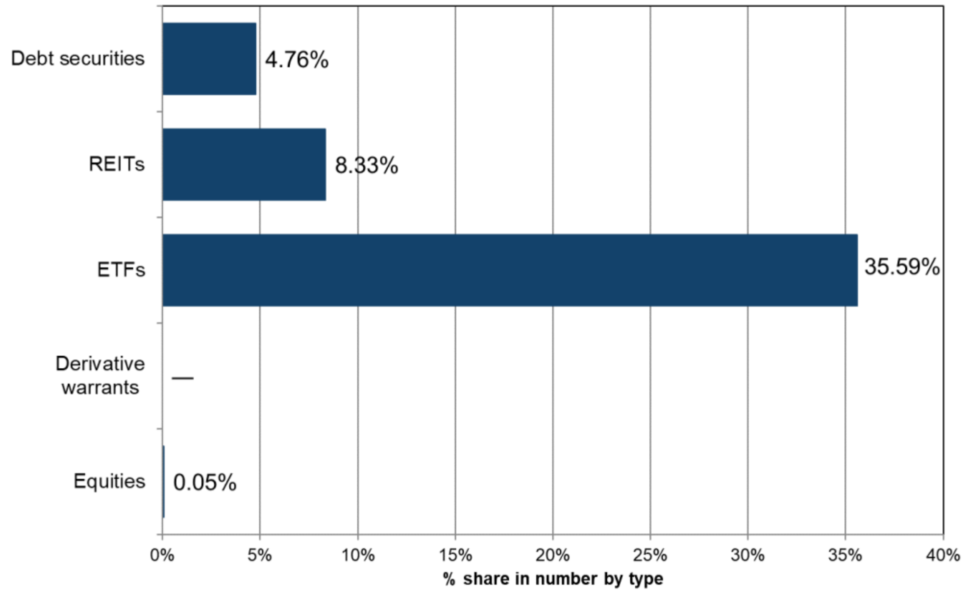
Figure 5. Composition of RMB securities listed on HKEX in number by type (End-2020)



Note: Percentages may not add up to 100% due to rounding.

Source: HKEX.

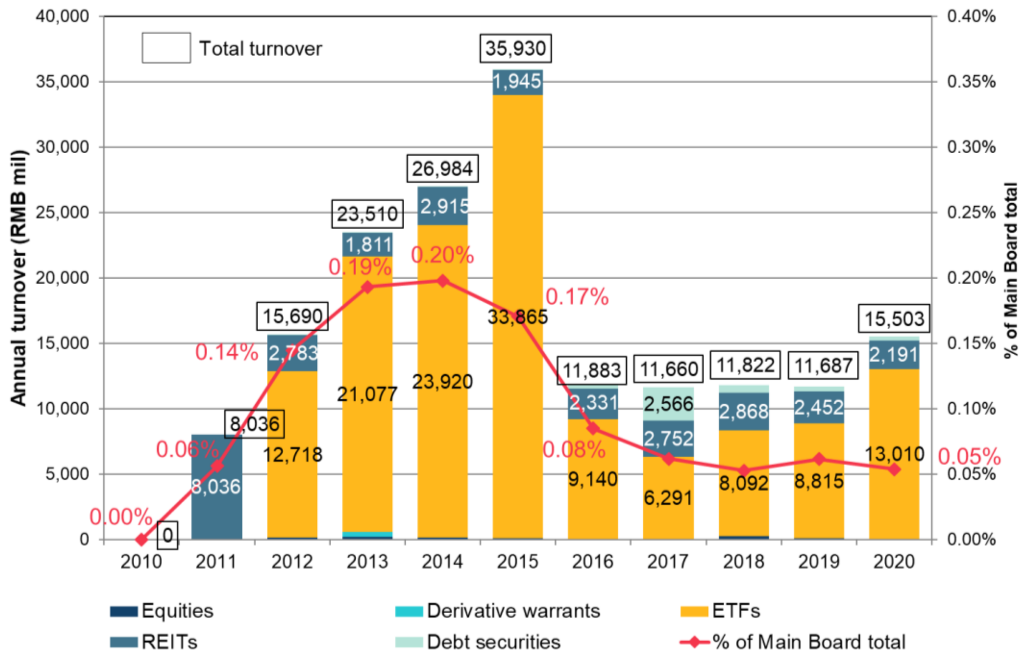
Figure 6. Number of RMB securities as percentage of total number of securities listed on HKEX by type (End-2020)



Source: HKEX.

Trading in RMB securities had grown for five consecutive years since 2011 before a contraction after 2015. Owing to the small number of listings, securities traded in RMB had only a negligible share of the Main Board market total turnover. Among them, RMB ETFs had the biggest share in each year since their launch year of 2012, constituting 75% in 2019 and 84% in 2020, mainly from stock index ETFs. The only one RMB REIT came second (21% in 2019 and 14% in 2020). Although RMB bonds had the most listings, they had only a small share by turnover (3% in 2019 and 2% in 2020). RMB equities had only a negligible share. (See Figures 7 and 8.)

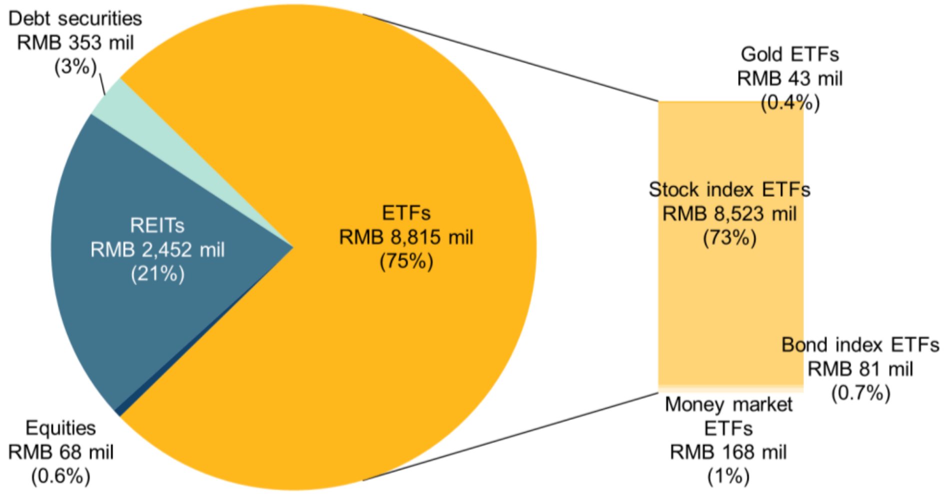
Figure 7. Annual turnover of RMB securities listed on HKEX by type (2010 – 2020)



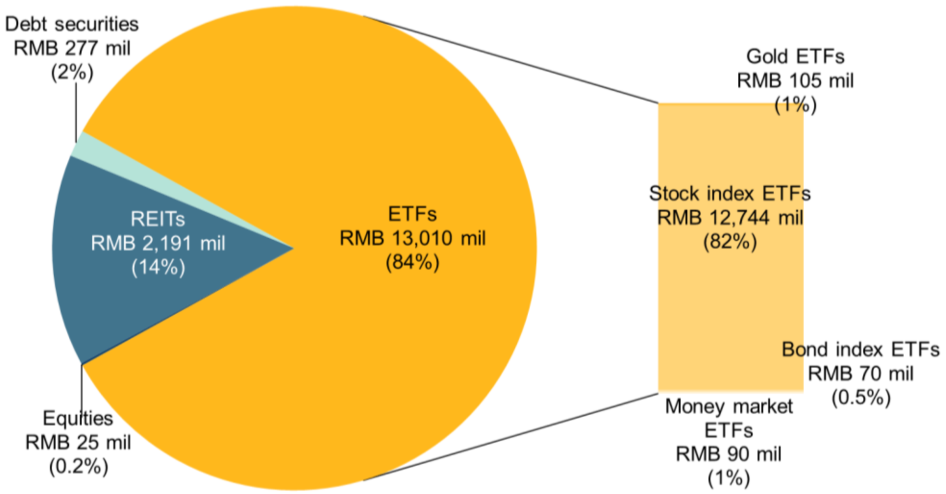
Note: Turnover of RMB securities does not include turnover in non-RMB trading counters of the securities, if any.
Source: HKEX.

Figure 8. Composition of RMB securities listed on HKEX in turnover by type (2019 and 2020)

(a) 2019



(b) 2020



Note: Turnover of RMB securities does not include turnover in non-RMB trading counters of the securities, if any. Percentages may not add up to 100% due to rounding.

Source: HKEX.

In summary, RMB securities on HKEX experienced a rise in the early years and a drop to a relatively steady level in recent years. RMB ETFs, mainly stock index ETFs, are of relatively greater significance.

2.2 Securities products in major world markets

Major offshore exchanges found to have listed RMB securities include China Europe International Exchange (CEINEX), Frankfurt Stock Exchange (FWB), Japan Exchange Group (JPX), London Stock Exchange (LSE), Singapore Exchange (SGX) and Taiwan Stock Exchange (TWSE)[22]. CEINEX is a joint venture set up by Deutsche Börse (DB) with the Shanghai Stock Exchange (SSE) and the China Financial Futures Exchange (CFFEX) — which offers trading of China-related securities on the DB's trading platforms (with some traded in RMB). DB also operates the FWB.

[22] See Appendix 1 for the list of identified RMB-traded securities on HKEX and overseas exchanges.

In terms of number of listings, RMB bonds have been the most — it was found that there were about 800 listings of RMB bonds on at least 25 offshore exchanges or trading venues other than HKEX as of 2 March 2021; these include Luxembourg Stock Exchange, LSE, Taipei Exchange (formerly Gre Tai Securities Market), SGX, Euronext Dublin (formerly Irish Stock Exchange) and Börse Stuttgart[23]. On the contrary, other types of RMB securities are not very common on offshore exchanges. A few RMB ETFs were listed on exchanges such as CEINEX, LSE and TWSE. Like HKEX, SGX and TWSE offer dual-currency securities trading counters — one equity security and one ETF with RMB trading counters on SGX and three ETFs with RMB trading counters on TWSE.

ETF is the most actively traded on-exchange RMB securities product type in markets outside Mainland China. HKEX is ahead of other key exchanges in the world in offering the largest number of RMB ETFs[24]. Despite the considerable number of listings of RMB bonds, on-exchange trading is negligible, if any[25].

Table 1. Number of RMB-traded securities listed on HKEX and selected exchanges (End-Dec 2020)

Exchange	Equity	ETF	REIT	Debt	Total
HKEX	**1**	**42**	**1**	**75**	**119**
LSE	0	1	0	141	142
SGX	1	1	0	80	82
CEINEX	0	1	0	2	3
FWB	0	0	0	25	25
TWSE	0	3	0	0	3

Note: Data other than HKEX are compiled on a best-efforts basis. The selected exchanges exclude Luxembourg Stock Exchange, a major bond listing venue, which listed 288 RMB bonds as of 2 March 2021 (source: Thomson Reuters).

Source: HKEX for HKEX data, the respective exchanges' websites for others.

Table 1 above gives a comparison of the number of RMB securities products on HKEX with other exchanges in the world found to offer RMB securities; and Table 2 below gives a comparison of their trading in RMB ETFs. The average daily turnover value (ADT) of RMB ETFs on HKEX has been much higher than the other exchanges, even on an average per-security basis.

Table 2. Total and average daily turnover of RMB ETFs (2019 and 2020)

	2019		2020	
Exchange	**Total (RMB mil)**	**ADT (RMB mil)**	**Total (RMB mil)**	**ADT (RMB mil)**
HKEX	**8,815**	**35.8**	**13,010**	**52.5**
FWB	1	0.0	1	0.0
LSE	16	0.1	8	0.0
SGX	—	—	0.3	0.0
TWSE	85	0.4	126	0.5

"—": Not applicable.

Source: HKEX for HKEX data; Thomson Reuters for FWB. LSE and SGX data; TWSE website for TWSE data.

23 Source: Thomson Reuters, 2 March 2021. The number would include multiple counting as the same RMB bond may be traded on multiple exchanges. Note that the list cannot be verified with the official source of the exchanges.

24 As far as known from available data and information.

25 Bond trading is often done over-the-counter (OTC) rather than on exchanges. Bond listings on exchanges may be pursued by issuers to enable trading by institutional investors and fund managers who are required in their mandate to invest in securities that are listed on a recognised stock exchange.

2.3 Risk management tools for RMB securities investment

In Hong Kong, the flagship RMB risk management tool is the futures contract on offshore RMB (CNH) against USD, i.e. **USD/CNH Futures**, launched in September 2012 on the HKEX derivatives market. This is the first RMB derivatives on HKEX meant to provide investors with a risk management tool for hedging RMB currency risk along with the expected increase in their RMB exposure. More RMB/foreign currency derivatives were subsequently introduced to serve the anticipated increasing demand in view of increasing global economic and investment activities conducted in RMB. These include RMB-traded currency futures of CNH against Euro, Japanese yen, Australian dollar and Indian Rupee — **EUR/CNH, JPY/CNH, AUD/CNH and INR/CNH**; the RMB currency options contract, **USD/CNH Options;** and the USD-traded **CNH/USD Futures**.

There are also RMB-traded commodity derivatives to support the international use of the RMB and RMB pricing in the real economy. These include the **London Metal Mini Futures contracts** on aluminium, copper and zinc launched in 2014, and those on lead, nickel and tin in 2015. The underlying metals of the first three products are those which China had significant shares in global consumption[26] and which had the most liquid futures contracts traded on the London Metal Exchange (LME)[27], a subsidiary of HKEX.

In 2017 and 2020 respectively, CNH-denominated gold and silver futures contracts which can be physically delivered in Hong Kong were launched. This will further boost Hong Kong's role as one of the precious metals hubs. The CNH Gold Futures indices subsequently introduced can also be accessed through multiple information vendors.

On other overseas markets, the offshore RMB derivatives found to be traded on exchanges are mostly RMB currency futures and options. These exchanges include CME Group and B3 — Brazil Borsa Balcão[28] and Matba Rofex in Americas; Asia Pacific Exchange (APEX), SGX, ICE Futures Singapore (ICE SGP), Korea Exchange (KRX) and Taiwan Futures Exchange (TAIFEX) in Asia; Moscow Exchange (MOEX) in Eastern Europe; Johannesburg Stock Exchange (JSE) in Africa; Bursa Istanbul (BIST) in Eurasia; and DGCX in the Middle East[29]. DGCX and COMEX under CME Group are the only exchanges other than HKEX found to have introduced RMB-traded commodity contracts — gold futures contracts.

Similarly as in the securities market, HKEX offers the most RMB derivatives among global exchanges. Table 3 below gives the number of RMB derivatives on HKEX and other exchanges in the world.

[26] China's share in global consumption was 36% for aluminium in 2015 (24,960 kilo tonnes out of 69,374 kilo tonnes, source: World Aluminium, http://www.world-aluminium.org), 46% for copper in 2015 (9,942 kilo tonnes out of 21.8 mil tonnes, source: The Statistics Portal, https://www.statista.com) and 45% for zinc in 2014 (about 6.25 mil tonnes out of 13.75 mil tonnes, source: Metal Bulletin, The Statistics Portal).

[27] In 2020, trading volume in futures contracts of aluminium, copper and zinc on LME constituted 42%, 22% and 16% of the total commodity derivatives trading volume on LME (source: LME).

[28] Formerly BM&FBOVESPA, corporate name changed on 16 June 2017 along with its merger with Cetip.

[29] See Appendix 2 for the list of identified RMB derivatives on HKEX and overseas exchanges.

Table 3. Number of RMB derivative products on HKEX and selected exchanges (End-Dec 2020)

Exchange	Currency		Commodity		Total		Grand total
	Futures	Options	Futures	Options	Futures	Options	
HKEX	**6**	**1**	**8**	**0**	**14**	**1**	**15**
APEX	1	0	0	0	1	0	**1**
B3	1	0	0	0	1	0	**1**
BIST	1	0	0	0	1	0	**1**
CME	4	2	0	0	4	2	**6**
COMEX	0	0	1	0	1	0	**1**
DGCX	1	0	1	0	2	0	**2**
ICE SGP	2	0	0	0	2	0	**2**
JSE	1	0	0	0	1	0	**1**
KRX	1	0	0	0	1	0	**1**
Matba Rofex	1	1	0	0	1	1	**2**
MOEX	1	0	0	0	1	0	**1**
SGX	7	1	0	0	7	1	**8**
TAIFEX	2	2	0	0	2	2	**4**
Total	**29**	**7**	**10**	**0**	**39**	**6**	**46**

Note: Data other than HKEX are compiled on a best-efforts basis.

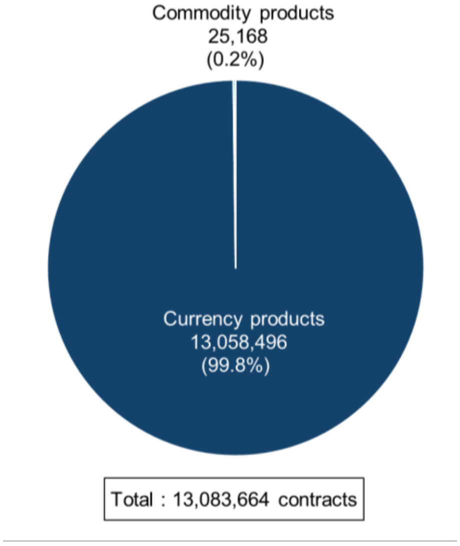
Source: HKEX for HKEX data, the respective exchanges' websites for others.

RMB currency futures have become the most popular RMB derivatives in the world, with at least a dozen other exchanges offering them in addition to HKEX. Almost all annual trading volume and year-end open interest of offshore on-exchange RMB derivatives in 2019 were contributed by RMB currency products (see Figure 9). Contracts in the currency pair of USD/CNH receive the greatest investor interest, reflected by their relatively high trading volume. Contracts on RMB against another international currency, Euro, and other domestic currencies such as Singapore dollars (SGD), Korean Won (KRW) and Russian Rubles (RUB) had recorded very low or no trading[30]. In respect of regional contribution, trading activities of offshore RMB derivatives were found to concentrate on East Asian exchanges (see Figure 10).

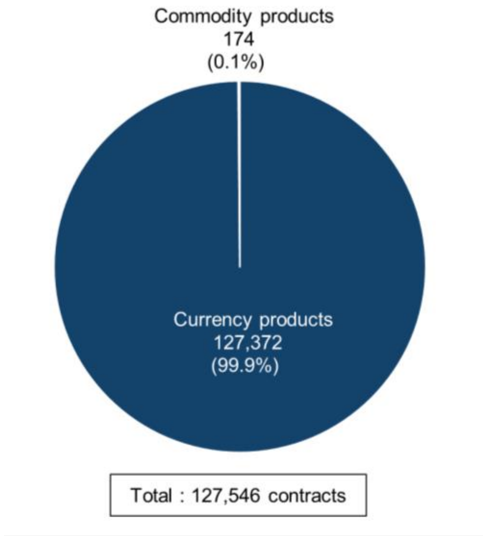
30 Source: Futures Industry Association (FIA) statistics.

Figure 9. Percentage share of currency products in the trading volume and open interest of offshore RMB derivatives

(a) Trading volume (2020)



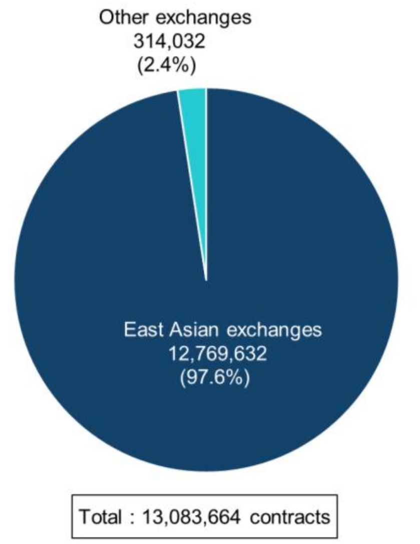
(b) Open interest (end-Dec 2020)



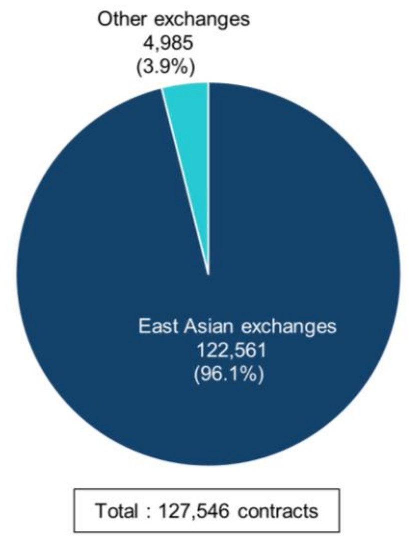
Source: FIA statistics.

Figure 10. Percentage share of East Asian exchanges in the trading volume and open interest of offshore RMB derivatives

(a) Trading volume (2020)



(b) Open interest (end-Dec 2020)



Note: East Asian exchanges comprise HKEX, APEX, ICE SGP, KRX, MOEX, SGX and TAIFEX.

Source: FIA statistics.

The above statistics show that there is a lack of diversity in the kinds of RMB risk management tool and in their trading activities across exchanges in the world, which have been concentrated on RMB currency derivatives. Apart from a number of RMB-traded commodity derivatives (mainly on HKEX), there are no RMB risk management tools directly related to RMB securities products, e.g. RMB bond futures/options, RMB index futures/options and RMB stock or ETF futures/options. This is a natural outcome in the light of the lackluster development in the offshore RMB securities market.

3. FURTHER DEVELOPMENT WITH ENHANCED PRODUCTS AND SERVICES

The Hong Kong market has already developed itself into a leading offshore RMB hub in the world, in terms of the size of offshore RMB liquidity pool, the supply of offshore RMB investment products, the range of RMB derivatives for risk management and the development of market infrastructure for RMB-traded assets (see Sections 1 and 2 above). These have attracted a wide range of issuers and investors to issue and invest offshore RMB products in Hong Kong.

From a macro-economic perspective, in the past few years Mainland policymakers have focused more on the stabilisation of the RMB exchange rate. Nevertheless, various measures have been introduced to advance the continuous opening-up of the Mainland financial market and to facilitate the two-way flows of RMB funds in a controlled manner[31]. To support the progress in RMB internationalisation, further market liberalisation and opening up are expected, especially for building up the offshore RMB market.

In fact, the Chinese Central Government's policies have been very supportive of the development of offshore RMB businesses in Hong Kong. Strengthening Hong Kong's roles as a global financial centre and an offshore RMB hub was reiterated in the *Outline of Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area* (GBA) issued in February 2019[32]. On the backdrop of this, in April 2020 the relevant Mainland authorities introduced policy initiatives to facilitate the development of offshore RMB businesses in the GBA, particularly in Hong Kong[33]. These include launching more offshore RMB currency and commodity products and other risk management products, promoting green finance, launching Wealth Management Connect, enhancing Stock Connect, Bond Connect and exploring the expansion into Southbound trading under Bond Connect, and widening the cross-border use of the RMB. The implementation of these policy initiatives will support further enhancements to RMB products and services in the Hong Kong market. These would include promoting the development of a more diverse range of offshore RMB products and services, more two-way investment flows of the RMB between onshore and offshore markets, and the enhancements of market infrastructure for RMB investments in the Hong Kong market, which would in turn induce more market demand for RMB products and services in Hong Kong.

3.1 Issuers and investors of offshore RMB products

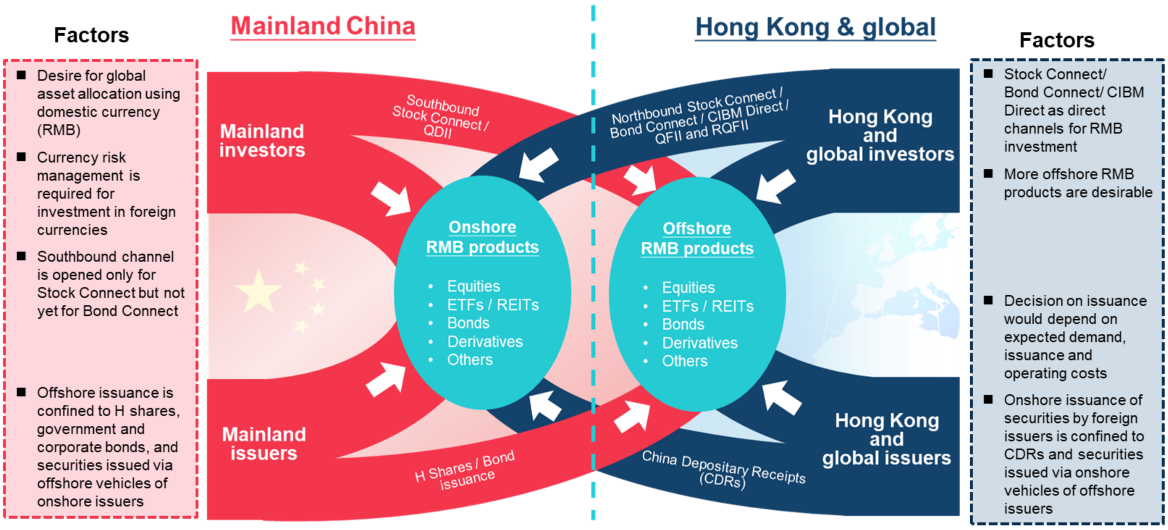
To leverage Hong Kong as an offshore RMB centre for advancing RMB internationalisation, the provision of an extensive suite of RMB-traded products in the Hong Kong market and the activation of their trading are necessary. The listing and trading of RMB securities products in Hong Kong contribute to meeting the needs of the supply and demand sides of RMB-traded products, i.e. the issuer and investor bases of these products. Figure 11 depicts the current situation of issuer and investor participation in offshore RMB products against onshore products.

[31] These include the removal of the investment quota of QFII and RQFII schemes and the unification of regulations over these two schemes. See *2020 RMB Internationalisation Report*, issued by the PBOC, 14 August 2020.

[32] *Outline of Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area* (《粵港澳大灣區發展規劃綱要》), issued by the State Council, 18 February 2019.

[33] *Guiding Opinions on Supporting the Financial Development of Guangdong-Hong Kong-Macao Greater Bay Area* (《關於金融支持粵港澳大灣區建設的意見》), jointly issued by the PBOC, the China Banking and Insurance Regulatory Commission, the China Securities Regulatory Commission and SAFE, 24 April 2020.

Figure 11. Issuer and investor bases in Mainland onshore and Hong Kong offshore RMB products



Source: HKEX analysis.

In respect of issuer base, i.e. the supply side of offshore RMB products, Mainland issuers are subject to Mainland regulations and eligibility restrictions for issuing securities on offshore markets while the offering of RMB securities in the Hong Kong market by global issuers are entirely market-driven:

- For Mainland equity issuers, the channel for A-H shares listing is readily available.
- For offshore equity issuers, i.e. international companies from around the world, they can choose to issue RMB equities (or introduce an RMB counter for its equities) in the Hong Kong market to attract investors with RMB portfolios without institutional barriers in the listing regime or trading system. This would particularly be attractive for companies with business dominance in Mainland China, and for international companies who would like to have a wider and deeper reach to Mainland investors.
- The offshore issuance of RMB bonds by both onshore and offshore issuers would be more or less market driven, depending on the funding needs of the issuers and the interest rate environment.
- ETFs and REITs with RMB counters in Hong Kong are all issued by offshore issuers. The offering of RMB counters of these security types would likely be considered by issuers for attracting RMB portfolio investment originated from both onshore and offshore.

In respect of investor base, i.e. the demand side of offshore RMB products, offshore securities investment by Mainland investors is only available under controlled channels like Southbound trading of Stock Connect and Qualified Domestic Institutional Investor (QDII) scheme (to be extended to Qualified Domestic Individual Investor (QDII2) scheme). Mainland investors who prefer to keep their overseas capital in RMB in order to better manage their balance sheet, as well as some of the trading firms that prefer to trade and settle in RMB, would be attracted to offshore investment in a high variety of securities products, including equities, ETFs/REITs and bonds. The availability of RMB counters of these offshore products would facilitate and activate their participation. In the reverse direction, offshore investors may have onshore securities investment through controlled channels like Northbound trading of Stock Connect and Bond Connect and the QFII scheme (now unified with the RMB QFII scheme). Besides, offshore RMB products such as ETFs and REITs on Mainland assets, in addition to RMB bonds, may also be attractive to offshore investors with RMB portfolios for diversification. To offshore investors, offshore trading of available RMB products will be more convenient and subject to less regulatory restrictions than onshore trading.

In summary, the investment opportunities (including RMB securities and derivatives) in/through the Hong Kong market to a certain extent have served the needs of Mainland investors for global asset allocation and of global investors for RMB asset allocation, as well as the needs of Mainland issuers for global funding and of global issuers for enlarging their investor base into Mainland China.

3.2 Potential product developments

The offshore RMB liquidity pool can be enriched by enlarging the suite of RMB products in the offshore market. The Hong Kong market already offered the widest spectrum of offshore RMB products among world markets, which include RMB equities, RMB bonds, RMB ETFs, RMB REITs and RMB derivatives (see Section 2). These products would meet the needs of global and Mainland issuers and investors for RMB portfolio management. Further product developments and innovations[34] can be considered to attract more issuers and investors for active global RMB asset allocation, thereby supporting the growth of the offshore RMB liquidity pool.

(1) RMB equities

Hong Kong is the world's first market to list dual-counter RMB equities. Up to the latest date known, there are only two dual-counter RMB equities on global exchanges. Both issuers have a significant weight of businesses in the Mainland. The first one, Shenzhen Investment Holdings Bay Area Development Company Limited (formerly Hopewell Highway Infrastructure, referred to as "SIHBAD"), had its RMB counter introduced on HKEX on 29 October 2012. The other, Yangzijiang Shipbuilding (referred to as "YZJ"), had its RMB counter introduced on Singapore Exchange (SGX) on 5 August 2013[35]. The businesses of both companies are transacted mainly in RMB. Therefore, trading in RMB of equities issued by issuers with core businesses in the Mainland, (i.e. the main currency for their business transactions is RMB) would probably offer a better currency match for investors.

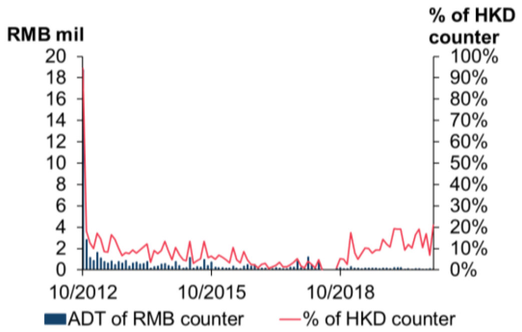
Offshore investors may choose to invest in local currency counters or RMB counters taking consideration of the currency denomination of their portfolios. Statistics showed that the RMB equity counter in Hong Kong has been more active than that in Singapore. The ADT of the RMB counter in the Hong Kong market was about RMB 0.01 million (about 19% of the turnover in the HKD counter) in 2020 while the RMB counter in Singapore has not been traded since August 2018 (see Figure 12). Possible reasons would be the larger offshore RMB liquidity pool in Hong Kong and the large investor base in Hong Kong who are proficient in investment in Chinese assets.

[34] Potential product developments discussed in this section, if to be considered, will be subject to market demand and regulatory approval.

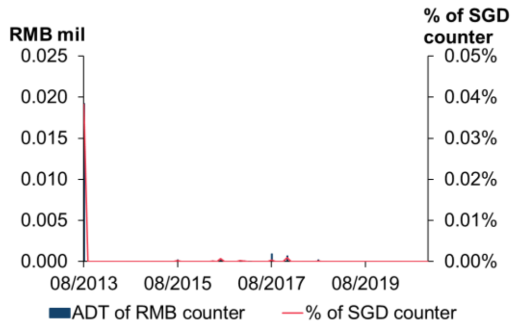
[35] Before introducing the RMB counter, YZJ issued Taiwan Depository Receipts (TDRs) in the Taiwanese market in September 2010 which, however, was delisted in June 2015. See "Proposed submission of application for delisting of Taiwan Depository Receipts on the Taiwan Stock Exchange", published on *yangzijiang-cn.listedcompany.com*, 27 April 2015.

Figure 12. ADT of RMB counters of equities in Hong Kong and Singapore (since launch up to 2020)

(a) SIHBAD (Hong Kong)



(b) YZJ (Singapore)



Source: Bloomberg.

Having RMB counters for the trading of equities listed in Hong Kong may be advisable for Mainland and international enterprises, particularly for those with core businesses in the Mainland or those who would like to attract Mainland investors to trade their stocks in RMB.

(2) RMB bonds

Among various offshore RMB businesses, offshore RMB financing has taken up an important part in the Hong Kong market. Hong Kong has long been the preferred place to issue offshore RMB bonds[36]. There are two main forms of RMB bonds in Hong Kong — dim sum bonds and synthetic bonds, the issuers of which include both governments and corporations. Dim sum bonds are issued and settled in RMB, while synthetic bonds are issued in RMB and settled in USD. In addition, since November 2018, the PBOC has gradually established a standing mechanism for issuing central bank RMB bills in Hong Kong.

Investors' investment strategy for the primary market subscription of offshore RMB bonds is mainly "buying and holding to maturity". So far, the interest rates advantage of offshore RMB bonds in comparison with bonds denominated in other currencies has attracted demand for offshore RMB bond issuance. Prior to 2014, the expected gains from RMB appreciation had been a main reason for investors' demand for offshore RMB bonds.

A large and growing offshore RMB liquidity pool has also contributed to offshore RMB bond issuance and demand. By the end of 2019, the pool of RMB assets in Hong Kong stood at RMB 658 billion, the largest in the world[37]. Meanwhile, the ADT through Bond Connect reached RMB 19.8 billion during 2020[38]. The trading value through Bond Connect reached 53% of the total trading value on the China Interbank Bond Market (CIBM) in 2020[39], showing that Hong Kong is now acting as an important channel for international investors to access China's bond market.

36 See HKEX research report, "Hong Kong's role in supporting the fund-raising of Mainland private enterprises", published on the HKEX website, 13 June 2019.

37 "Enhancing Hong Kong's Status as Offshore RMB Business Hub through the Development of the RMB Asset Market", *Financial Services and Development Council (FSDC)'s Paper* No. 42, published on the website of FSDC, May 2020.

38 Source: Computed from data from the monthly Flash Reports of the Bond Connect Company Limited (BCCL).

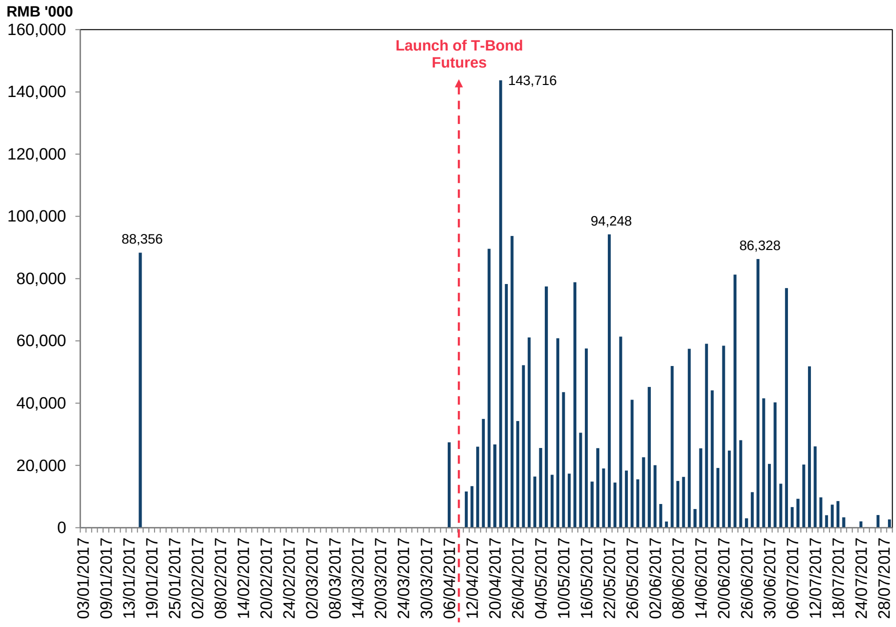
39 Source: BCCL for trading value through Bond Connect (RMB 419 billion in September 2020), CFETS Online for trading value through CIBM Direct (RMB 400 billion in September 2020).

Supporting factors for the offshore RMB bond market to further develop in terms of scale, liquidity and depth, together with a fair and efficient pricing mechanism, would include the following:

- ***Developing relevant indices on RMB bonds, whether issued and/or traded onshore or offshore, and enriching the suite of offshore RMB bond products*** — These would meet the needs of different types of bond investor; product types like green bonds and asset-backed securities (ABS) could be considered.
- ***Developing repurchase (repo) mechanism*** — Bond repos enable bond holders to source short-term financing by selling the bonds held and buy them back on an agreed future date and price. In addition to being an investment and short-term financing vehicle, bonds can also be used as collateral by bond holders to have access to funding from the market. Moreover, sound repo and collateral mechanisms are beneficial for increasing financial market liquidity, reducing counterparty credit risk and strengthening financial system stability.
- ***Developing relevant bond derivative products or hedging tools as well as relevant FX hedging instruments to help bond investors manage risk*** — Exchange rate risk, interest rate risk and credit risk are typically the most important risks faced by investors of RMB bonds. Active development of offshore financial derivatives for investors to hedge these risks would help improve the liquidity of RMB bonds. At present, Hong Kong's offshore RMB financial derivatives are mainly currency-related products, including RMB forwards and RMB futures and options against foreign currencies (USD and others). It would be advisable to provide a wider variety of hedging tools for offshore RMB bond investments.

  Possible hedging tools would include RMB bond futures/options. Figure 13 below provides some empirical evidence on the merit of RMB bond futures. RMB bond trading in Hong Kong recorded a significant surge in the subsequent months after the introduction of the Ministry of Finance Treasury Bond Futures (MOF T-Bond Futures). In April 2017 when the MOF T-Bond Futures were launched, the share of RMB bond trading in the monthly total turnover of RMB securities on HKEX shot up to 61%, and gradually dropped to 27% in July. For the four months from April to July 2017, RMB bonds contributed 45% of total RMB securities trading, compared to 3% in 2016. The trend of daily trading value of RMB bonds illustrated an increase in trading activities during April to July 2017, which coincides with the availability period of the MOF T-bond Futures in the market.

Figure 13. Daily trading of RMB bonds listed on HKEX before and after launch of MOF T-Bond Futures



Source: HKEX.

(3) RMB ETFs

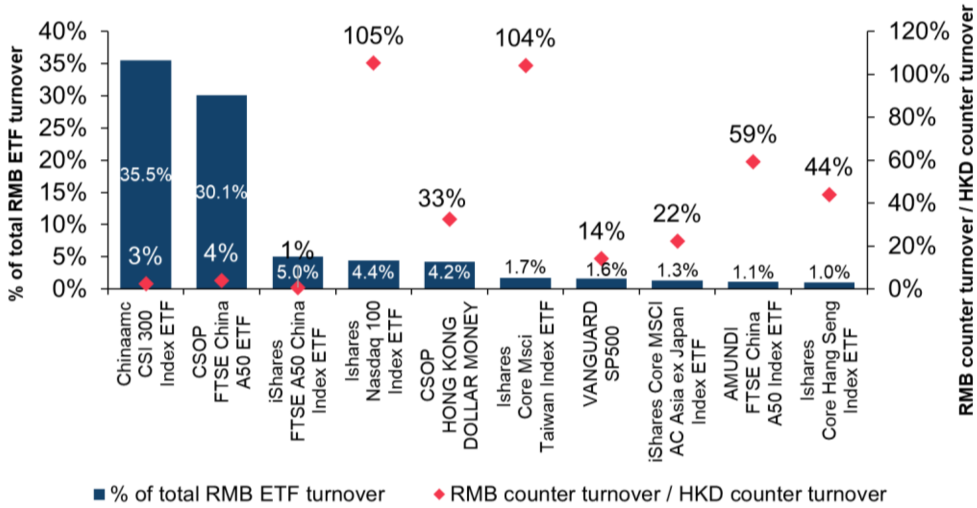
RMB ETFs accounted for the largest share of offshore RMB securities in Hong Kong in terms of number of products and turnover value (see Section 2). Issuers of most of these RMB ETFs also choose to have HKD counters for trading (see Appendix 1). In the Hong Kong market, issuers can issue ETF units in different currencies through cash-settled transactions in the primary market to meet investors' preference on currency denomination. Issuing units in RMB counters for ETFs with RMB underlying assets would minimise currency risk, e.g. paying dividends in RMB without currency conversion. ETFs with RMB as the base currency of the underlying assets are likely to have RMB counters. As of end-2020, 23 out of 33 ETFs (70%) with RMB as the base currency had RMB counters; in comparison, only 18 out of 84 ETFs (21%) with other currencies as the base currency had RMB counters[40].

The wide range of RMB ETFs in Hong Kong are attractive to investors for diversification. RMB ETFs in Hong Kong cover indices on Mainland stocks and bonds as well as various overseas stock markets, compared to only three RMB counters of ETFs on Mainland stocks and bonds in the Taiwanese market, one RMB counter of a ETF on Mainland bonds on SGX, and none on other markets as known[41]. Trading of RMB ETFs in Hong Kong has been dominated by A-share ETFs. Of these, ChinaAMC CSI 300 Index ETF (stock code: 83118) and CSOP FTSE China A50 ETF (stock code: 82822) contributed 35.5% and 30.1% of the total turnover of RMB ETFs during January to September 2020, but trading of RMB counters of these A-share ETFs was less active than their respective HKD counters (see Figure 14). Overseas index ETFs with RMB counters include those on US stock indices, HKD money market and stock indices in Hong Kong, Asia Pacific and emerging markets. Trading of certain of these RMB ETFs, e.g. ETFs on NASDAQ 100 Index and Taiwanese stock index, were even more active than those of their respective HKD counters. These observations might reflect the preference of the underlying investors trading ETFs on indices of different markets (see further discussion below).

40 Source: HKEX.

41 Source: See Appendix 2.

Figure 14. Share of RMB ETF turnover value and the ratio of RMB counter turnover value to HKD counter turnover value for top 10 most active RMB ETFs in Hong Kong (Jan-Sep 2020)

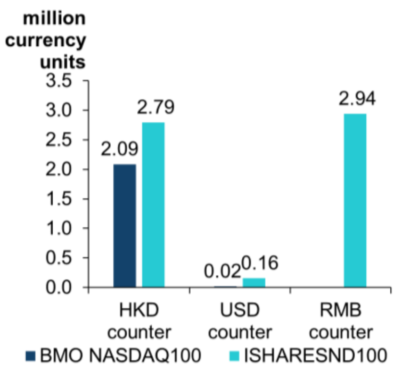


Source: Wind.

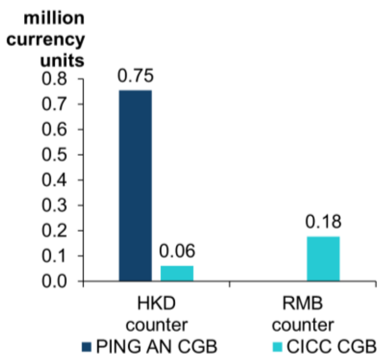
Mainland investors eligible to access the Hong Kong market and offshore investors with RMB portfolios may prefer investing in RMB counters of ETFs. For diversification purposes, such preference may not limit to Mainland underlying assets only. For illustration, there are two ETFs on NASDAQ 100 Index issued by iShares (referred to as “ISHARESND100”, with an RMB counter) and BMO (referred to as “BMO NASDAQ100”, without an RMB counter), and two ETFs on Chinese bonds issued by CICC (referred to as “CICC CGB”, with an RMB counter) and Ping An (referred to as “PING AN CGB”, without an RMB counter) in Hong Kong. For the ETFs on NASDAQ 100 Index, during January to September 2020, ISHARESND100 had a higher ADT than BMO NASDAQ100 and its RMB counter recorded the most active trading among all currency counters of the ETF (see Figure 15a). As for the ETFs on Chinese bonds, the RMB counter of CICC CGB was also more active than its HKD counter, though the total ADT of all its currency counters was lower than that of PING AN CGB (see Figure 15b).

Figure 15. ADT of ETFs on NASDAQ 100 Index and Chinese bonds in Hong Kong (Jan-Sep 2020)

(a) ETFs on NASDAQ 100 Index



(b) ETFs on Chinese bonds



Note: BMO NASDAQ100 and PING AN CGB are ETFs without RMB counters.

Source: Wind.

These observations hint at the potential demand for various types of underlying asset in different currency denominations for RMB investment in the Hong Kong ETF market. If the scope of RMB ETFs can be expanded further to cover a wider range of asset classes (e.g. fixed income, currencies or commodities) or investment strategies (e.g. active or smart beta strategies), more Mainland and global investors may be attracted to invest in RMB ETFs in Hong Kong.

In particular, Chinese bond ETFs denominated in RMB are believed to have a high growth potential in Hong Kong. This will be supported by the fast growth momentum of China's bond market (now the second largest in the world[42]), the relatively large offering of offshore listed RMB bonds (see Section 2.2) and the increasing global demand following the inclusion of Chinese bonds into global bond indices[43]. In Hong Kong, the access to onshore RMB bonds in the China Interbank bond market is facilitated by Bond Connect, the scope of which may possibly be extended to the burgeoning listed bond markets in the Mainland and Hong Kong[44]. These would stimulate the further development of Chinese bond indices and of ETFs on these indices.

Apart from RMB ETFs, in order to attract more overseas investors, the product range can be expanded by introducing cross-listing of ETFs. In August 2020, the first batch of cross-listed ETFs between the Mainland and Hong Kong was approved (two in Shenzhen and two in Hong Kong) such that a feeder fund listed on one market can invest in at least 90% of an ETF listed on the other market through RQFII or QDII schemes[45]. These ETFs were subsequently listed on the Shenzhen Stock Exchange (SZSE) and the Stock Exchange of Hong Kong (SEHK) respectively on 23 October 2020[46]. One of the feeder ETFs listed in Hong Kong has a RMB counter in addition to its HKD counter for trading. More feeder ETFs listed in Hong Kong with RMB counters for investing in Mainland-listed ETFs will widen the offshore RMB investment choices in the Hong Kong market. The offshore access of Mainland-listed ETFs can be further facilitated by expanding the Connect schemes between Mainland and Hong Kong markets onto ETFs[47].

(4) RMB REIT

To date, there has been only one RMB REIT listed in Hong Kong (Hui Xian REIT, stock code: 87001) and none on other overseas markets as known. This REIT would therefore only be an anecdotal case for illustration on how an RMB REIT meets the needs of issuers and investors. The underlying assets of Hui Xian REIT are Mainland commercial properties, which are a unique kind among RMB securities in Hong Kong. Having a RMB counter, the issuer can minimise currency mismatch (e.g. for dividend payment).

Given its unique sector exposure, the RMB REIT could possibly meet investors' needs for diversification. Investors may also be attracted by the relatively high dividend yield — the yield of Hui Xian REIT was about 7% as of end-September 2020 compared to about 3% yield for offshore RMB deposits[48]. In the absence of market making, the turnover value in the RMB REIT was relatively active in comparison with the most actively traded RMB ETFs which are supported by market makers — its ADT was RMB 14.9 million (about 46%

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42 Source: "China becomes world's second largest bond market", *Xinhua*, 29 June 2019.

43 See HKEX research report, "The inclusion of China into global bond indices: Current status and future development", published on HKEX's website, 7 June 2018.

44 See HKEX research report, "The rising on-exchange bond market in Mainland China and Hong Kong", published on HKEX's website, 9 September 2020.

45 "Hong Kong-Mainland ETF cross-listing approved", news release on the Hong Kong Securities and Futures Commission (SFC)'s website, 28 August 2020.

46 See "HKEX welcomes first Hong Kong/Mainland ETF cross-listing", news release on HKEX's website, 23 October 2020.

47 Subject to regulatory approval.

48 Source: Bloomberg.

of the most actively traded RMB ETF (83118)'s RMB turnover and 54% of the second most active RMB ETF (82822)'s RMB turnover) during January to September 2020.

If RMB counters are available for other REITs or more different kinds of REIT are listed with RMB counters in the Hong Kong market and for Southbound trading under Stock Connect, these REITs may be attractive to Mainland and global investors for diversification.

(5) RMB-denominated indices and related products

In Hong Kong, a number of RMB-denominated indices have been developed by the domestic major index provider, Hang Seng Indexes Company Limited (HSIC), covering a wide range of RMB-denominated assets in the Mainland and Hong Kong. These include 9 indices on Mainland-listed stocks, 41 cross-market indices on stocks listed in the Mainland and Hong Kong, 4 strategy indices using offshore RMB exchange rates for index calculation and 7 indices on offshore RMB bonds[49]. Globally, major index providers also offer indices tracking Mainland onshore equities and bonds. MSCI, for example, offers 43 China country indices on Mainland A shares and a large number of sub-indices with different investment styles (e.g. environmental, social and governance (ESG), sector and smart beta factors etc)[50]. S&P offers at least 47 equity indices covering A shares and 17 bond indices covering onshore Chinese bonds[51]. In addition to local market indices, Chinese securities are also included in the regional and global indices of these index providers. These indices can serve as the benchmarks or underlying indices of various RMB-denominated assets for the innovation of RMB investment products.

The further development of RMB-denominated indices in Hong Kong and globally covering a wider spectrum of investment strategies and RMB-denominated asset classes would be conducive to offshore RMB investment. This will also contribute to the increasing global investment fund flows into Mainland assets like equities and bonds.

(6) RMB derivatives

The Hong Kong market offers the largest number of exchange-traded RMB derivatives among world markets outside Mainland China. Currently, the RMB derivatives on the exchange market in Hong Kong comprise currency and commodity derivatives for hedging against exchange rate risk and commodity price risk or for related RMB portfolio management (see Section 2 and Appendix 2 for details of products).

To meet the potential risk management needs for offshore RMB asset management, the available suite of RMB derivatives need to have a wider coverage of different asset classes and with relatively low trading cost. These would include RMB-denominated futures and options on RMB equities, RMB bonds and RMB ETFs as well as on their respective indices. The potential introduction of these RMB derivatives can support the risk management of offshore RMB portfolios, thereby help attracting greater participation of global investors in the investment and trading of offshore RMB assets and support the growth of offshore RMB liquidity pool.

(7) RMB green and sustainable finance and ESG products

Green and sustainable finance (GSF) and related thematic products in ESG domains are also potential targets for offshore RMB investment. GSF and ESG product development in

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49 Source: HSIC website (https://www.hsi.com.hk/eng/indexes/all-indexes), viewed on 15 January 2021.

50 Source: "End of day index data search", MSCI's website, searched and viewed on 15 January 2021.

51 Source: "Index Finder", S&P Global's website, searched and viewed on 15 January 2021.

the global market has been strongly supported by governments and market demand across the world, including Hong Kong.

The Hong Kong market has been gearing up to offer the necessary infrastructure, including listing, trading and information platforms, to support the development of GSF and ESG products in the region. The Green and Sustainable Finance Cross-Agency Steering Group of seven agencies was established in May 2020 and subsequently launched its strategic plan to strengthen Hong Kong's financial ecosystem to support a greener and more sustainable future in the long term[52]. HKEX, as a member of the Steering Group, launched the Sustainable and Green Exchange (STAGE) on 1 December 2020, which was Asia's first multi-asset sustainable investment product platform to provide greater access and transparency on GSF/ESG products and their sustainable finance-related information. At launch, there were 29 sustainable-themed products from leading Asian corporates, including sustainability, green, social or transition bonds and ESG-themed ETFs listed on HKEX, which have their information disclosed on STAGE[53]. Among them were two RMB green bonds and one ESG-themed RMB ETF tracking an A-share index.

A diversified range of RMB-denominated GSF/ESG products and tools could be developed to serve the coupling increasing demands for ESG and offshore RMB investments. These may include carbon trading and fixed-income products of green bonds and green ABSs (including related indices, ETFs and derivatives).

By and large, an increase in the variety of products on different underlying assets, including Mainland and global assets, whether equities, fixed-income, currencies, commodities, structured products or GSF/ESG products, with RMB trading counters would be conducive to the further growth in the demand of offshore investors for RMB portfolio investments, and of onshore Mainland investors for global asset allocation and diversification without the chores and costs of currency conversion. Offshore RMB securities trading and the building up of the offshore RMB liquidity pool could be further facilitated if these RMB counters, as appropriate, are included into Southbound trading under the Connect schemes. Continuous development of diverse indices on RMB-denominated assets will serve as a catalyst as well. Alongside, more RMB derivatives and risk management tools should be offered to meet potentially increased demands for hedging and portfolio management purposes.

3.3 Potential extension of market connectivity

The Hong Kong market has been playing an important role in facilitating cross-border two-way flows of RMB, providing a variety of offshore RMB assets for investment and portfolio management, and thereby in supporting RMB internationalisation. In particular, the Mainland-Hong Kong market connectivity schemes of Stock Connect and Bond Connect enable global investors' access to the onshore market through Northbound trading and the RMB investment flows from Mainland investors into the offshore market through Southbound trading (only Stock Connect for the moment). A potential extension of market connectivity could further enhance both onshore and offshore RMB liquidity, thereby promoting the circulation of the RMB across onshore and offshore markets.

(1) Enhanced onshore liquidity through Connect schemes

The Northbound trading of Stock Connect and Bond Connect schemes have facilitated the offshore RMB investment flows in the Hong Kong market into the A-share market and the

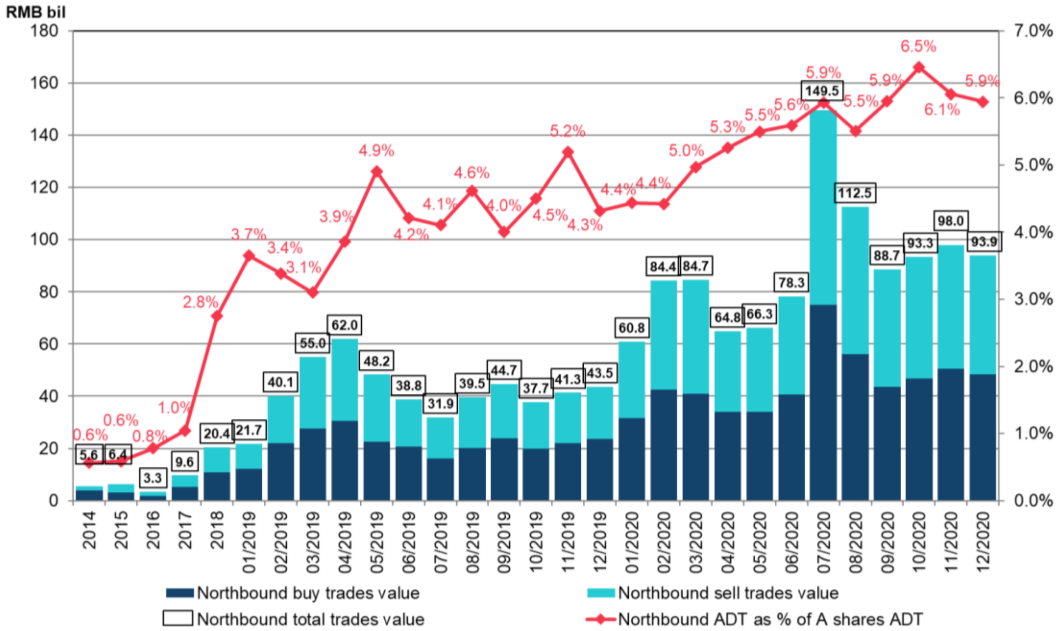
[52] The seven agencies are HKMA, the Securities and Futures Commission, the Environment Bureau, the Financial Services and the Treasury Bureau, HKEX, the Insurance Authority and the Mandatory Provident Fund Schemes Authority. See: "Cross-Agency Steering Group launches its strategic plan to strengthen Hong Kong's financial ecosystem to support a greener and more sustainable future", press release on the HKMA's website, 17 December 2020.

[53] See "HKEX launches STAGE, its sustainable and green exchange", news release on HKEX's website, 1 December 2020.

CIBM in the Mainland respectively. These have widened the choices of RMB products to global investors with RMB portfolios for asset allocation and diversification, and have contributed to the increase of foreign participation in Mainland equities and bonds. Trading activities of foreign investors through the schemes will increase two-way RMB investment flows in a controlled manner.

Offshore investors' trading of eligible A shares through Stock Connect as percentage of total A-share turnover value reached a record high of 6.5% in October 2020, and remained at a high level of 5.9% in December 2020 (see Figure 16). Northbound trading is available for 1,459 A shares (574 in Shanghai and 885 in Shenzhen) as of the end of 2020[54]. Since May 2018, global index providers started to include A shares into major global indices. As of September 2020, Mainland A shares accounted for about 4%-6% of the holding in the emerging market indices of MSCI, FTSE Russell and S&P Dow Jones[55]. Along with this is the uptrend of ADT of A shares through Northbound Stock Connect since 2018, reflecting the active usage of this channel for passive investment flows tracking the index performance. By the end of September 2020, the cumulative investment value in the A-share market through Northbound Stock Connect amounted to RMB 1,202.4 billion (US$184.1 billion) (see Figure 17). It was estimated that there will be a total inflow of US$400 billion over the next decade as a result of the inclusion of A shares into the global indices[56]. Northbound Stock Connect is believed to be a major channel for the inflow.

Figure 16. Average daily total Northbound trading value through Stock Connect (From launch to Dec 2020)



Note: Data starts from 17 Nov 2014 when Shanghai Connect was launched. Shenzhen Connect is included since launch on 5 Dec 2016.

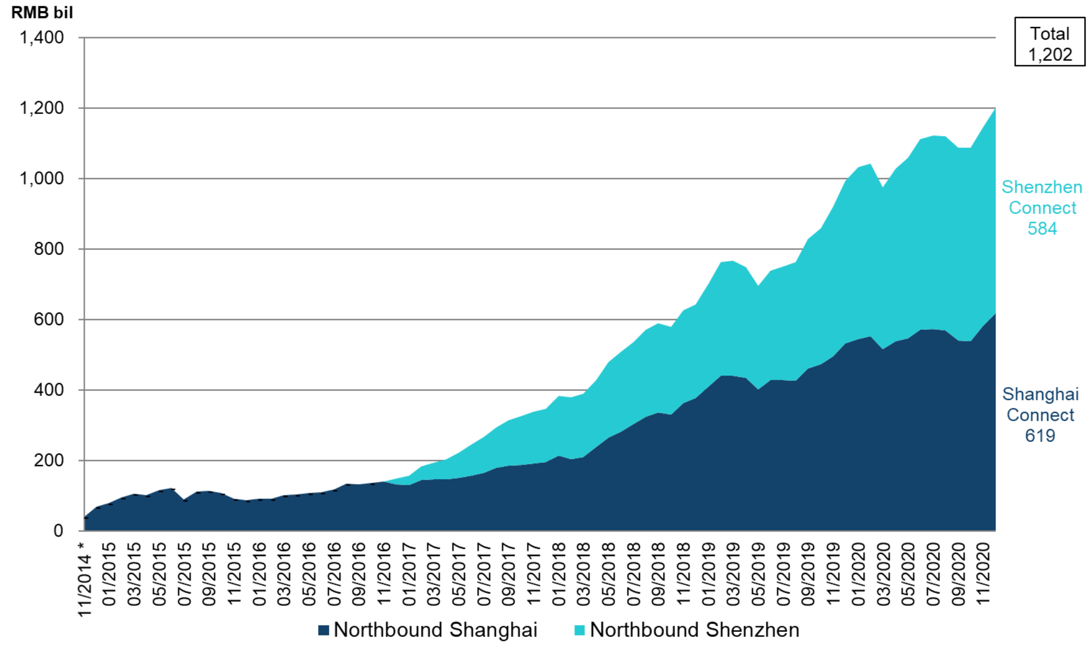
Source: HKEX.

54 "List of SSE Securities/China Connect Securities (stocks eligible for both buy and sell)" and "List of SZSE Securities/China Connect Securities (stocks eligible for both buy and sell)", published on HKEX's website, viewed on 31 December 2020.

55 Source: "Emerging markets since China A shares' inclusion", published on the website of MSCI, 5 December 2019; "FTSE Russell completes landmark inclusion of China A Shares", published on the website of FTSE Russell, 22 June 2020; "China A-Share Inclusion – An Update One Year Later", published on the website of S&P Global, 26 September 2020.

56 Source: "Guest Viewpoint: The growing influence of index providers", published on the website of Investment and Pensions Europe (IPS), September 2020.

Figure 17. Cumulative Northbound investment value through Stock Connect (From launch to Dec 2020)



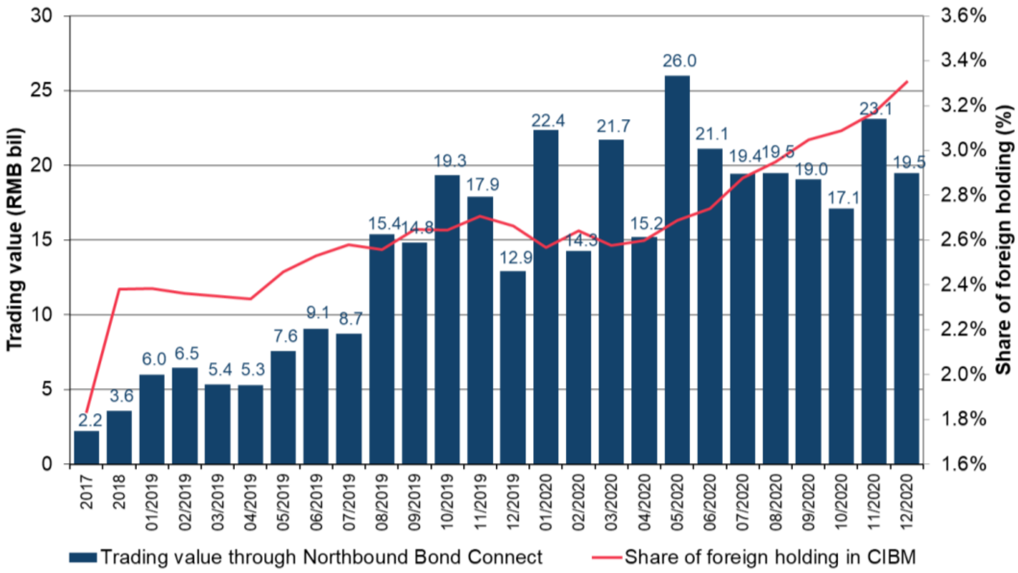
Note: Data starts from 17 Nov 2014 when Shanghai Connect was launched. Shenzhen Connect is included since launch on 5 Dec 2016.

Source: HKEX.

Since the launch of Northbound trading of Bond Connect in July 2017, foreign participation in the Mainland bond market increased gradually — by the end of 2020, the holdings of Mainland bonds by foreign institutions as percentage of the total outstanding amount reached a record high of about 3.3% and Northbound ADT in December 2020 has grown by 442% relative to the year of 2018 (see Figure 18). The investment flows of offshore investors into Chinese bonds have been facilitated by the inclusion of Chinese bonds into the global indices, including the Bloomberg Barclays Global Aggregate Index and JP Morgan's Government Bond Index Emerging Markets (GBI-EM), since April 2019. It was estimated that the total inflows into Chinese bonds would increase from the range of RMB 800 billion-RMB 1 trillion in 2020 to the range of RMB 1 trillion-RMB 1.2 trillion in 2021[57]. Bond Connect has established itself as an efficient and convenient channel for global investment flows into Mainland bonds, with Northbound trading contributing the majority of the total trading value (53% in 2020) on the CIBM (see Figure 19).

[57] "China Fixed Income – The impact of FTSE Russell inclusion and relative attractiveness of China bonds", published on the website of Manulife Investment Management, 16 October 2020.

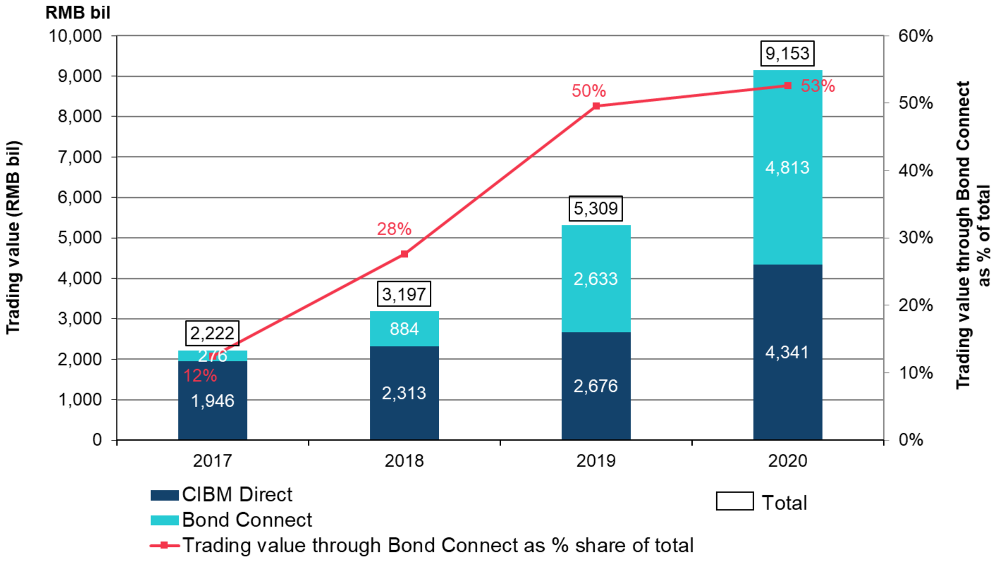
Figure 18. Average daily Northbound trading value through Bond Connect and the share of foreign holdings of bonds in CIBM (2017 – Dec 2020)



Note: The average daily turnover is calculated by dividing the total turnover by the number of trading days in each period.

Source: Data for Bond Connect turnover is obtained BCCL's monthly Flash Reports; data on foreign holding in CIBM is calculated from data obtained from CCDC's and Shanghai Clearing House's websites.

Figure 19. Percentage share of trading through Bond Connect in the total trading value on CIBM (2017 – 2020)



Note: Bond Connect was launched on 3 July 2017.

Source: Data for Bond Connect is obtained BCCL's monthly Flash Reports; data on CIBM Direct is obtained from CFETS Online report on Wechat (since June 2019).

The admission of Chinese assets into more global indices are expected to follow. The global equity index providers have completed the initial phases to include A shares into their benchmark global indices in 2020 with inclusion factors ranged from 20% to 25% for the calculation of weightings[58]. These inclusion factors may be further expanded as the

58 See "MSCI will increase the weight of China A shares in MSCI indexes", published on MSCI's website, 28 February 2019; FTSE Russell completes landmark inclusion of China A shares", published on the FTSE Russell's website, 22 June 2020; "China A-share inclusion — An update one year later", published on S&P Global's website, 26 September 2020.

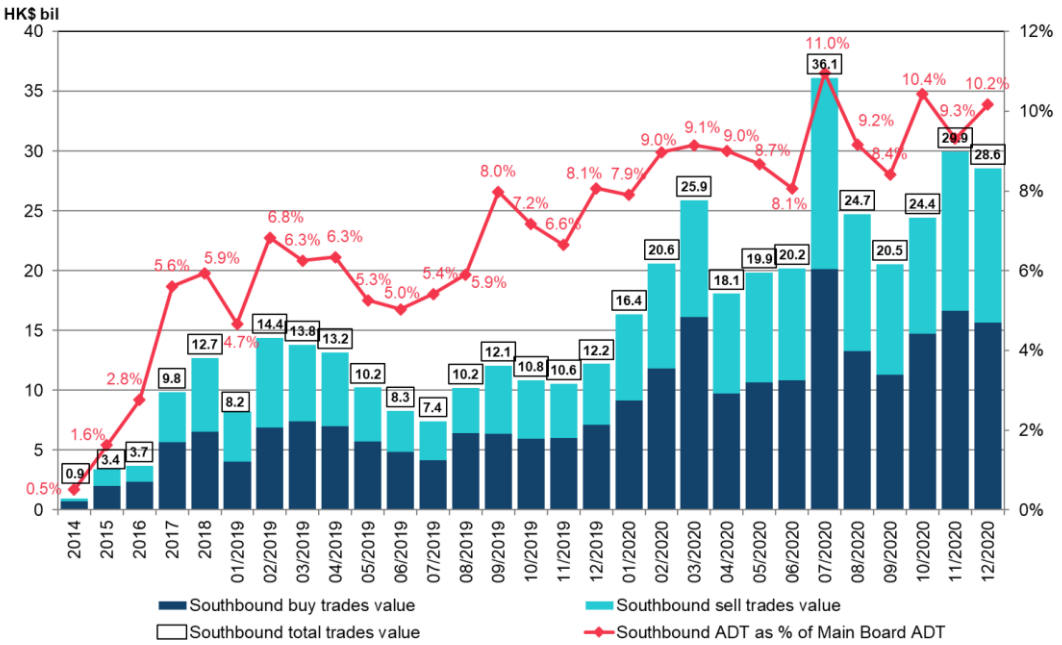
Mainland market accessibility continues to improve[59]. The next one is the planned inclusion of Chinese bonds into FTSE Russell's World Government Bond Index (WGBI) starting from October 2021. Together with the inclusions of Chinese bonds into other global indices, it was estimated that the total inflows from these inclusions would reach US$320 billion[60]. This will further drive global investment portfolios to take up Chinese assets.

(2) Enhanced offshore liquidity through Connect schemes

Currently, only Stock Connect allow Southbound trading by Mainland investors to invest in the Hong Kong market. Under the scheme, Mainland investors are allowed to trade eligible equity securities listed in Hong Kong using their RMB funds in the Mainland after conversion into HKD for settlement in Hong Kong. The closed-loop design of Stock Connect ensures that the Mainland funds cannot be used in the offshore market for investment or speculation in asset classes other than the eligible securities under the scheme and the sales proceeds will be converted back into RMB and remitted to the Mainland. In this way, the growing demand for Mainland investors for global asset allocation could be entertained through Southbound trading under Stock Connect in a controlled manner.

Since the introduction of Stock Connect in 2014[61], the Southbound ADT has been trending up, with its share in the Mainboard ADT rising from less than 1% in the launch year to as high as 11% in July 2020 (see Figure 20). Cumulative Southbound investment flows reached HK$1,730.4 billion by December 2020 (see Figure 21). These statistics show the strong demand of Mainland investors for offshore investment products and the expected increasing growth trend of investment outflows from Mainland China.

Figure 20. Average daily total Southbound trading value (From launch to Dec 2020)



Note: Data starts from 17 Nov 2014 when Shanghai Connect was launched. Shenzhen Connect is included since launch on 5 Dec 2016.

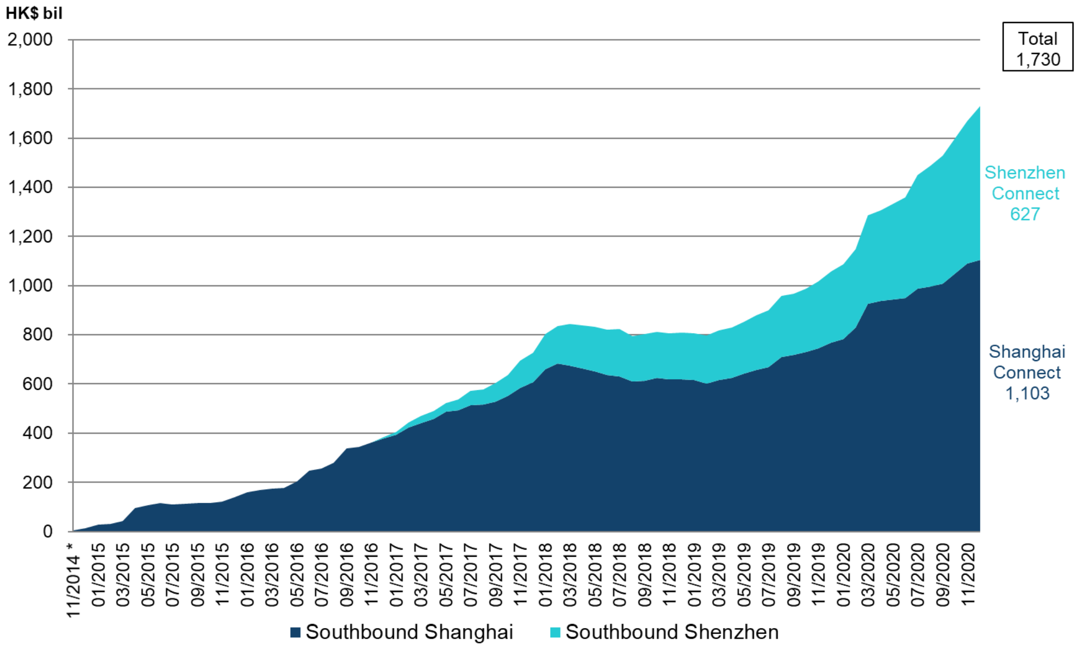
Source: HKEX.

[59] See "Further weight increase of China A shares in MSCI indexes", published on the MSCI's website, February 2019.

[60] "Chinese government bonds to be on key index", published on the website of China Council for the Promotion of International Trade (CCPIT), 27 September 2020.

[61] The Shanghai-Hong Kong Stock Connect was launched on 17 November 2014; the Shenzhen-Hong Kong Stock Connect was subsequently launched on 5 December 2016.

Figure 21. Cumulative Southbound investment value through Stock Connect (Nov 2014 – Dec 2020)



Note: Data starts from 17 Nov 2014 when Shanghai Connect was launched. Shenzhen Connect is included since launch on 5 Dec 2016.

Source: HKEX.

Built on the success of the Stock Connect and Bond Connect schemes, the Mainland-Hong Kong market connectivity model, if extended to provide for a wider Northbound and Southbound access to a comprehensive range of asset classes and possibly for trading in RMB in the offshore market, is believed to contribute to active two-way RMB investment funds flows in a controlled manner between the onshore and offshore markets. This would speed up the building up of the offshore RMB liquidity pool and the advancement of RMB internationalisation.

Potential new asset classes to be included into the Connect schemes may include ETFs, bonds and GSF/ESG products (see Section 3.2 above). As reported, the authorities in the Mainland and Hong Kong are exploring the Southbound trading of listed bonds and ETFs in Hong Kong[62].

One consideration is about the trading and settlement currency. Notably, eligible securities for Southbound trading under Stock Connect are currently all HKD counters. Mainland investors would have to do currency conversion for settlement and would therefore incur conversion costs (price spreads) and exchange rate risks. As discussed in Section 3.2 above, providing RMB counters for a variety of security types would support the building up of the offshore RMB liquidity pool. Apart from participation from offshore investors, RMB counters would possibly largely attract trading from Mainland investors. If the Connect schemes could be expanded to cover RMB counters of multiple types of security, this would facilitate offshore investments by Mainland investors and the outflow of RMB from onshore to offshore. It is also expected to boost the trading of offshore RMB products in Hong Kong. Although there might be a certain degree of liquidity diversion from the HKD counters of the products with dual counters, the overall liquidity of these products would not be impacted and might possibly be enhanced.

62 See "Formulating new policies for "Southbound Connect" and accelerating the two-way opening up of bond market" (〈「南向通」正在制定新方案　債券市場雙向開放提速〉), *Financial News* (《金融時報》); "Christopher Hui: Striving for ETF Connect and Southbound Bond Connect" (〈許正宇：正爭取 ETF 通和南向債券通〉), *TaKungPao* (《大公報》), 30 June 2020.

Secondly, only Northbound trading is currently available under Bond Connect. The Mainland and Hong Kong regulatory authorities have commenced study on introducing Southbound trading[63] to facilitate Mainland investment in offshore fixed-income securities, which would possibly include RMB bonds and foreign currency bonds in Hong Kong.

Thirdly, apart from secondary market trading, the Stock Connect schemes may extend to cover the primary market of shares issuance (Primary Equity Connect)[64]. Under such initiative, Mainland investors may subscribe for shares of initial public offerings (IPOs) in Hong Kong using RMB (Southbound), and global investors may subscribe for IPO shares in the Mainland using RMB (Northbound). Upon listing of the IPO shares in one market, trading by investors from the other market would be enabled though the existing Stock Connect schemes. This will offer an innovative way to facilitate RMB capital account convertibility, and the cross-border circulation of RMB[65].

Enhanced two-way flows of RMB through the Connect schemes with expanded scope would effectively help activating offshore RMB products market, support the building up of the offshore RMB liquidity pool and hence further facilitate RMB internationalisation.

3.4 Potential enhancements of market infrastructure and services

The Hong Kong market has been undergoing continuous enhancements in the market infrastructure to improve the efficiency of issuance, trading and settlement of investment products, including RMB products. The exchange platform in Hong Kong assumes a key role among the market infrastructure.

In respect of the overall market infrastructure, both the trading system, and clearing and settlement systems have been enhanced:

- In February 2018, HKEX introduced its new trading system, the Orion Trading Platform – Securities Market (OTP-C), for all securities listed on the SEHK[66], which include listed RMB securities;
- In May 2019, the market saw the first listed non-government bond offered to public (retail) investors through HKEX's Central Clearing and Settlement System (CCASS) only, along with private placement to professional investors[67];
- In June 2020, HKEX introduced a new spread table (with smaller tick sizes than equities) and a new set of market making obligations specifically for exchange-traded products (ETPs) to support the liquidity of ETFs listed in Hong Kong[68], which include RMB ETFs
- In May 2020, HKEX expanded the coverage of Volatility Control Mechanism (VCM) in the securities market. The stock coverage was expanded from the constituents of Hang Seng Index (HSI) and Hang Seng China Enterprises Index (HSCEI) to all constituent stocks of Hang Seng Composite LargeCap, MidCap and SmallCap Indexes. VCM is a stock-level

63 See "Hong Kong, Mainland studying framework of Southbound Bond Connect", *Xinhua*, 3 December 2020.

64 Subject to regulatory approval.

65 See HKEX research paper, "Primary Equity Connect — A breakthrough opportunity for Mainland-Hong Kong Mutual Market connectivity and RMB internationalisation", published on the HKEX website, 28 August 2017.

66 See "HKEX sets launch date for new securities trading system", news release on HKEX's website, 23 January 2018.

67 See "HKEX welcomes first non-government retail bond", news release on HKEX's website, 23 May 2019.

68 See "HKEX to introduce new initiatives to enhance liquidity of ETPs", news release on HKEX's website, 18 May 2020.

price volatility control which would trigger a five-minute cooling-off period in case of abrupt price volatility in applicable securities[69];

- In October 2020, HKEX implemented a range of enhancements to the Pre-Opening Session (POS) in the securities market. The enhancements to POS involve adopting relevant auction features from the more-established Closing Auction Session (CAS), with the aim of further improving price discovery and trading liquidity[70].

In respect of the Connect schemes, a series of enhancements have also been implemented. For Stock Connect since its launch in 2014, these include the following:

- Enhancing the clearing and settlement efficiency by the introduction of Special Segregated Accounts in 2015 for clearing and Real-time Delivery versus Payment (DVP) in 2017 for the settlement of Northbound transactions[71];
- Expanding the scope of Southbound trading into stocks with weighted voting right structures upon rules revision by the SSE and SZSE in October 2019[72];
- Introducing Master Special Segregated Account (SPSA) in July 2020 to facilitate more efficient pre-trade checking of Northbound sell orders and average pricing execution at the fund manager level[73];
- Since December 2020, eligible pre-revenue biotech companies listed in Hong Kong have been included for Southbound trading. Since February 2021, eligible A shares listed on the SSE's Sci-Tech Innovation Board (STAR Market) and their corresponding H shares (if any) are included for trading under the Stock Connect[74];
- In November 2020, HKEX announced the introduction of HKEX Synapse platform for Stock Connect in the first quarter of 2022 to improve the efficiency and transparency of the settlement process of Northbound transactions across different time zones[75].

Enhancements of the Bond Connect scheme since its launch in July 2017 include the following:

- Enabling DVP settlement and pre-trade allocation for block trading distribution in August 2018[76];
- Adding Bloomberg as a new access channel in January 2019, in addition to Tradeweb at launch time[77];

[69] See "Launch of Volatility Control Mechanism (VCM) Phase 1 Enhancement on 11 May 2020", HKEX circular, 23 April 2020; "Volatility Control Mechanism (VCM)" webpage on HKEX's website, viewed on 16 December 2020.

[70] See "Launch of Pre-opening Session (POS) Enhancements on 19 October 2020", HKEX circular, 5 October 2020; "Trading mechanism of Pre-opening Session (POS) in the Securities Market", published on HKEX's website, October 2020.

[71] See "Celebrating 5 years of Stock Connect", news release on HKEX's website, 15 November 2019.

[72] See *Shanghai Stock Exchange's Implementation Measures on Shanghai-Hong Kong Stock Connect Business (2019 Revised)* (《上海證券交易所滬港通業務實施辦法（2019 年修訂）》), issued by the SSE, 18 October 2020; *Shenzhen Stock Exchange's Implementation Measures on Shenzhen-Hong Kong Stock Connect Business (2019 Revised)* (《深圳證券交易所深港通業務實施辦法（2019 年修訂）》), issued by the SZSE, 18 October 2020.

[73] See "HKEX to launch Master SPSA service on 10 July", news release on HKEX's website, 9 July 2020.

[74] See "HKEX announces Stock Connect expansion arrangements", news release on HKEX's website, 27 November 2020; "HKEX welcomes inclusion of STAR Market stocks into Stock Connect and further expansion of Southbound Stock Connect trading", news release on HKEX's website, 22 January 2020.

[75] See "HKEX to introduce Synapse, a settlement acceleration platform for Stock Connect", news release on HKEX's website, 24 November 2020.

[76] See "Flash report for Bond Connect – August 2018", published on the BCCL's website, 3 September 2018.

[77] See "Bloomberg Launches New Access Channels for China Bond Market", *Bloomberg*, 16 January 2019.

- In July 2020, the PBOC announced four new enhancements, including fee reduction, trading hour extension, expansion of trading platforms and enhancement in primary service offering[78].

In addition to the current Connect schemes, further enhancements in the market infrastructure, apart from STAGE (see Section 3.2), should be undertaken to support an increasing service scope for GSF and ESG product development and offerings. It is expected that the scope of coverage will be widened across asset classes, industries of issuer and geography spanning Mainland China, Hong Kong and beyond. Among which would be plenty of opportunities for RMB investments across the border (e.g. in the GBA) by Mainland and global participants.

Apart from the GSF/ESG dimension, potential opportunities also arise in respect of services relating to digital RMB (e-CNY). Mainland China is one of the first markets in the world to have embarked on the journey of central bank digital currency (CBDC) research with the launch of its Digital Currency/Electronic Payment (DC/EP) project. It has commenced the exploration of putting e-CNY into real-life testing in early 2019. Hong Kong, as the largest offshore RMB hub in the world, is well positioned to facilitate the exploration and expansion of potential use cases of e-CNY, e.g. using e-CNY to settle foreign exchange transactions involving RMB. Possible advancement in this respect is expected to improve the infrastructural services offered to RMB investments.

Possible further enhancements that could be explored to further activate the offshore RMB products market in Hong Kong may include the followings:

- Enhancement of holiday arrangements of Stock Connect schemes to accommodate different needs of global and Mainland investors;
- Enhancements in the post-trade (including clearing, settlement and custody) market infrastructure such as collateral system and services that would support repo transactions and more efficient portfolio management, and international central securities depository (ICSD) system and related services that would support cross-border securities trading;
- Expansion of the scope of market making mechanism from RMB ETFs to cover other RMB product types for supporting the secondary market liquidity;
- Operational enhancements such as streamlined procedure to facilitate and encourage the listing and trading of RMB products.

4. CONCLUSION

In the course of RMB internationalisation, an active offshore RMB market is a critical and indispensable supporting factor. The Hong Kong market has already developed itself into a leading offshore RMB hub in the world, in terms of the size of offshore RMB liquidity pool, the supply of offshore RMB investment products, the range of RMB derivatives for portfolio and risk management and the development of market infrastructure for RMB-traded assets.

With the strong support of the Chinese government policies in advancing Hong Kong’s roles as a global financial centre and an offshore RMB hub, Hong Kong could better serve the needs of Mainland and global issuers and investors through further enhancements and innovations of its RMB products and services. On the product side, these could include more RMB-traded securities covering the various types of equities, fixed-income securities, ETFs and REITs for extensive RMB asset allocation by investors, coupled with related tools such as repo instruments and RMB derivatives for RMB portfolio and risk management. On the service side, the potential expansion of the scope of the existing Mainland-Hong Kong market connectivity schemes would promote the circulation of the RMB across onshore and offshore

[78] See “Bond Connect Celebrates 3rd Anniversary”, published on the BCCL’s website, 3 July 2020.

markets; and the continuous enhancement of supporting market infrastructure could further activate the offshore RMB product market in Hong Kong. All these initiatives that leverage the advantageous position of the Hong Kong market would help advance RMB internationalisation through promoting the further building up of the offshore RMB liquidity pool and the increased utilisation of the RMB in the offshore market.

APPENDIX 1. LIST OF RMB-TRADED EQUITIES, ETFS AND REITS ON HKEX AND OVERSEAS EXCHANGES (END-2020)

HKEX				
Type	**Stock code**	**Product**	**Dual HKD counter**	**Dual USD counter**
Equity	80737	Shenzhen Investment Holdings Bay Area Development Co. Ltd.	00737	—
ETF	82805	Vanguard FTSE Asia ex Japan Index ETF	02805	09805
ETF	82811	Haitong CSI300 Index ETF	02811	—
ETF	82813	ChinaAMC Bloomberg Barclays ChinaTreaury+Policy Bk B Idx ETF	02813	—
ETF	82822	CSOP FTSE China A50 ETF	02822	—
ETF	82823	iShares FTSE A50 China ETF	02823	—
ETF	82828	Hang Seng China Enterprises Index ETF	02828	—
ETF	82832	Bosera FTSE China A50 Index ETF	02832	—
ETF	82833	Hang Seng Index ETF	02833	—
ETF	82834	iShares NASDAQ 100 ETF	02834	09834
ETF	82836	iShares Core S&P BSE SENSEX India ETF	02836	09836
ETF	82843	AMUNDI FTSE China A50 Index ETF	02843	—
ETF	82846	iShares Core CSI 300 ETF	02846	09846
ETF	83005	CSOP CSI 500 ETF	03005	—
ETF	83010	iShares Core MSCI Asia ex Japan ETF	03010	09010
ETF	83012	AMUNDI Hang Seng HK 35 Index ETF	03012	—
ETF	83031	Haitong MSCI China A ESG ETF	03031	09031
ETF	83053	CSOP Hong Kong Dollar Money Market ETF	03053	—
ETF	83074	iShares Core MSCI Taiwan ETF	03074	09074
ETF	83079	CICC Bloomberg Barclays China Treasury 1-10 Years ETF	03079	—
ETF	83081	Value Gold ETF	03081	09081
ETF	83085	Vanguard FTSE Asia ex Japan High Dividend Yield Index ETF	03085	09085
ETF	83093	CICC CSI Select 100 ETF	03093	—
ETF	83100	E Fund CSI 100 A-Share Index ETF	03100	—
ETF	83101	Vanguard FTSE Developed Europe Index ETF	03101	09101
ETF	83115	iShares Core Hang Seng Index ETF	03115	09115
ETF	83118	Harvest MSCI China A Index ETF	03118	—
ETF	83122	CSOP RMB Money Market ETF	03122	—
ETF	83126	Vanguard FTSE Japan Index ETF	03126	09126
ETF	83127	Global X CSI 300 ETF	03127	—
ETF	83128	Hang Seng China A Industry Top Index ETF	03128	—
ETF	83130	Hang Seng Harvest CSI 300 Index ETF	03130	—
ETF	83140	Vanguard S&P 500 Index ETF	03140	09140
ETF	83147	CSOP SZSE ChiNext ETF	03147	—
ETF	83149	CSOP MSCI China A Inclusion Index ETF	03149	—
ETF	83167	ICBC CSOP S&P New China Sectors ETF	03167	09167
ETF	83168	Hang Seng RMB Gold ETF	—	—
ETF	83169	Vanguard Total China Index ETF	03169	09169
ETF	83170	iShares Core KOSPI 200 ETF	03170	09170
ETF	83186	CICC KraneShares CSI China Internet Index ETF	03186	09186
ETF	83188	ChinaAMC CSI 300 Index ETF	03188	—
ETF	83197	ChinaAMC MSCI China A Inclusion Index ETF	03197	—
ETF	83199	CSOP Bloomberg Barclays Ch Treasury + Policy Bk Bond Idx ETF	03199	—
REIT	87001	Hui Xian Real Estate Investment Trust	—	—

APPENDIX 1. LIST OF RMB-TRADED EQUITIES, ETFS AND REITS ON HKEX AND OVERSEAS EXCHANGES (END-2020) (cont'd)

Overseas exchange	Type	Product
China Europe International Exchange (CEINEX) [Products traded on platforms of Deutsche Börse (DB)]	ETF	BOCI Commerzbank SSE 50 A Share Index UCITS ETF
London Stock Exchange (LSE)	ETF	ICBC Credit Suisse UCITS ETF SICAV
Singapore Exchange (SGX)	Equity	Yangzijiang Shipbulding Holdings Ltd
	ETF	NikkoAM-ICBCSG China Bond ETF
Taiwan Stock Exchange (TWSE)	ETF	Fubon SSE180 ETF
	ETF	Capital SZSE SME Price Index ETF
	ETF	Shin Kong 10 Years China Treasury Policy Bank Green Bond ETF

"—" : Not applicable.

Sources: HKEX for HKEX products; the respective exchanges' websites for their RMB products.

APPENDIX 2. LIST OF RMB CURRENCY FUTURES/OPTIONS ON HKEX AND OVERSEAS EXCHANGES (END-2020)

Exchange	Product	Contract size	Trading currency*	Settlement
HKFE	USD/CNH Futures	USD100,000	CNH	Deliverable
	USD/CNH Options	USD100,000	CNH	Deliverable
	EUR/CNH Futures	EUR 50,000	CNH	Cash settled
	JPY/CNH Futures	JPY 6,000,000	CNH	Cash settled
	AUD/CNH Futures	AUD 80,000	CNH	Cash settled
	CNH/USD Futures	RMB 300,000	USD	Cash settled
	INR/CNH Futures	INR 2,000,000	CNH	Cash settled
	CNH Gold Futures	1 kilogram	CNH	Deliverable
	CNH Silver Futures	30 kilograms	CNH	Deliverable
	London Aluminium Mini Futures	5 tonnes	CNH	Cash settled
	London Zinc Mini Futures	5 tonnes	CNH	Cash settled
	London Copper Mini Futures	5 tonnes	CNH	Cash settled
	London Lead Mini Futures	5 tonnes	CNH	Cash settled
	London Nickel Mini Futures	1 tonne	CNH	Cash settled
	London Tin Mini Futures	1 tonne	CNH	Cash settled
APEX	USD/CNH (Offshore RMB) Futures	USD 10,000	CNH	Cash settled
B3	Chinese Yuan Futures	CNY 350,000	BRL	Cash settled
BIST	CNH/TRY Futures	CNH 10,000	TRY	Cash settled
CME	Standard-Size USD/Offshore RMB (CNH) Futures	USD 100,000	CNH	Cash settled
	E-micro Size USD/Offshore RMB (CNH) Futures	USD 10,000	CNH	Cash settled
	Chinese Renminbi/USD Futures	CNY 1,000,000	USD	Cash settled
	Chinese Renminbi/Euro Futures	CNY 1,000,000	EUR	Cash settled
	Chinese Renminbi/USD Options on Futures	CNY 1,000,000	USD	Deliverable
	Chinese Renminbi/Euro Options on Futures	CNY 1,000,000	EUR	Deliverable
COMEX	Shanghai Gold (CNH) Futures	1,000 grams	CNH	Cash settled
DGCX	US Dollar / Chinese Yuan Futures	USD 50,000	CNH	Cash settled
	Shanghai Gold Futures	1 kilogram	CNH	Cash settled
ICE SGP	Mini Offshore Renminbi Futures	USD 10,000	CNH	Deliverable
	Mini Onshore Renminbi Futures	CNY 100,000	USD	Cash settled
JSE	Chinese Renminbi/Rand Currency Futures	CNY 10,000	ZAR	Cash settled
KRX	Chinese Yuan Futures	CNH 100,000	KRW	Deliverable
Matba Rofex	Yuan-China (Offshore CNH) Futures	CNH 5,000	ARS	Cash settled
	Yuan-China (Offshore CNH) Options on Futures	CNH 5,000	ARS	Cash settled
MOEX	CNY/RUB Exchange Rate Futures	CNY 10,000	RUB	Cash settled
SGX	CNY/SGD FX Futures	CNY 500,000	SGD	Cash settled
	CNY/USD FX Futures	CNY 500,000	USD	Cash settled
	CNY/USD FlexC Futures	CNY 500,000	USD	Cash settled
	EUR/CNH FX Futures	EUR 100,000	CNH	Cash settled
	SGD/CNH FX Futures	SGD 100,000	CNH	Cash settled
	USD/CNH FX Futures	USD 100,000	CNH	Cash settled
	USD/CNH FlexC Futures	USD 100,000	CNH	Cash settled
	USD/CNH FX Options on Futures	USD 100,000	CNH	Cash settled
TAIFEX	USD/CNH FX Futures	USD 100,000	CNH	Cash settled
	USD/CNT FX Futures	USD 20,000	CNH	Cash settled
	USD/CNH FX Options	USD 100,000	CNH	Cash settled
	USD/CNT FX Options	USD 20,000	CNH	Cash settled

* CNH = Offshore RMB; CNY = Onshore RMB

Abbreviations of exchanges:

APEX	Asia Pacific Exchange
BIST	Bursa Istanbul
B3	B3 – Brazil Bolsa Balcão
CME	Chicago Mercantile Exchange
COMEX	Commodities Exchange
DGCX	Dubai Gold and Commodities Exchange
HKFE	Hong Kong Futures Exchange, subsidiary of HKEX
ICE SGP	ICE Futures Singapore
JSE	Johannesburg Stock Exchange
KRX	Korea Exchange
MOEX	Moscow Exchange
Matba Rofex	Matba Rofex
SGX	Singapore Exchange
TAIFEX	Taiwan Futures Exchange

Sources: HKEX for HKEX products; the respective exchanges' websites for their RMB products.

Remark

This research report has made reference to views and feedback sought from market participants in Hong Kong.

Disclaimer

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