HKEx
香港交易所

Inside Fixed Income and Currency (FIC) Monthly Newsletter

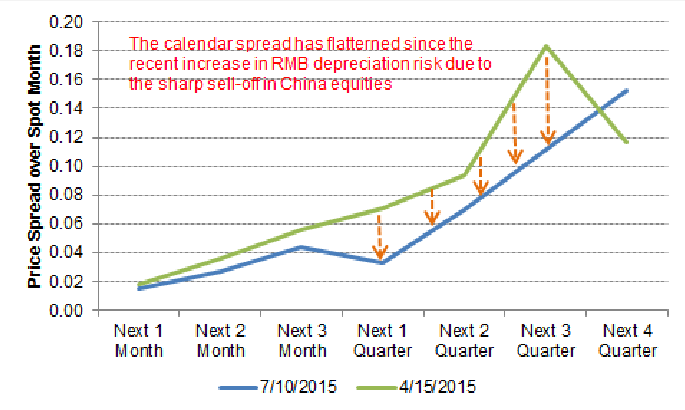
Issue No. 7

July 2015

Monthly Highlights

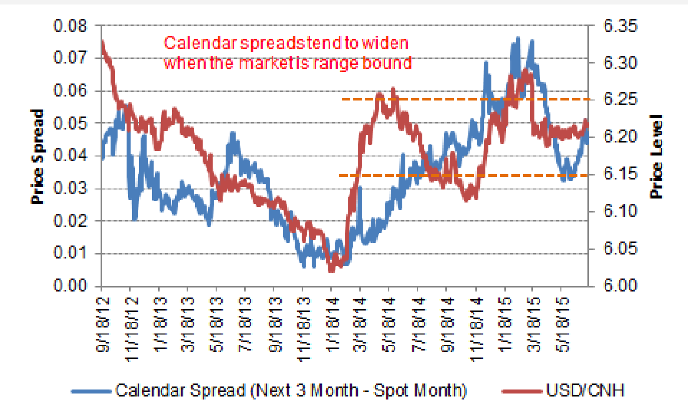
- **Volume hit a year-to-date high of 3,169 contracts (USD 316.9 million notional) on 8 July, with volume in AHFT session reaching a record high of 752 contracts (USD 75.2 million notional).**
- **Open interest rebounded sharply to 10,924 contracts (USD 1.1 billion notional) as of end of July, up 44% compared to end of last month.**
- **Investors can use HKEX's USD/CNH futures to capitalise on trading opportunities irrespective of the underlying movements in the USD/CNH market.**
- **Even if the RMB cannot enter the SDR basket this year, the process of RMB internationalisation will continue.**

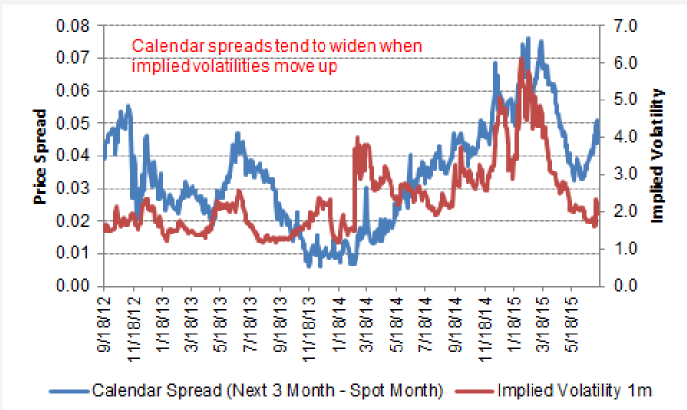
Currency futures calendar, or time, spreads depend on variations in value between near-term and deferred futures contracts. When there are no clear directional plays in USD/CNH trading, investors can exploit pricing discrepancies arising from widening/narrowing calendar spreads by using HKEx's USD/CNH futures and thus capitalise on trading opportunities irrespective of the underlying movements in the USD/CNH market.

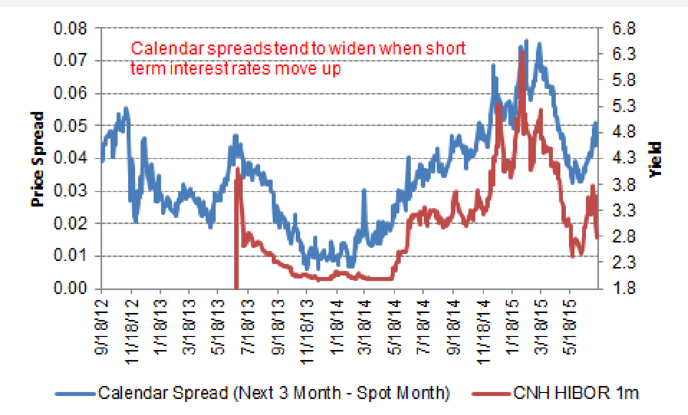


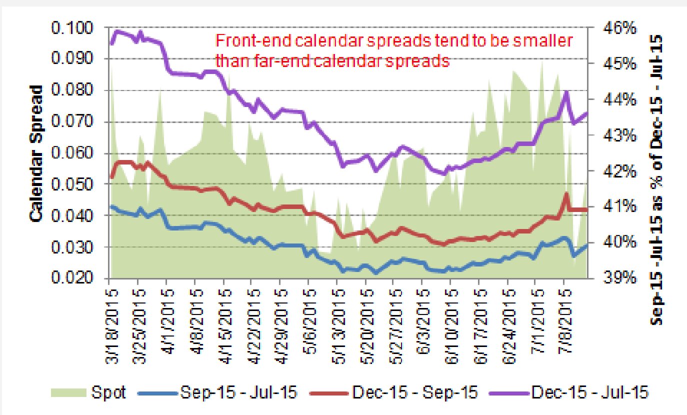
HKEx's USD/CNH futures have eight contract months: spot month, the next three calendar months and the next four calendar quarter months. HKEx also offers 10 calendar spread combos. Investors can enter a specific calendar spread trade based on a combination of long and short positions in USD/CNH futures with different maturities. Margins for individual contracts can be reduced when they are part of a spread. The minimum required margins for one pair of calendar spread trades (long one contract and short one contract) is set to RMB7,070, a reduction of 40 per cent from the full rate of RMB11,780 per USD/CNH futures contract, because the risk in calendar spreads is limited to the variation in the spreads between the expiration months, and the volatility of the spreads is typically lower than the volatility of the actual contracts.

The calendar spreads have flattened since the recent increase in RMB depreciation risk due to the sharp sell-off in China's equity markets. The flattening calendar spread curve indicates that anticipated USD/CNH currency rates are falling closer to the levels

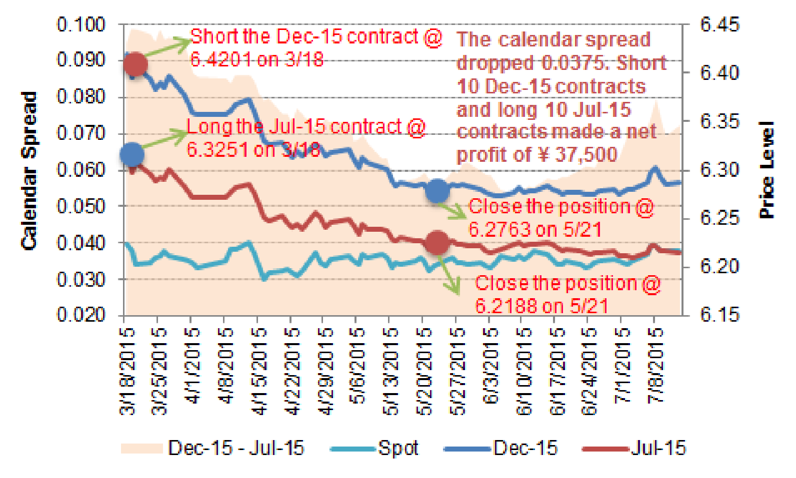








of current USD/CNH currency rates. The structural changes of the calendar spread curve are mainly driven by the changes at the far end of the curve. Through a closer study of the historical relationship between the calendar spreads of USD/CNH futures and other factors including price, implied volatilities and short term interest rate, we have identified some interesting patterns.



Firstly, USD/CNH futures calendar spreads tend to widen when the price of USD/CNH is range bound. The CNH continued to depreciate against the USD until January 2014. In the following months, the CNH reversed its path of depreciation and then entered a stage of range bound trading between 6.15 to 6.25 versus USD. During the same period, the Month after Next - Spot Month calendar spread of USD/CNH futures has trended higher to the range of (0.04 to 0.07) from the prior lower range of (0.01 to 0.04).

Secondly, USD/CNH futures calendar spreads tend to widen when implied volatility derived from the OTC USD/CNH options move up. The one month implied volatility has increased from 2 per cent to 5 per cent since January 2014. In the meantime, the calendar spreads of USD/CNH futures have followed the trend of the implied volatility closely.

Thirdly, USD/CNH futures calendar spreads tend to widen when short term interest rates (CNH Hibor) move up. The futures price is often determined by the time value of money and liquidity of the market. The longer the time period and the higher the interest rate, the higher the futures price. A typical calendar spread involves a long position in the deferred futures contract and a short position in near-term futures, as interest rate increases, the price of the deferred futures contract tends to increase more than the price of the near-term futures, which turns into a higher calendar spread value.

Lastly, assuming similar duration, front-end calendar spreads of USD/CNH futures tend to be smaller than far-end calendar spreads. As shown in the chart, the Dec-15 - Sep-15 calendar spread was always higher than the Sep-15 - Jul-15 calendar spread for the period from 18 March to 8 July. For the longer calendar spread of Dec-15 - Jul-15, which consists of the shorter calendar spreads of Dec-15 - Sep-15 and Sep-15 - Jul-15, the front-end spread (Sep-15 - Jul-15) only accounted for around 40 per cent of the Dec-15 - Jul-15 spread for most of the time.

Historically, the calendar spread between the second of the next four calendar quarter contracts and the spot month contract is around 0.06 on average. On 18 March, that calendar spread had widened to 0.095. Given any substantial deviation from the historical mean spread level, if investors want to exploit arbitrage opportunities arising from the potential mean-reverting movements of the spread in the near future, they can enter a calendar spread trade accordingly. The following is a short-term simulated calendar spread trade based on historical data: on 18 March, a trade was initiated as short 10 Dec-15 contracts @ 6.4201 and go long on 10 Jul-15 contracts @ 6.3251. On 7 July, the trade was closed by buying 10 Dec-15 contracts @ 6.2763 and selling 10 Jul-15 contracts @ 6.2188. The calendar spread of the contract pair had dropped by 0.0375 during the time period, and the simulated 10-contract calendar spread trade translated into a net profit of RMB37,500. The minimum margin outlay for the 10 contract calendar spread was RMB70,700, and the return of the simulated trade was 53 per cent for the trading period (approximately 110 days), even though there was no clear direction in the spot price, which was relatively range bound in the trading band of 6.19 to 6.22.

In summary, calendar spread can provide a cost-efficient and directionally neutral trading alternative for investors who want to exploit pricing discrepancy when markets are range-bound and volatility is increasing. Investors can use HKEX's USD/CNH futures to capitalise on trading opportunities irrespective of the underlying movements in the USD/CNH market.

Expert Corner

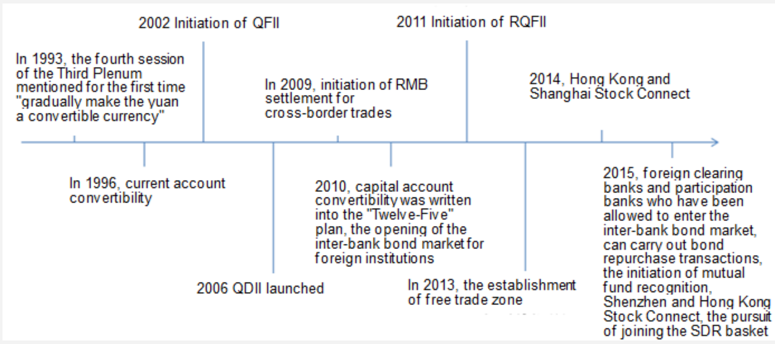
Contributed by Peng Song and Liu Wei Quan, Financial Markets Division, Shanghai Pudong Development Bank

RMB Internationalisation and SDR

Capital account convertibility and the market-oriented reforms of RMB exchange rate formation are undoubtedly at the core of financial reform in China today. The aim is to improve the managed floating exchange rate system based on market supply and demand, to promote the reform of the foreign exchange management system, to expand of the cross-border usage of RMB, and to gradually realise RMB convertibility under the capital account. These important policy goals have not only influenced the recent fluctuations in the RMB within a narrow band but also have had a profound impact on the process of RMB internationalisation.

According to speeches given by senior officers of the central bank, the next focus in the push towards convertibility of the capital account will include the opening of cross-border investment for individual investors, the introduction of Shenzhen-Hong Kong Stock Connect, the removal of prior approval requirements for most foreign exchange management, and a greater degree of openness for foreign investors to enter the domestic capital market. For example, there may be changes to allow non-residents to issue financial products, excluding derivatives, in the domestic market; and to establish an ex post regulation and prudent macro management system in the field of foreign exchange management. Such changes would reduce policy barriers to access the capital markets and provide the necessary infrastructure to establish and improve the risk control system, and therefore promote the international usage of the RMB. In connection with this process, joining the SDR basket is seen by the market as a way to make significant progress in the internationalization of the RMB.

Chart 1: The History of China's Capital Account Convertibility



With respect to the two basic conditions required for joining the SDR basket, the RMB has been one of the most used currencies for the world's exports of goods and services in the past five years, and it has made positive progress in terms of being used freely. The RMB has been increasingly used and traded globally, and developments in the bond market have been quite fast. As for opening the capital accounts, that is not out of reach. According to the central bank, among the 40 capital account transaction categories classified by IMF, RMB is convertible in 35 categories. In the meantime, channels for cross-border capital flow have been in place. They include QFII, RQFII and offshore RMB clearing banks. Also, banks have been allowed to enter the inter-bank market to carry out repo transactions, but it should be recognised that such capital account liberalisation is still controlled by quotas. The promotion of capital account liberalisation by the central bank in the future, according to China's central bank governor Zhou Xiaochuan's statements at the IMF's annual meeting, will still be "managed freely convertible", meaning the bank will maintain domestic currency stability and financial security via quotas/requirements of prior approval on the restriction of cross-border capital flows in the macro-prudential framework.

Chart 2: Shares of the World's Major Payment Currency

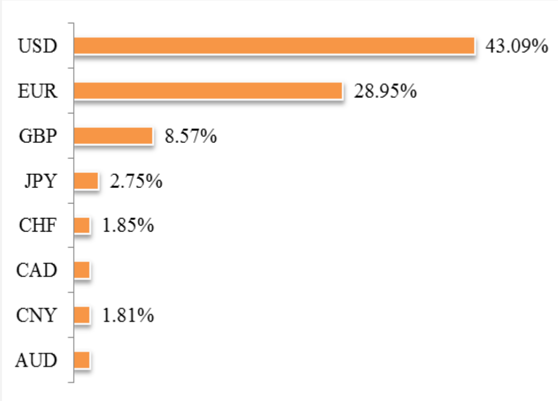
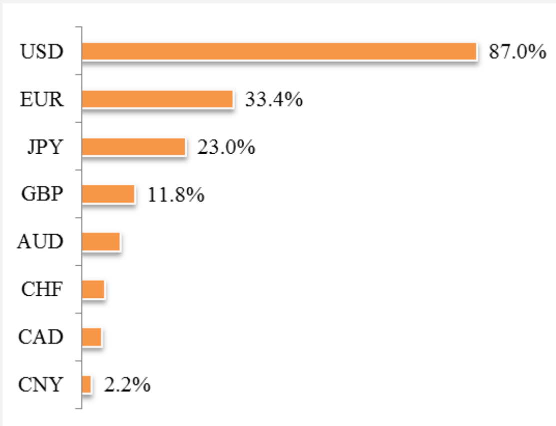


Chart 3: 2013 Major Shares of the global OTC FX Currency Trading



Secondly, the level of RMB usage has been growing rapidly. As of May 2015, the RMB's share in global currency of payments ranked fifth, even though its transactions volume in the foreign exchange market is still low (Figure 2, 3). According to the data released by BIS every two years, in 2013 the RMB only accounted for 2.2% of the global foreign exchange market. However, compared to 2010, its share improved significantly.

In addition, the onshore and offshore RMB bond markets are developing very rapidly. The main problem is it is still relatively small, compared to the markets in United States, Europe, Japan, and other developed economies, and because the major bond holders are commercial banks whose holdings are mainly based on asset allocation considerations, the markets are not very liquid. Reserve assets usually consist of liquid and realisable foreign exchange assets, such as government bonds. Another problem is that most of the RMB-denominated bonds are issued and traded in the domestic inter-bank market, while only a few central banks can enter China's inter-bank market. Therefore, the depth and liquidity of the bond market has become a limiting factor. In fact, in terms of foreign holdings in RMB bonds, as of the end of 2014, the proportion of foreign investors in the government bond and other bond markets in China was only 2.7%, compared to foreign holdings of over 30% in the US Treasury market and 8% Japan's government bond market. Even compared to emerging economies, there is still a big gap. For example, foreign bond holdings are 29% of the market in Malaysia and 33% in Indonesia,

Chart 4: The Outstanding of Domestic Bond Market

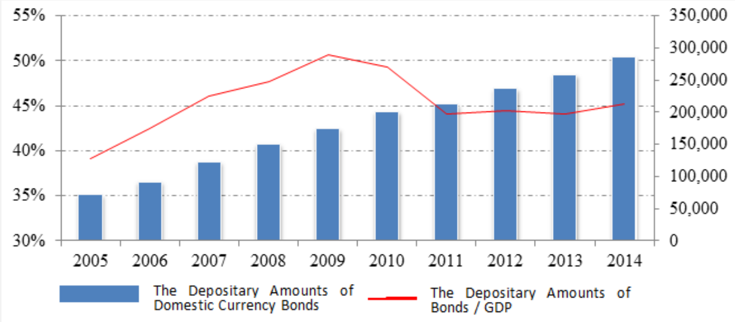
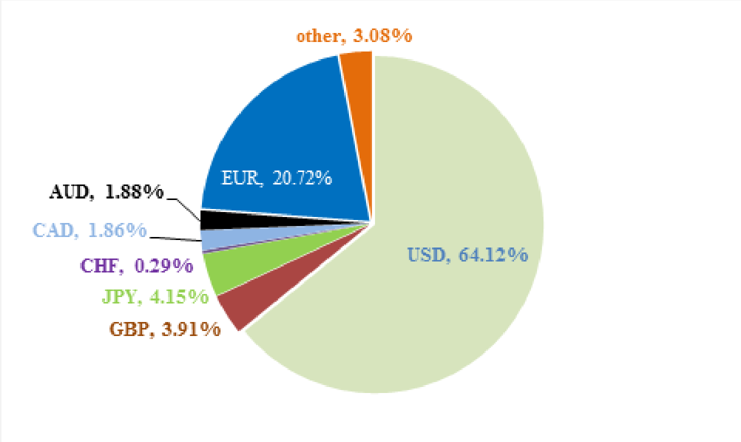


Chart 5: By the end of Q1, 2015, the Breakdown of the Reserve Currency

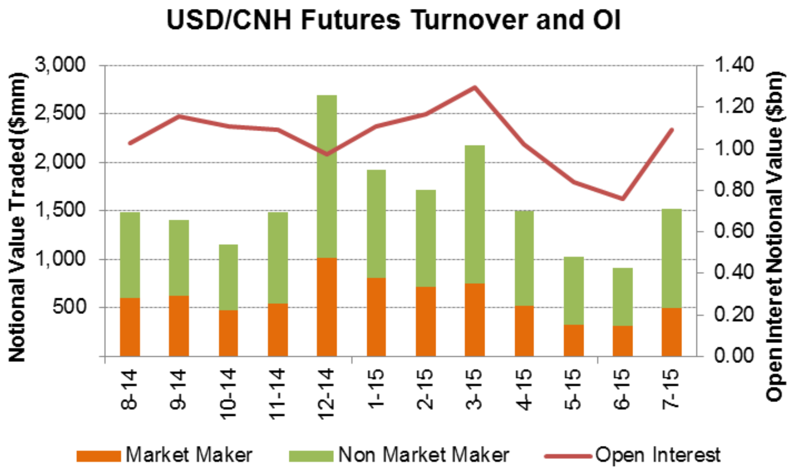


Even if the RMB cannot enter the SDR basket this year, the process of RMB internationalisation will continue. In fact, the current shares in the SDR basket for the US dollar, euro, British pound and Japanese yen are 41.9 per cent, 37.4 per cent, 11.3 per cent and 9.4 per cent, respectively. However, in the international foreign exchange reserves, the share of the US dollar has reached 64.12 per cent, while the British pound and the Japanese yen only account for 3.91 per cent and 4.15 per cent, while the Australian dollar, Canadian dollar and Swiss franc (CHF), although not included in the SDR basket, have a certain share in the international foreign exchange reserves. If the RMB can be included in the SDR basket of currencies, it will be a milestone in the RMB's internationalisation, and it will undoubtedly have a positive effect on the international image and the degree of acceptance for the RMB. On the one hand, adding to the SDR basket will show that its importance in the international financial system has been recognised, and it will advance the RMB's internationalisation. On the other hand, the deeper meaning will be that the decision-making level has promoted the inclusion of the RMB in the SDR basket and is likely to accelerate the reform process of market driven interest rates and capital account liberalisation, or accelerate the reform of the domestic financial market, thereby increasing the efficiency of capital allocation.

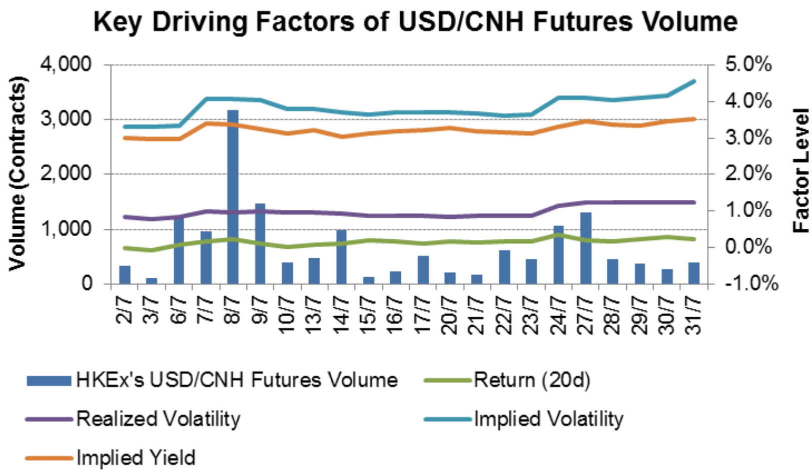
Finally, the recent A-share market volatility suggests that there are still a lot of improvements needed in the domestic capital market infrastructure and system, and that capital account convertibility as well as market-oriented RMB exchange rate mechanisms should be based on development needs and the actual capacity of the domestic economy. It also suggests there should be continued improvement of the international competitiveness of export products as well as a stronger voice in the international market. In addition, there's a need for enhanced international service capacity at national financial entities along with enhanced depth and breadth of financial markets to make them a convenient and safe place to invest for domestic and foreign investors. As capital account liberalisation and domestic financial market reforms continue to move forward, we believe the future of RMB exchange rate flexibility will be significantly enhanced, the RMB's share in international investment transactions in the foreign exchange market will continue to grow, and the road of RMB internationalisation will be smoother.

Liu Wei Quan, PhD in Econometrics, is currently serving as an fx options trader in Shanghai Pudong Development Bank, and is mainly engaged in the development and design of fx options trading strategies and related structured products.

HKEx's USD/CNH Futures Market Statistics



- In July 2015, a total of USD 1,521 million in contract value was traded, with an average daily notional value of USD69 million.
- Non Market Makers contributed 67 per cent of contract volume, increased from 65 per cent in June 2015.



The following have been identified as the key driving factors behind the CNH futures volume:

- Cumulative return of CNH/USD,
- Realised volatility (20d),
- Implied volatility (USD/CNH 1Y ATM Implied Volatility from Bloomberg)
- 12 month forward implied yield

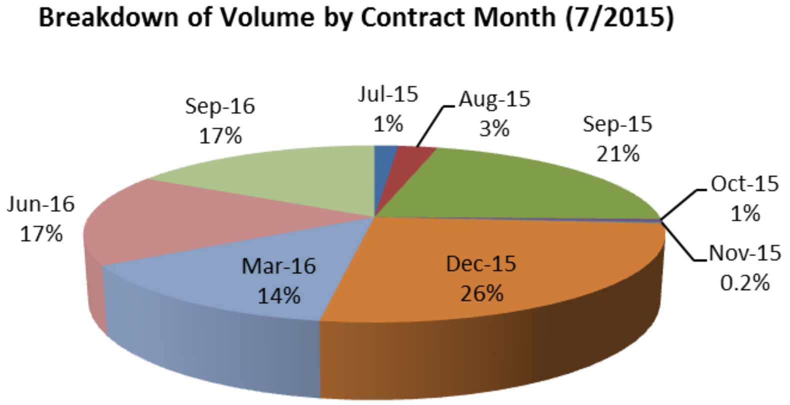
USD/CNH Futures Prices and Average Bid-Ask Spread

Contract Month	31 July Closing	Average Bid/Ask Spread*
Jul-15	-	0.0017
Aug-15	6.2298	0.0022
Sep-15	6.2431	0.0016
Oct-15	6.2609	0.0028
Nov-15	6.2751	0.0025
Dec-15	6.2899	0.0018
Mar-16	6.3353	0.0019
Jun-16	6.3828	0.0021
Sep-16	6.4323	0.0022

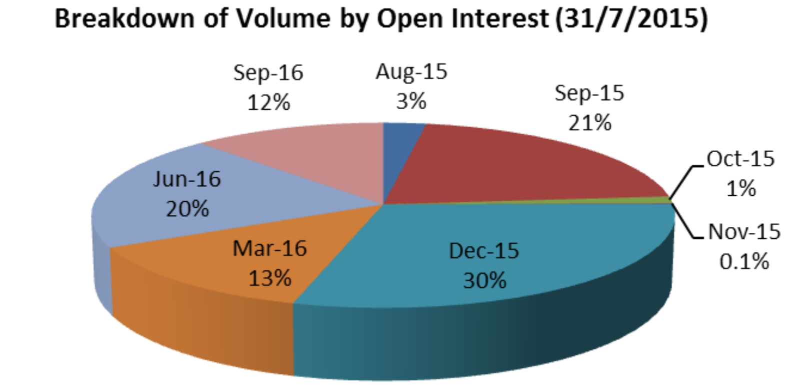
*Average Bid/Ask Spread between 9:30 am and 4:00 pm during the month

- During the day session, the average bid-ask spread of the Sep 2015 contract was 0.0016.

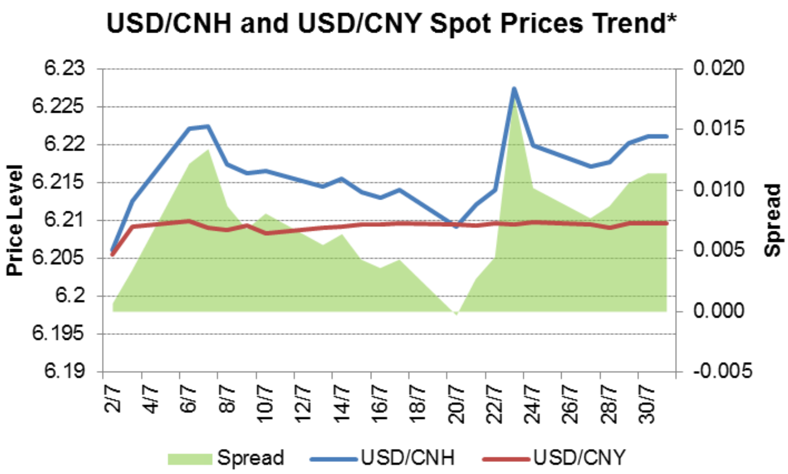
HKEx's USD/CNH Futures Market Statistics



- Trading volume was highest in the December 2015 contract and subsequent quarter-month contracts.

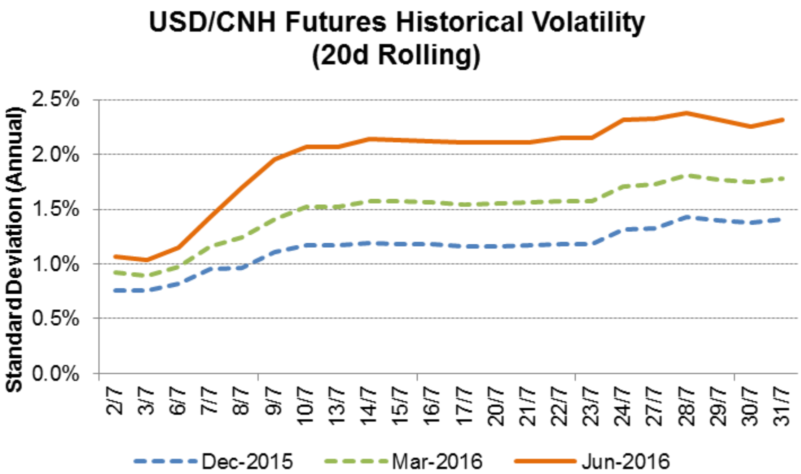


- Open interest was high in the September 2015, December 2015 and June 2016 contracts, which accounted for 71 cent of total open interest at the end of July.



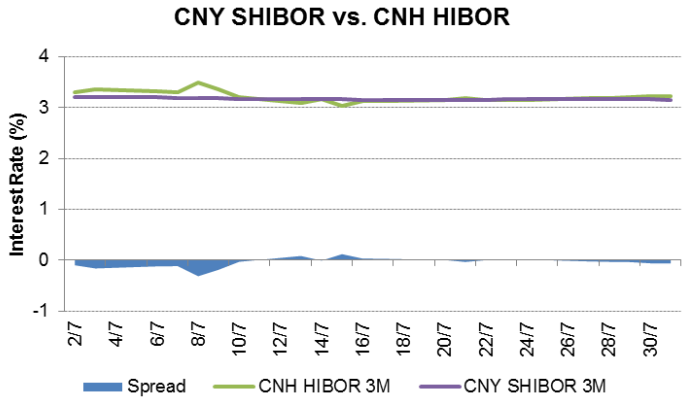
*Bloomberg closing price

- The spread between the USD/CNH and the USD/CNY widened throughout the month at average 0.007. The CNH was trading at a discount to the CNY against the USD.

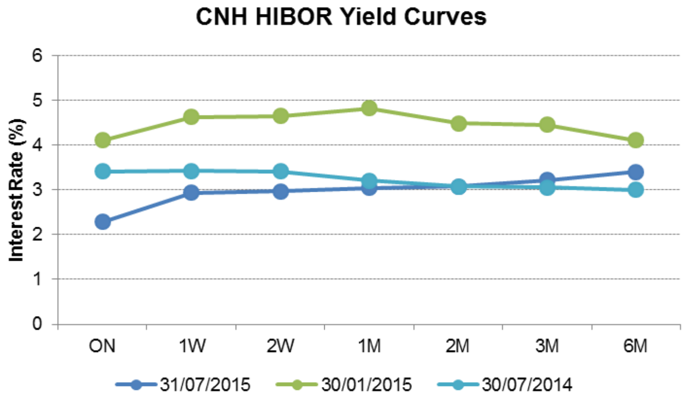


- Volatility in USD/CNH Futures ranged between 0.7 to 2.4 per cent in July 2015.
- The volatility spreads across far month contracts and front month contracts widened towards the end of July 2015.

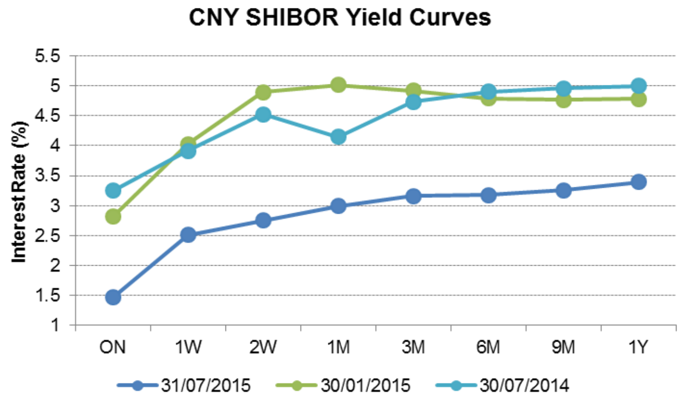
RMB FIC Market Review - Short-Term Interest Rates and Fixed Income



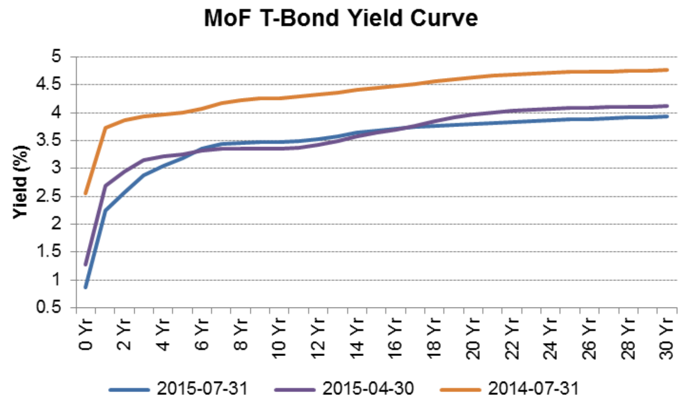
Onshore rates (CNY SHIBOR) is similar to offshore rates (CNH HIBOR) and the spread between them was narrowed throughout the month.



The CNH HIBOR yield curve in July 2015 was flattened in the short end and relatively remained stable in the long end, a comparable shape as the yield curve in July 2014.



The CNY SHIBOR yield curve in Jully 2015 steepened in the short end and sloped gradually upwards towards the long end.



The MoF T-Bond yield curve was gradually moving up. Compared to the short end of the yield curve, the long end dropped more during that period.

For more information about the USD/CNH Futures,

please visit: http://www.hkex.com.hk/rmbcurrencyfutures

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