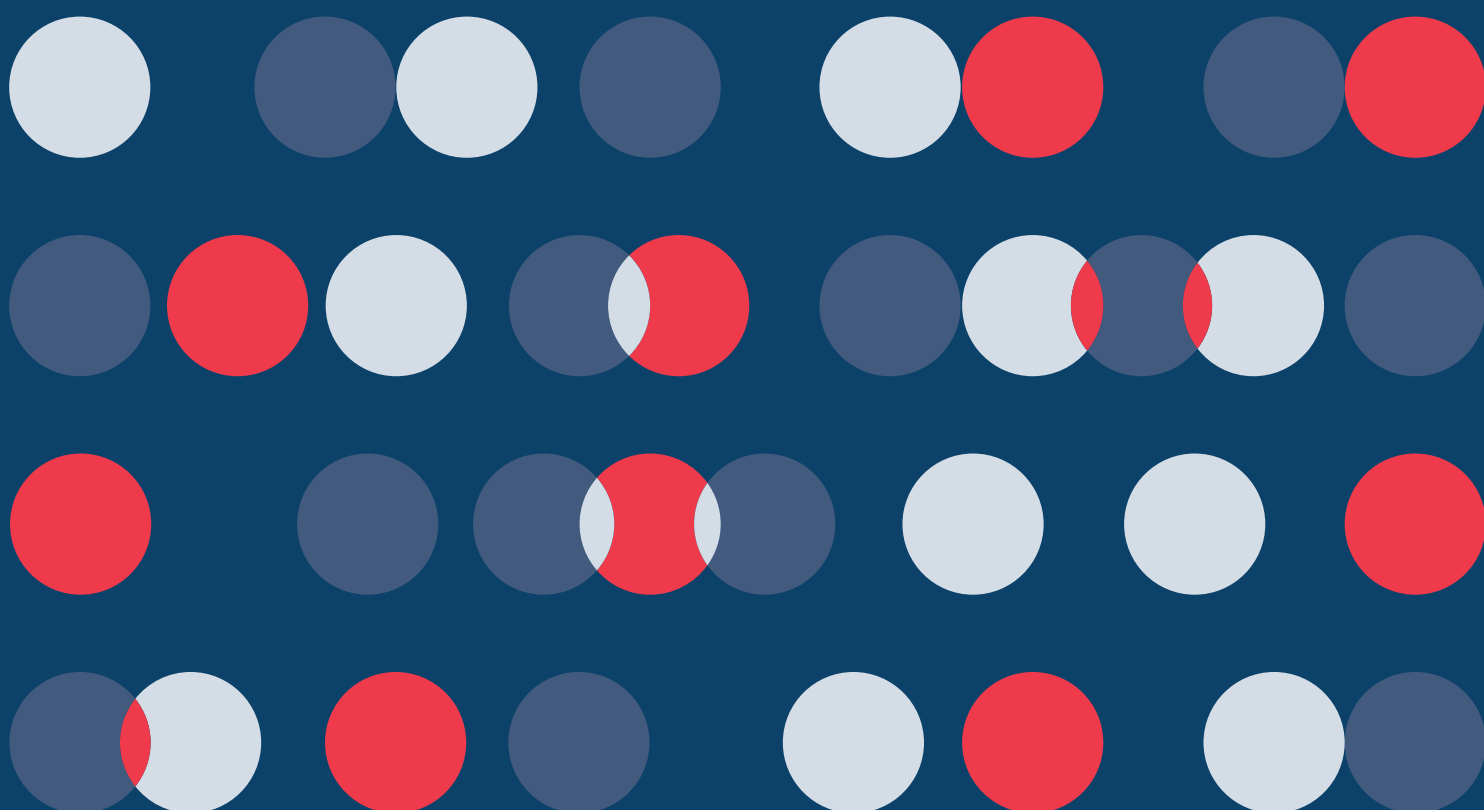


January 2019

RESEARCH REPORT

RMB EXCHANGE RATE MOVEMENTS AMID
GLOBAL TRADE FRICTION AND RMB EXCHANGE RATE
RISK MANAGEMENT TOOLS:
CNH FUTURES WITH MULTIPLE
CURRENCY PAIRS AND TENORS



CONTENTS

Page

Summary	1
1. Sino-US trade friction's significant impact on the exchange rates of emerging market currencies	2
1.1 Current progress of Sino-US trade friction.....	2
1.2 Impacts on exchange rates of the RMB and other emerging market currencies	2
2. More flexibility in the RMB exchange rate	5
2.1 Tightening of monetary policies in the US and Europe put pressure on exchange rates of emerging market currencies, triggering changes in global capital flows.....	5
2.2 Mainland's stabilising economic fundamentals support the RMB exchange rate in the medium-term.....	6
2.3 The volatility of the RMB exchange rate would increase steadily	8
3. The Importance of exchange rate risk hedging tools amid increased exchange rate volatility — The advantages and development of Hong Kong's exchange-traded market.....	10
3.1 Exchange-traded currency derivatives are characterised by high liquidity and high transparency	10
3.2 RMB currency futures with different currency pairs match the demand of investors in different regions for RMB exchange rate risk management	11
3.3 Offshore RMB futures prices track onshore RMB exchange rate closely that facilitates the hedging of RMB risks but limits the room for speculative short selling	12
3.4 Currency futures with multiple tenors enhance the efficiency of hedging.....	14
3.5 Keeping on enhancing the flexibility of the RMB futures market to satisfy the diverse needs for risk management	14
4. Strengthening Hong Kong's position as the offshore RMB products trading and risk management centre to support RMB internationalisation	15
Currency abbreviations	17

SUMMARY

A strong US dollar (USD) and escalating trade friction in 2018 set off capital outflows from some emerging markets and substantial movements in the exchange rates of their currencies. Although the Renminbi (RMB) to USD exchange rate was less volatile compared to the currencies of other emerging markets, a new round of RMB depreciation has emerged. Along with the influence of a strong USD, the RMB exchange rate is also increasingly affected by Sino-US trade friction, resulting in a further increase in its volatility.

In the short term, the RMB exchange rate is subject to Sino-US trade friction and US interest rate hikes. In the medium term, it will be supported by stable economic fundamentals underpinned by China's supply-side structural reform and its robust monetary policies. With increasing flexibility in RMB's exchange rate, it is necessary to evaluate RMB's exchange rate rationally when it becomes as volatile as those of other major currencies. Given the trade friction and the reform of the RMB exchange rate pricing mechanism, China's balance of payment will adjust accordingly. The current account surplus may gradually narrow, leading to changes of China's monetary policies and exchange rate movements.

In this context, the need for risk management against RMB exchange rate movements will continue to increase. Since 2018, the turnover volumes in USD/CNH Futures and Options on the Hong Kong market have surged to historical highs. In fact, exchange-traded RMB futures and options are hedging tools with high liquidity and transparency. Given the current market demand, these are more suitable products than over-the-counter (OTC) currency derivatives to meet the genuine needs of certain companies for hedging currency risks with capital efficiency. In response to investor demand, currency futures with multiple currency pairs are provided in the Hong Kong market for hedging against the impact of different economies on the RMB exchange rate and products with a wide range of tenors and calendar spreads are also available to meet the demand for risk management. These currency futures have high correlations with the onshore and offshore RMB exchange rates. The regulatory requirements of position limits and large open position reporting for these products also provide a controllable environment to use them for genuine risk management purposes by enterprises, rather than for short-term speculation.

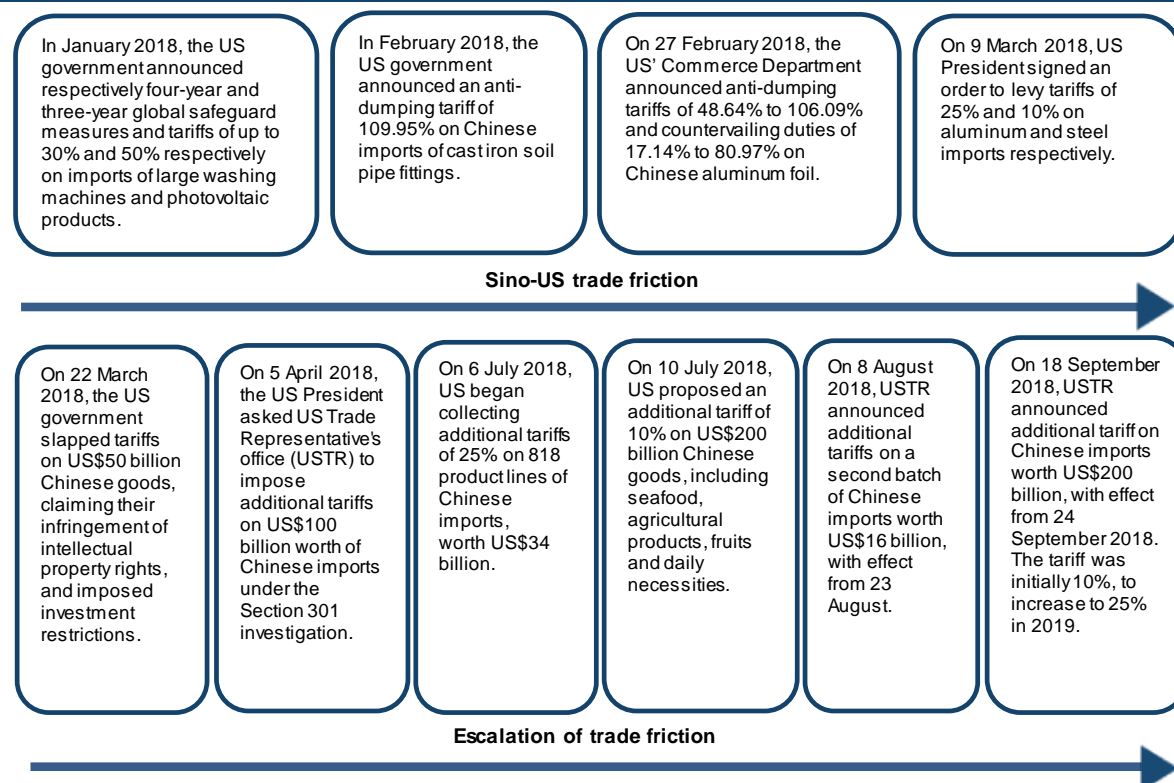
The product design and settlement method of offshore RMB products in Hong Kong effectively ensure that the offshore RMB exchange rates track the onshore RMB exchange rates closely. The trading of offshore RMB products could therefore support onshore exchange rates to exercise greater global influences, thereby keeping the price-setting process onshore. By further broadening the spectrum of RMB-traded derivatives to meet the demand of the real economy and leveraging on the professionalism and the well-established financial infrastructure of its market, Hong Kong can gradually become the offshore RMB products trading and risk management centre and contribute significantly to the greater use of the RMB in the international market.

1. SINO-US TRADE FRICTION'S SIGNIFICANT IMPACT ON THE EXCHANGE RATES OF EMERGING MARKET CURRENCIES

1.1 Current progress of Sino-US trade friction

The United States (US) began imposing tariffs on global importers from the beginning of 2018. The scope has been extended to various Chinese imports to the US, in particular those in the intellectual property and high-technology sectors including aviation, information technology (IT) and machinery, and aggravating Sino-US trade friction. Escalating global trade friction has not only affected the global economy but also accelerated capital outflows from emerging markets, leading to further increases in the volatility in the exchange rates of the Renminbi (RMB) and emerging markets.

Figure 1. The current progress of Sino-US trade friction



Source: "Timeline of the Escalating U.S.-China Trade Dispute", Bloomberg, 6 April 2018; "The US-China Trade War: a Timeline", China Briefing, 21 November 2018.

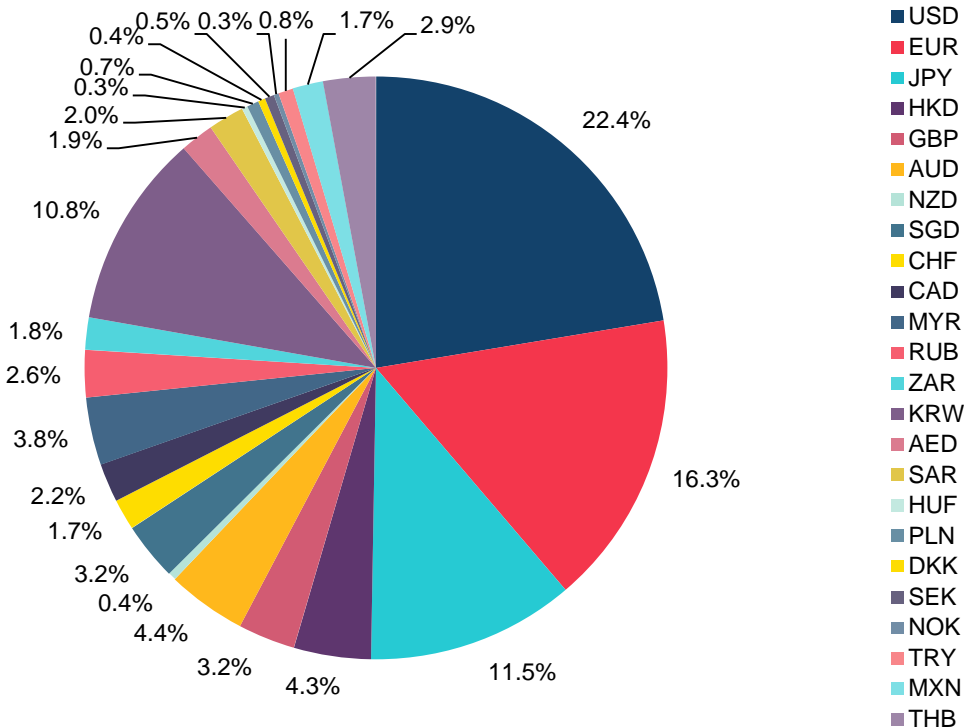
1.2 Impacts on exchange rates of the RMB and other emerging market currencies

The spillover effects of the diverse economic cycles and economic policies of the developed countries (such as the US, the European Union (EU) and Japan) have been a major factor affecting exchange rate movements of emerging market currencies, including the RMB. In the currency basket of the China Foreign Exchange Trade System (CFETS), which has been included into the RMB central parity fixing mechanism since the reform in 2015, the US dollar (USD) has a weighting of 22.4% (see Figure 2). Together with currencies in the basket that are linked to the USD, the USD's influence in the CFETS currency basket may even be larger. Therefore, the movement of the USD exchange rate remains a major factor on the RMB exchange rate.

However, since June 2018, it is not apparent that the depreciation and volatility of the RMB exchange rate have been affected by the USD's strengthening in recent months, while the market has been more affected by the Sino-US trade friction. Holistically, RMB exchange rate

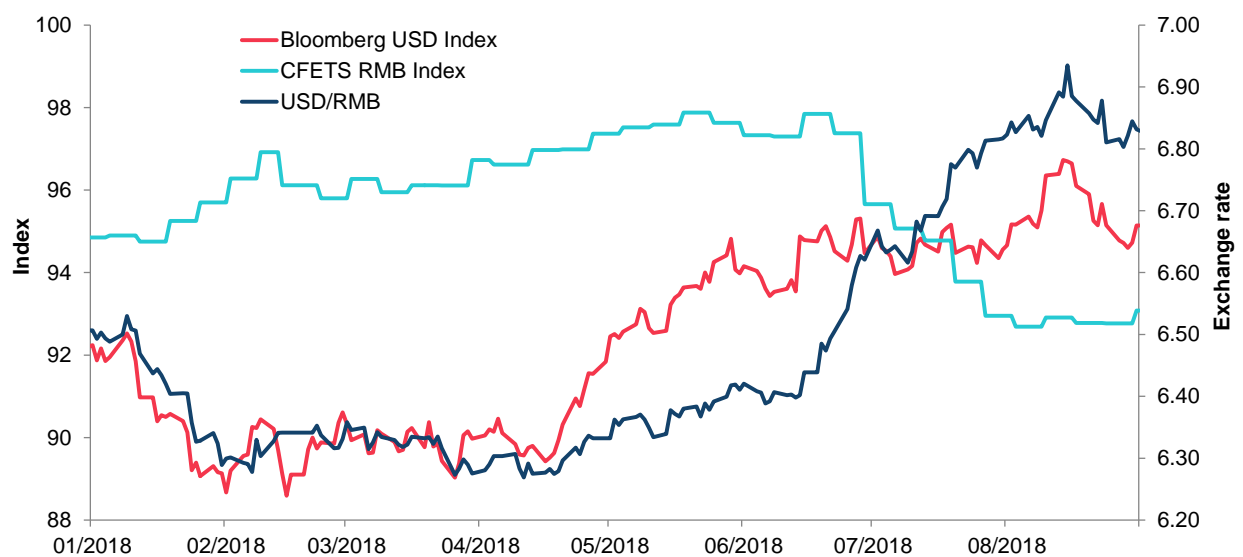
movements in early 2018 can be explained by USD exchange rate movements (see Figure 3), but such correlation began to change in mid-June of 2018. From 20 June 2018 to 3 August 2018, the RMB depreciated by 6% and the CFETS RMB Index fell 5% to 92 points, while the USD Index remained at about 95 points. During this period, the RMB's depreciation was notably larger than the USD's appreciation.

Figure 2. CFETS currency basket and their weightings (since 2017)



Note: See currency abbreviations at the end of the paper.
 Source: CFETS.

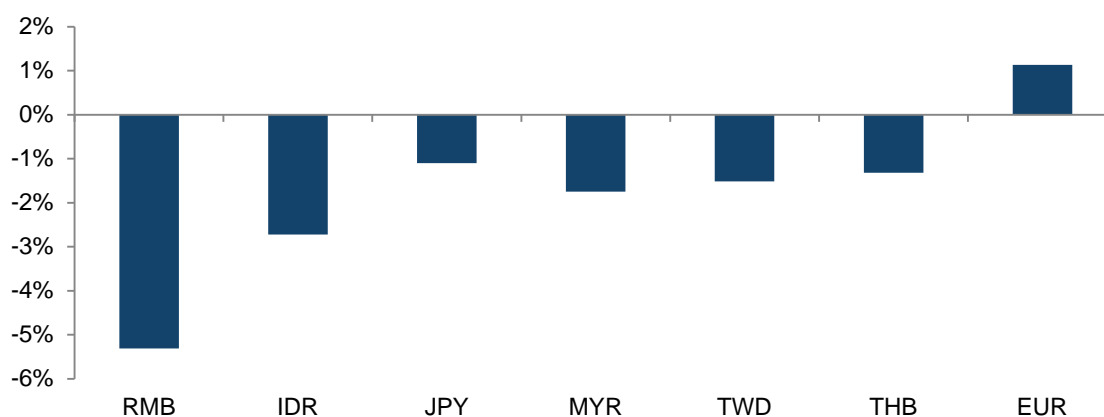
Figure 3. RMB exchange rate, CFETS Index and USD Index (Jan-Aug 2018)



Source: Bloomberg.

On the other hand, the impact of Sino-US trade friction on the RMB's depreciation trend gradually became apparent. From 20 June 2018 to 3 August 2018, when Sino-US trade negotiation came into a tough stage, most of the Asian currencies depreciated along with the RMB, while the Euro appreciated slightly (see Figure 4), showing to a certain extent that Sino-US trade friction has led to increasing sentiment of risk aversion and capital outflows from emerging markets. According to the Emerging Portfolio Fund Research (EPFR) database, equity funds' net inflow into the US and net outflows from emerging markets between May 2018 and July 2018 were US\$26.8 billion and US\$15.4 billion respectively; the corresponding amounts of bond funds were net inflow of US\$25.7 billion into the US and net outflow of US\$11.8 billion from emerging markets. Crises in certain emerging markets stirred up global concerns about the outlook of emerging markets, including the Mainland China market. Such worries were reflected in relatively large currency depreciation and increased exchange rate volatility in these emerging markets (see Figure 5). In 2018, the Turkish Lira, Argentine Peso, Indian Rupee, Brazilian Real and South African Rand depreciated by more than 10% against the USD. Fortunately, backed by relatively stable macroeconomic fundamentals, the RMB depreciated in a relatively-controlled manner compared to other emerging market currencies — less than 6% against the USD, a notably smaller percentage among major emerging markets.

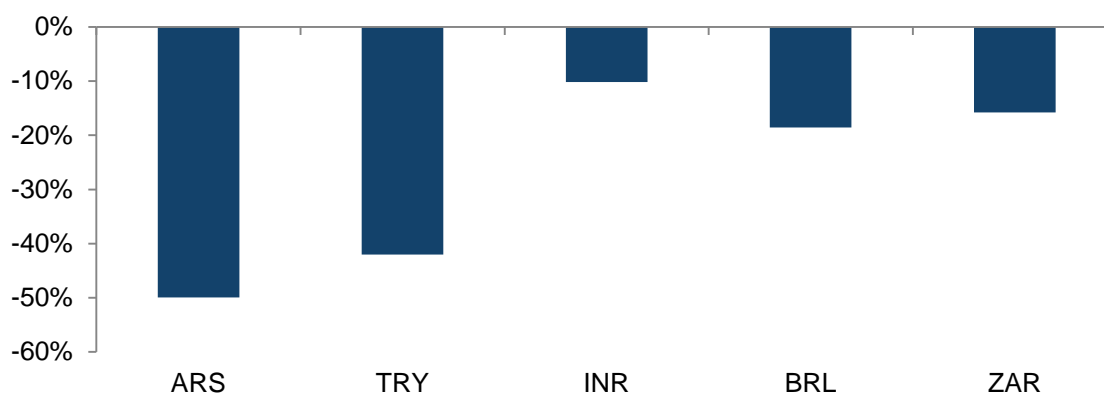
Figure 4. Depreciation of various currencies against the USD (20 Jun 2018 — 3 Aug 2018)



Note: See currency abbreviations at the end of the paper.

Source: Wind.

Figure 5. Depreciation of emerging market currencies against the USD (Jan-Aug 2018)



Note: See currency abbreviations at the end of the paper.

Source: Wind

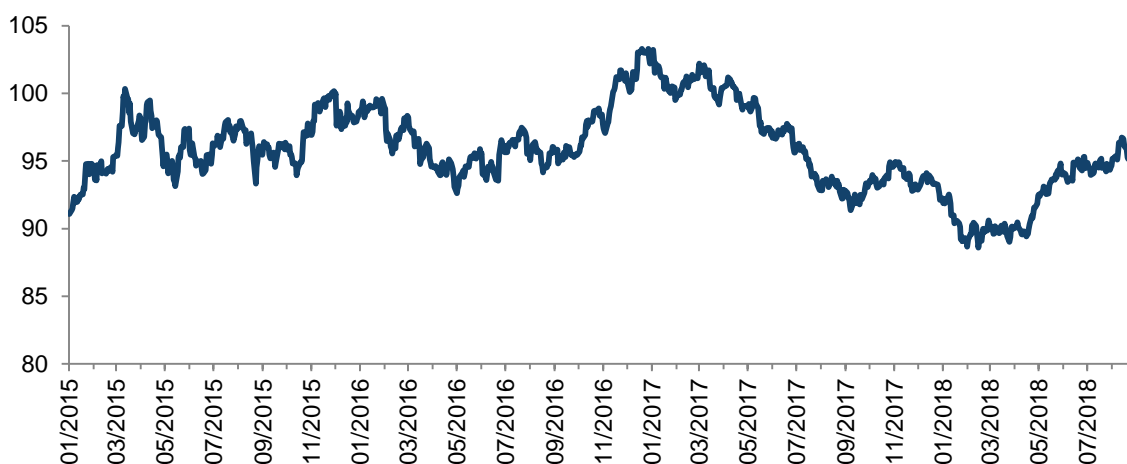
2. MORE FLEXIBILITY IN THE RMB EXCHANGE RATE

2.1 Tightening of monetary policies in the US and Europe put pressure on exchange rates of emerging market currencies, triggering changes in global capital flows

The US Federal Reserve (Fed) began monetary policy normalisation in December 2015, with seven times of interest rate hike and an orderly contraction of the balance sheet. The central bank of the United Kingdom (UK) announced in November 2017 its first interest rate hike in the past 10 years. The European Central Bank, despite maintaining its negative interest rate policy, started to reduce asset acquisition in early 2018.

Increased interest rates by the US Fed brought appreciation pressure on the USD (see Figure 6), therefore increased the pressure on emerging markets to pay back their USD debts. This also increased the vulnerability of their macroeconomics and financial markets and the volatility in a few emerging market currencies, leading to a dual crisis of debt and currency. In Argentina, for example, as of the end of 2017, its external debts were US\$233 billion or 40% of its gross domestic products (GDP), much higher than the international red line of 20%¹. Brazil also exhibited a depreciation tendency. Highly relied on external financing and foreign investment, the Brazilian economy has a low independence and a regular deficit in current account, and is therefore vulnerable to international trade volatility. Indonesia, India, Mexico and some other emerging markets also experienced notable currency depreciation in 2018 (see Figure 7).

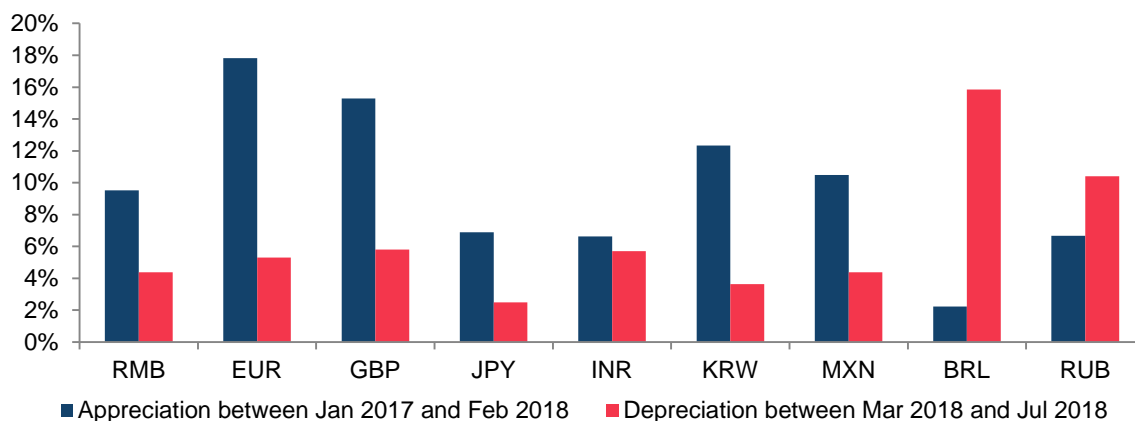
Figure 6. Movements of the USD Index (Jan 2015 – Aug 2018)



Source: Bloomberg.

¹ "Lesson of Argentina's financial turmoil to emerging markets" (〈阿根廷金融動盪對新興市場的啟示〉), 21 May 2018, Ta Kung Pao website (<http://news.takungpao.com.hk/paper/q/2018/0521/3570932.html>).

Figure 7. Exchange rate movements of emerging market currencies against the USD



Note: See currency abbreviations at the end of the paper.

Source: Wind.

2.2 Mainland’s stabilising economic fundamentals support the RMB exchange rate in the medium-term

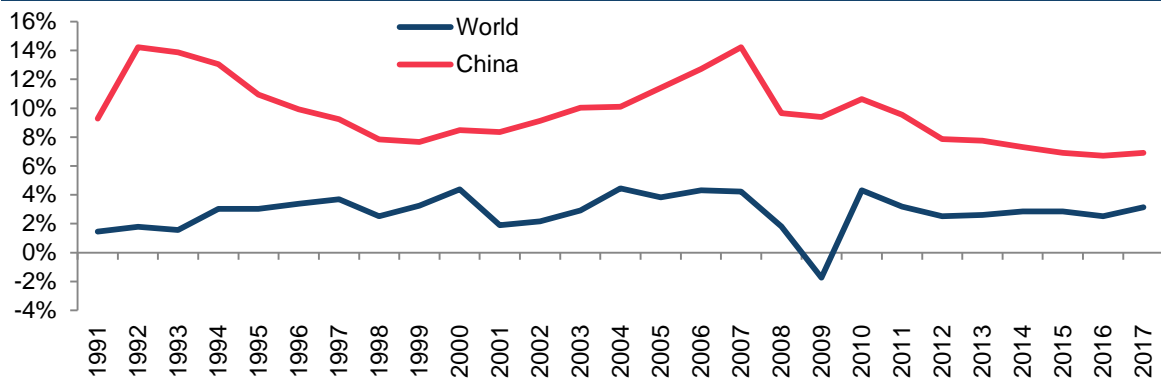
China’s economic fundamentals are generally stable (see Figures 8 to 10). As a result of supply-side structural reforms, streamlined administration and authority delegation, and the development of market-based mechanisms in recent years, the structural transformation of China’s economy has been very fruitful, speeding up the change in economic growth drivers. Despite the weakening of key macroeconomic indicators, the overall economic growth remains strong, providing backing to the RMB exchange rate. The RMB depreciation since June 2018 has been expected to be steady without the market panic that had accompanied the previous round of RMB depreciation. During this period, offshore entities had been steadily increasing their RMB asset holdings (such as China’s treasury bonds). As at the end of the third quarter of 2018, offshore bond holdings in the onshore interbank bond market amounted to almost RMB 1.7 trillion, an increase by more than 100%² since the launch of Bond Connect. Northbound capital flows under the Stock Connect schemes — Shanghai Connect and Shenzhen Connect — kept on increasing. Even in the period from the end of July to early August when the RMB exchange rate continuously hit new lows, foreign capital continued to flow into the Mainland market on a net basis³. As revealed by one-year non-deliverable forwards (NDF) in RMB⁴, the expected depreciation of the RMB was only within 2%. Economic fundamentals do not justify a substantial and continuous plunge of the RMB exchange rate.

² Source: China Central Depository & Clearing Co., Ltd. (CCDC), Shanghai Clearing House.

³ Source: HKEX.

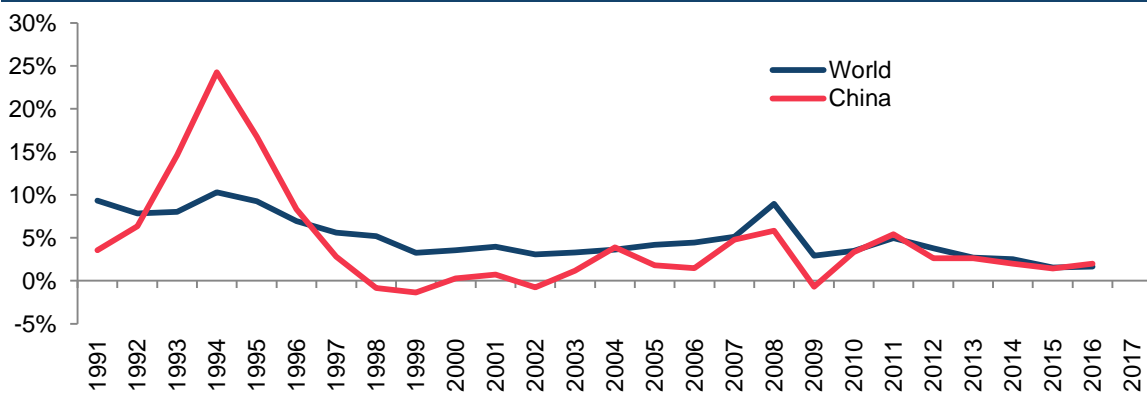
⁴ Source: Bloomberg.

Figure 8. Annual GDP growth rate



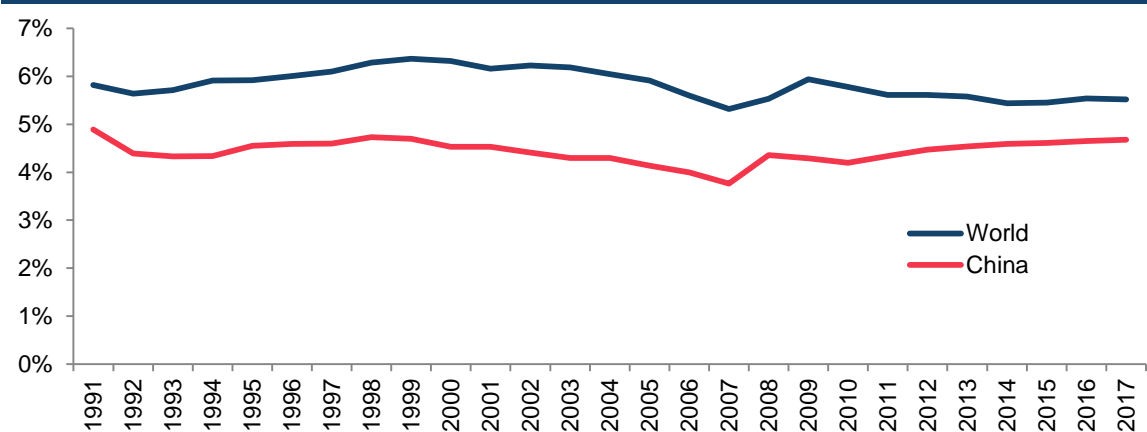
Source: finance.sina.com.cn.

Figure 9. Annual inflation rate measured by consumer price index (CPI)



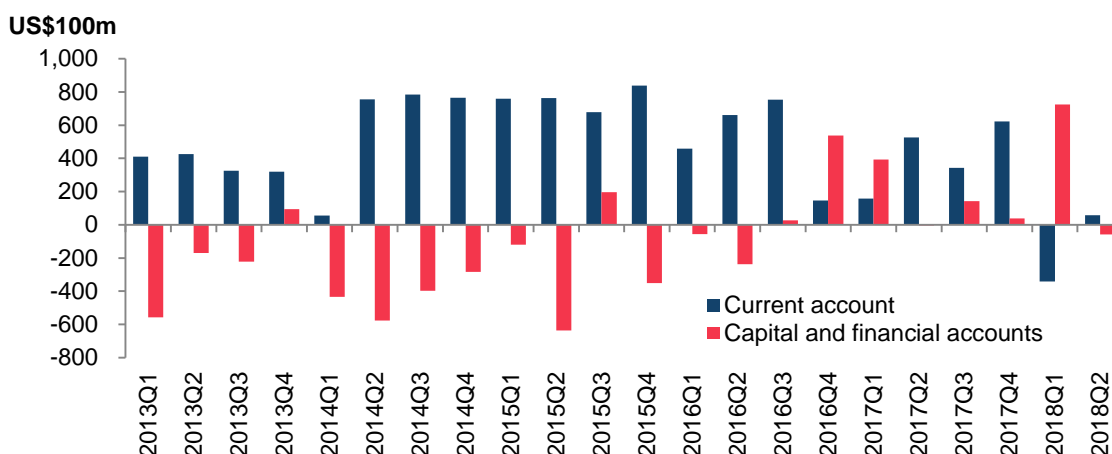
Source: finance.sina.com.cn.

Figure 10. Overall unemployment rate



Source: finance.sina.com.cn.

Figure 11. Current account vs capital and financial accounts (2013Q1 – 2018Q2)



Source: State Administration of Foreign Exchange (SAFE).

Trade friction alone would have little impact in the short-term on China’s economic growth, but would gradually affect technology advancement and innovation capabilities. Since 6 July 2018, the US and China have imposed tariffs on US\$34 billion worth of Chinese and US goods. On 23 August, they slapped on each other a tariff of 25% on an additional US\$16 billion worth of goods. On 18 September, the US announced tariffs on US\$200 billion worth of Chinese goods. Compared to the overall Sino-US economic volume, the amount of US\$250 billion would have limited impact. But if trade friction further escalates, the impact of multiple trade restrictions on the two countries’ economic growth may emerge in 2019.

In terms of balance of payments, there was a deficit of US\$34.1 billion in China’s current account in the first quarter of 2018 and a surplus of US\$5.8 billion in the second quarter of 2018. The current account still had an overall deficit in the first half of 2018. It was the first time in recent years that China’s current account had a substantial deficit. Moreover, China’s trade surplus against the US in the first half of 2018 was US\$133.8 billion, a year-on-year rise of 13.8%. This showed that at least in the short run, the negative impact of trade friction on exports was not fully reflected. The impact of factors like pre-exports must not be underestimated (see Figure 11).

Given the retarding global economic growth, weak external demand and the eventual implementation of Sino-US trade friction measures, China’s trade surplus is likely to narrow soon. In the future, current account and capital account fluctuation will possibly be the new scenario in China’s balance of payments, with an interchange of surplus and deficit in different periods. As China has been used to the macroeconomic environment with surplus in both accounts, current account deficit would, to some extent, change the decision-making framework for economic policies in the future. In the midst of this process, solid economic fundamentals and a flexible RMB exchange rate mechanism are expected to play an important role in addressing external shocks.

2.3 The volatility of the RMB exchange rate would increase steadily

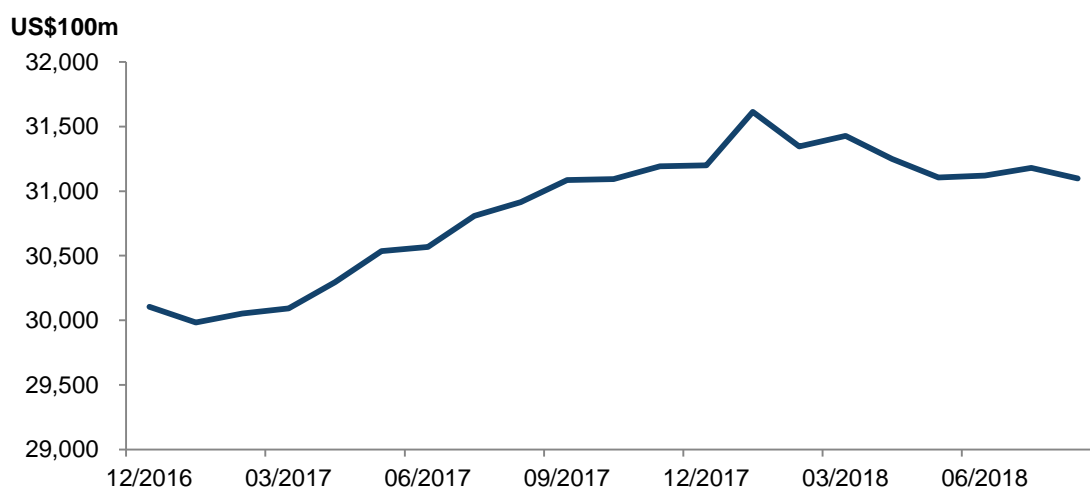
Firstly, the People’s Bank of China (PBOC) is retreating from daily market intervention. The RMB exchange rate fixing mechanism has become increasingly market-oriented.

In the current round of RMB depreciation, the RMB exchange rate fixing mechanism was adjusted based on market conditions within the macro-prudential framework. Adjustments include raising the foreign exchange (FX) reserve requirement for financial entities’ sales of FX forwards from 0% to 20% on 6 August 2018 and reactivating on 24 August 2018 the countercyclical factor in the RMB’s central parity rate to “adequately hedge the pro-cyclical

sentiments of RMB depreciation”⁵. Such adjustments help to prevent macro-financial risks without changing the market-oriented approach in pricing the RMB exchange rate.

When the RMB depreciated in 2015 and 2016, the PBOC actively intervened in the market with the country’s FX reserves, leading to fluctuation in the size of the FX reserves and funds outstanding for foreign exchange (funds in domestic currency that are used by financial institutions to purchase foreign exchange) (see Figure 12). However, in the current round of relatively big RMB rate movements, China’s FX reserves were basically stable. Although China’s FX reserves shrank in August 2018, the change was limited compared with the total size of the reserves, and the reason for the shrinkage can be explained by the USD’s exchange rate movements. This showed that this round of RMB exchange rate volatility was mainly market-driven.

Figure 12. China’s FX reserves (Dec 2016 – Aug 2018)



Source: SAFE.

Secondly, a more flexible exchange rate suits China’s new economic landscape by providing greater room for monetary policy operations.

Under the theory of Trilemma, independent monetary policy, a fixed exchange rate and free capital flow cannot co-exist in an open economy. At least one of the three objectives has to be sacrificed. In the current global environment, China faces with the trouble of prioritising its internal and external economic objectives when determining its monetary policy. As RMB increasingly takes on the role as an international currency, there is an increasing need to weigh policies for domestic economic growth (or internal balance) against those that support stability in the RMB exchange rate, the same situation as the dilemma faced by Latin American and Asian countries in the 1980s and 1990s. As an economy with a large domestic market, China is increasingly moving towards the monetary policies that ensure independence, along with a more flexible RMB exchange rate in recent years.

Thirdly, artificial and proactive currency depreciation is not a good solution for trade disputes. A market-oriented RMB exchange rate is more sustainable and more in line with the reform direction for the RMB exchange rate fixing mechanism.

International experience shows that the consequence of active depreciation is hard to control. If the depreciation is trivial, the effect would be minimal. If the depreciation is substantial, the market would be susceptible to short-term panic with increased capital outflow and exchange

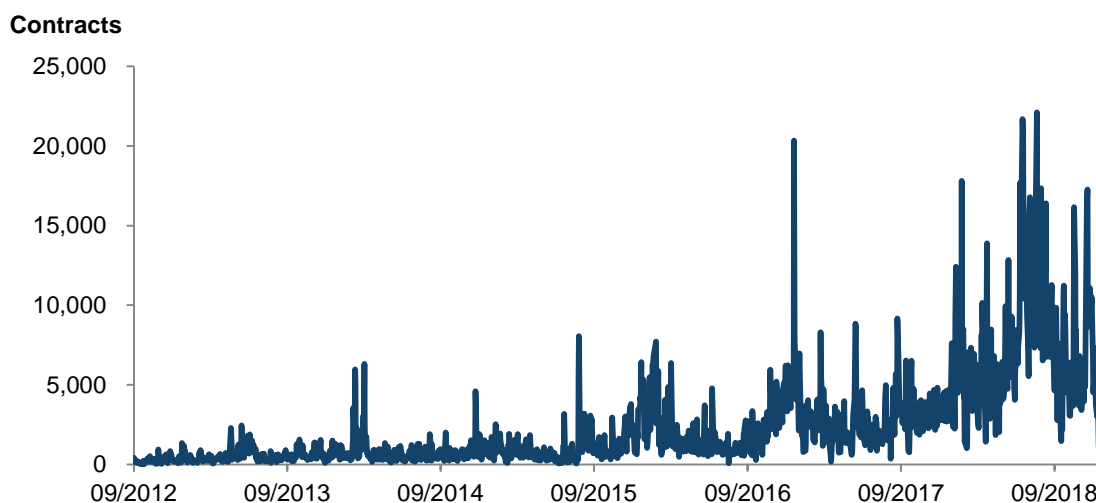
⁵ Source: “Countercyclical factor reactivated for RMB/USD central parity quotation” (〈人民幣對美元中間價報價行重啟「逆週期因子」〉), CFETS, 24 August 2018.

rate volatility. China’s gradual opening up of its capital account in the past few years has facilitated the reform of the RMB exchange rate fixing mechanism and contributed to defence against external shocks. In the current international trade environment, emerging market currencies and the RMB/USD exchange rate could move with flexibility within a confined range.

3. THE IMPORTANCE OF EXCHANGE RATE RISK HEDGING TOOLS AMID INCREASED EXCHANGE RATE VOLATILITY — THE ADVANTAGES AND DEVELOPMENT OF HONG KONG’S EXCHANGE-TRADED MARKET

With escalating trade friction, two-way movements of the RMB exchange rate have been increasing and the hedging tools for exchange rate risk have become more important for Mainland and global enterprises. Mainland enterprises’ external investments and foreign enterprises’ RMB investments can be hedged using exchange-traded currency derivatives. The turnover volumes of offshore RMB (CNH) futures and options traded on the HKEX recorded new highs in August 2018. Of these, the total turnover of USD/CNH Futures in the year 2018 was 1,755,130 contracts (contract value: US\$175.5 billion), which increased by 140% from 732,569 contracts (contract value: US\$73.3 billion) in 2017 (see Figure 13). The turnover of USD/CNH Options also saw a new high of 1,529 contracts (contract value: US\$153 million) on 28 August 2018. Besides, the turnover of futures contracts on RMB against other currencies (such as Euro, Australian dollar and Japanese yen) also increased steadily during the second half of 2018, reaching new record highs on some trading days in August 2018.

Figure 13. Turnover in USD/CNH Futures (Sep 2012 — Dec 2018)



Source: Bloomberg

3.1 Exchange-traded currency derivatives are characterised by high liquidity and high transparency

HKEX launched USD/CNH Futures in September 2012, which is the world’s first RMB deliverable currency futures — at settlement, the seller pays the contract amount denominated in USD and the buyer pays the final settlement amount in RMB. The trading hours are from 8:30 am to 4:30 pm and 5:15 pm to 1:00 am Hong Kong time⁶, covering Asian, European and

⁶ Expiring contract month closes at 11:00 am on the last trading day.

American time zones, meeting the needs of Mainland and international investors for hedging against RMB exchange rate risks.

Hong Kong's RMB futures market has continued to grow into a market with high liquidity. In addition to the gradually increased turnover as mentioned above, the bid-ask spreads of contract months are better than those in other trading platforms⁷. This provides investors with a liquid and deep market and at the same time helps achieve capital efficiency by way of margin trading. Besides, there are market maker programs for exchange-traded USD/RMB derivatives in Hong Kong⁸, including futures and options, to provide investors with continuous quotes and response to quotes. In contrast, the liquidity of FX contracts in the OTC market is low and that the contracts may not be amended or cancelled before expiry, unless after obtaining mutual consent of both buyer and seller.

High transparency is also an advantage of on-exchange trading. Investors can know the best bid-ask quotes of exchange-traded RMB derivatives before transaction and the daily traded price, volume and open interest for each contract month after transaction. On the contrary, there is no pre-trade transparency for OTC derivatives, which are mainly traded on a bilateral basis under the Request for Quote (RFQ) model such that investors have to reach out to each market participant to negotiate quotes. Therefore, the high transparency of exchange-traded investments helps investors better understand market trends and facilitates more effective price discovery and enhances liquidity.

The benefit of trade transparency is also manifested in the RMB currency options market. A feature of USD/CNH Options is to use a fixed premium to purchase protection that safeguard against potential risks from one-way movements in the USD/CNH exchange rate. Backed by liquidity providers, investors of RMB currency options can access quotes of about 200 option series before transaction and this helps pooling liquidity, accelerates price discovery and reduces hedging costs.

3.2 RMB currency futures with different currency pairs match the demand of investors in different regions for RMB exchange rate risk management

Currently, uneven economic growth among countries may affect major central banks' monetary policies and the countries' business cycles. This would indirectly increase the volatility of RMB exchange rates. Globally, major central banks have different monetary policies⁹ that the tightening of monetary policies would be earlier in the US than in Europe and Japan. The divergence of monetary policies also reflects that the business cycles of these countries would not be synchronised. Therefore, the commodity prices, including those of base metals, precious metals and oil, would become more volatile. Given the impacts of key interest rates and commodity prices, the movements of RMB exchange rates against major currencies would become more diverse.

Besides, the client base of RMB currency has become increasingly diversified that include various types of banks, institutional investors, proprietary trading companies, fixed-income proprietary trading desks, asset management companies, export and import enterprises and retail investors, etc. In Hong Kong, the number of futures traders for client trading of RMB futures has steadily increased to 134 international, Mainland and Hong Kong brokers as at the end of 2018¹⁰.

⁷ See "Investors turn to HKEX's RMB products amid volatility", HKEX website, 11 July 2018.

⁸ As at the end of 2018, market makers for USD/CNH Futures include HSBC, Bank of China (Hong Kong) (BOCHK), ICBCI Futures, Bank Sinopac Co., Ltd., Haitong International Financial Products Ltd., and Virtu Financial Singapore Ptd Ltd.

⁹ See IMF, *World Economic Outlook*, October 2018.

¹⁰ Source: HKEX.

To cater the need for RMB risk management by different investors, the exchange-traded market in Hong Kong offers RMB currency futures with different currency pairs. Apart from the deliverable USD/CNH Futures, the following cash-settled RMB currency futures were launched in May 2016:

- **EUR/CNH Futures:** Hedging against European monetary policy risks. The Euro is the world's second most actively traded currency, accounting for 36.1% of total trades in November 2018¹¹. European and US currency policy stances diverge from each other. Furthermore, the EU is Mainland China's largest trade partner and Mainland China is also the EU's second largest trade partner¹².
- **JPY/CNH Futures:** Hedging against the risks associated with the policies of Japan's central bank and the prices of precious metals. The Japanese yen is currently (as of November 2018¹³) the most actively traded currency in Asia and has been used in the benchmark price denomination of various precious metals. Monetary policies of Japan and the US also diverge from each other.
- **AUD/CNH Futures:** Hedging against commodity market risks. Australia is one of Mainland China's largest trading partners in commodities¹⁴. The movements of the Australian dollar track the sentiments of the commodities market closely.
- **CNH/USD Futures:** Complementary to the trading of USD/CNH Futures. The CNH/USD Futures contract is quoted, traded and settled in USD. The nominal amount (RMB 300,000) is smaller than that of USD/CNH Futures (US\$100,000).

3.3 Offshore RMB futures prices track onshore RMB exchange rate closely that facilitates the hedging of RMB risks but limits the room for speculative short selling

By observing current market trends, it is expected that the volatility of USD/RMB exchange rate would gradually increase. The offshore currency futures market, with its product features and regulatory framework, would help provide a manageable market environment for RMB currency risk management.

The settlement prices of offshore RMB currency futures and the RMB spot exchange rate are highly correlated. The correlation coefficient of the spot-month settlement price of USD/CNH Futures with the onshore RMB exchange rate, as well as that with the offshore RMB exchange rate, has stayed above 0.99. Its correlation coefficient with the onshore RMB central parity rate has also increased gradually to above 0.99 after the exchange rate formation mechanism reform in August 2015 (see Table 1). Therefore, the settlement prices of offshore RMB futures did not deviate much from the RMB spot rate and hence did not lead to unnecessary movements of the RMB exchange rate. In fact, the USD/CNH Futures contract uses the USD/CNH fixing published by the Treasury Markets Association (TMA) of Hong Kong at around 11:30 a.m. on the final settlement day as its final settlement price¹⁵. Thus, it is unlikely that investors could use the final settlement price of offshore RMB futures to affect the RMB spot rate.

¹¹ Source: SWIFT. "RMB Tracker: Monthly reporting and statistics on renminbi (RMB) progress towards becoming an international currency", December 2018.

¹² See EU's webpage on introduction of Mainland China (<http://ec.europa.eu/trade/policy/countries-and-regions/countries/china/>), last updated as of 16 April 2018.

¹³ Source: SWIFT. "RMB Tracker: Monthly reporting and statistics on renminbi (RMB) progress towards becoming an international currency", December 2018.

¹⁴ See Karam, P. and Muir, D. (2018) *Australia's Linkages with China: Prospects and Ramifications of China's Economic Transition*, IMF Working Paper WP/18/119.

¹⁵ Such fixing is the turnover-weighted middle quote for spot trades of values over US\$1 million conducted by 8 designated dealers active in the offshore RMB market during 10:45 am to 11:15 am on the final settlement day.

Table 1. Correlation coefficients between spot-month settlement price of USD/CNH Futures and different RMB spot exchange rates (Sep 2012 – Aug 2018)

Period (month/year)	CNH	CNY	CNY central parity rate
09/2012 – 07/2015	99.4%	98.3%	44.8%
08/2015 – 05/2017	99.6%	98.9%	98.6%
06/2017 – 01/2018	99.5%	99.6%	99.2%
02/2018 – 08/2018	99.7%	99.8%	99.5%
Full period (09/2012 – 08/2018)	99.9%	99.7%	98.0%

Note: Based on Bloomberg's definitions and data for spot-month settlement prices. "CNH" is offshore RMB, "CNY" is onshore RMB.

The offshore RMB futures are designed to meet the risk management needs of enterprises, and not for short-term speculation on the exchange rate. In addition to the high correlation with the RMB spot exchange rate, the central clearing mechanism and trade margins system of offshore RMB futures could effectively mitigate counterparty risks. Investors have to deposit cash or non-cash collateral to satisfy initial margin requirements when opening a position, and have to meet the maintenance margin requirements based on exchange rate movements on each trading day for holding their positions. On the contrary, trading RMB currency derivatives in the OTC market only requires credit lines at banks but does not require collaterals, and there is no central clearing. Moreover, exchanged-traded offshore RMB futures are settled by physical delivery instead of cash settlement based on the exchange rates of the currency pairs, which would increase the cost of short sales.

In case an institution wants to short the RMB, it may prefer going to the OTC market. OTC market turnover is larger than that of the exchange-traded market, the terms are more flexible and counterparties can stay anonymous. During April 2016, the average daily nominal trading value of USD/RMB currency derivatives in Hong Kong's OTC market reached US\$76 billion¹⁶. In comparison, the average daily nominal trading value of USD/CNH Futures in the exchange-traded market was only about US\$713 million (about RMB 5 billion) in 2018¹⁷. Even if the trading volume of USD/RMB currency derivatives in the OTC market did not increase, the nominal trading value of USD/CNH Futures was only about 1% of that in the OTC market.

Besides, the Hong Kong futures market has in place various measures to limit the concentration of positions, thereby reducing unnecessary volatilities and risks in the market. These measures, including large open position reporting and position limits, also apply to offshore RMB futures:

- **Large open position reporting:** The Hong Kong Futures Exchange (HKFE) requires Exchange Participants (for its own account or for each of its clients) to report their large open positions in the RMB futures to the HKFE. For example, currently¹⁸, an open position in any one contract month of USD/CNH Futures that exceeds 500 contracts will have to be reported. HKFE may also have the right to require additional information from holders of large open positions for surveillance purpose. This requirement enhances the transparency of market participants to the regulators.
- **Position limits:** Implementation of position limits means setting a cap on the holding or controlling of RMB futures and options positions by a person. For example, currently¹⁹, the

¹⁶ Source: Hong Kong Monetary Authority. "The foreign exchange and derivatives markets in Hong Kong", December 2016.

¹⁷ Source: HKEX.

¹⁸ In accordance with requirements in force in December 2018.

¹⁹ In accordance with requirements in force in December 2018.

USD/CNH Futures, CNH/USD Futures and USD/CNH Options combined are subject to a position limit with position delta of 8,000 long or short in all contract months combined and under any circumstances that:

- During the five Hong Kong business days up to and including the last trading day, the position delta of spot month USD/CNH Futures and spot month USD/CNH Options combined shall not exceed 2,000 long or short; and
- the positions of CNH/USD Futures shall not exceed 16,000 net long or short contracts in all contract months combined.

The position limits are strictly enforced and any breach of such limits may constitute contravention of related Rules of the HKFE and the Securities and Futures (Contracts and Reportable Positions) Rules that may involve criminal liability. The HKFE and the Securities and Futures Commission (SFC) can take actions against any rule breach that include requiring Exchange Participants to unwind their positions in a timely and orderly manner.

3.4 Currency futures with multiple tenors enhance the efficiency of hedging

Contract months with longer tenors can enhance medium- and long-term investors' risk management. Taking the contract months of the USD/CNH Futures contract as an example, there were only seven contract months at the product's launch (spot month, the next three calendar months and the next three quarter months). In response to market demand, HKEX added contracts for the fourth and the fifth quarter months in April 2014 and February 2017 respectively. Since June 2018, the number of contract months has increased to 10 (spot month, the next three calendar months and the next six calendar quarter months). This makes the tenors of the product's contract months spanning up to 22 months. These futures with different tenors can better match investors' RMB capital flows and reduce basis risks and rollover risks.

Calendar spreads help cope with the medium- and long-term and short-term impacts of trade friction on the RMB exchange rate. The enhancements on the USD/CNH Futures in June 2018 also include the addition of 19 calendar spreads to make up a total of 45 calendar spreads of contract months. These calendar spreads can be a combination of any two contract months, which would facilitate hedging against the medium- and long-term movements of the RMB exchange rate as well as coping with short-term volatility of the exchange rate.

3.5 Keeping on enhancing the flexibility of the RMB futures market to satisfy the diverse needs for risk management

Trade friction increases the demand for ultra short-term risk management. Trade friction creates uncertainties of the monetary policies of major central banks and the countries' business cycles²⁰ and certain market news at given dates (such as central banks' decisions on interest rates, releases of economic data, and election results, etc.) may have a larger impact on the RMB exchange rate amid escalation of trade friction. However, there is no exchange around the world providing currency futures with ultra short-term tenors. Similar exchange-traded products only include the weekly options on RMB currency futures offered in the US, including Friday weekly options launched in July 2006 and Wednesday weekly options launched in October 2017. It is difficult for investors to hedge against the ultra short-term risks of the RMB exchange rate with the use of these options. Generally, the price formation mechanism of options is more complicated than that of currency futures. If options are used

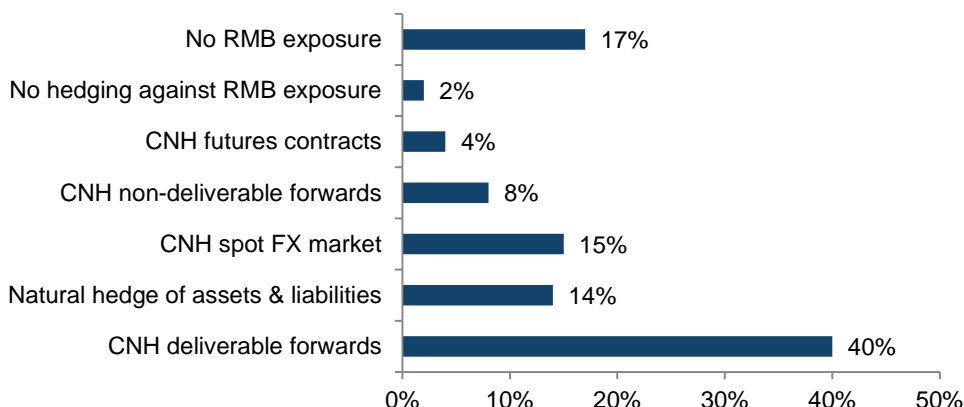
²⁰ See International Monetary Fund's (IMF) "World Economic Outlook", October 2018.

for delta hedging²¹, the non-linear changes of delta will increase basis risks. Besides, the delivery of these options at expiry is cash-settled with reference to the prices of CNH/USD futures. In other words, this kind of hedging would not involve exchange of principals at settlement and hence the investors with real needs for RMB liquidity have to exchange for the RMB in the spot exchange rate market. Therefore, some investors may choose OTC products with more flexible tenors for hedging. Given the global drive to promote exchanges as central counterparties for derivatives, the Hong Kong market should strive to meet the demand for risk management of ultra short-term to medium- and long-term investors and provide liquidity for these products.

4. STRENGTHENING HONG KONG'S POSITION AS THE OFFSHORE RMB PRODUCTS TRADING AND RISK MANAGEMENT CENTRE TO SUPPORT RMB INTERNATIONALISATION

Against the backdrop described above, the market demand for risk management of the RMB exchange rate will continue to increase. Survey results indicate that financial institutions with risk exposures denominated in the RMB have strong interests in RMB risk management products. Offshore RMB deliverable forwards are the most preferred mode of financial institutions to manage their RMB risk exposures — this mode of risk management accounted for 40% of total usage. Excluding natural hedge of assets and liabilities, the second most preferred way was offshore RMB spot FX (15% of total) and offshore RMB futures ranked third (4% of total) (see Figure 14).

Figure 14. Most preferred way to manage RMB exposure by financial institutions



Source: The Asian Banker and CCB. "RMB Internationalisation Report 2018: Optimism towards Belt & Road raises cross-border use of RMB", 2018.

Following the inclusion of A shares into the MSCI Emerging Markets Index, Chinese bonds will be admitted in 2019 into the Bloomberg Barclays and other bond indices that are widely tracked by global funds. More and more medium- and long-term institutional investors around the world, including central banks, sovereign wealth funds and international pension funds, will track these global bond indices and passively increase their allocations into Mainland assets of stocks and bonds based on changes in these indices. This would lead to a shift in asset allocation of the nearly US\$4 trillion worth of assets under management worldwide, generating demand for adequate and liquid tools for hedging related risks.

Hong Kong is well-positioned as an offshore RMB market for its professional services and sound financial infrastructures and the provision of a wide range of useful tools for risk

²¹ Delta hedging offers protection within a short time on the value of an investment portfolio from small fluctuations in the underlying asset price. In brief, the risk of market prices of the underlying asset to the investment portfolio is neutral.

management. Currently, the offshore RMB derivatives product suite developed by the HKEX has very active trading, providing high liquidity and market depth for investors. The price formation mechanism and settlement system of the on-exchange offshore RMB products in Hong Kong also effectively ensure that the offshore exchange rates track the onshore exchange rates closely at final settlement. The trading of offshore RMB products thus could contribute to a larger impact of onshore RMB prices in the global market and keep the price-setting process onshore. By further developing and broadening the spectrum of RMB derivatives to meet the needs of the real economy and by leveraging on professional services and sound financial infrastructures, Hong Kong can strengthen its role as an offshore RMB products trading and risk management centre and contribute significantly to the greater international use of the RMB.

CURRENCY ABBREVIATIONS

AED	United Arab Emirates Dirham
ARS	Argentina Peso
AUD	Australian Dollar
BRL	Brazilian Real
CAD	Canadian Dollar
CHF	Swiss Franc
CNH	Offshore Renminbi
CNY	Onshore Renminbi
DKK	Denmark Krone
EUR	Euro
GBP	British Pound
HKD	Hong Kong Dollar
HUF	Hungary Forint
IDR	Indonesian Rupiah
INR	Indian Rupee
JPY	Japanese Yen
KRW	Korea Won
MXN	Mexican Peso
MYR	Malaysia Ringgit
NOK	Norway Krone
NZD	New Zealand Dollar
PLN	Poland Zloty
RUB	Russian Ruble
SAR	Saudi Arabia Riyal
SEK	Sweden Krona
SGD	Singapore Dollar
THB	Thai Baht
TRY	Turkish Lira
TWD	Taiwanese Dollar
USD	US Dollar
ZAR	South African Rand

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