CME Group

Offshore Chinese Renminbi Market (CNH)

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The People's Republic of China (PRC) has aggressively been pursuing the internationalization of the Chinese yuan or renminbi (CNY or RMB) since the financial crisis of 2008. The ultimate goal is to achieve full currency convertibility, thereby promoting use of the renminbi as an international trade currency of choice.

Thus, the People's Bank of China (PBOC) and the Hong Kong Monetary Authority (HKMA) jointly announced on July 19, 2010 that RMB may be deliverable in Hong Kong. This created a new offshore market in RMB, dubbed the "CNH" market. Since its introduction, this market has grown at a rapid pace, attracting widespread interest and activity.

This development is changing the character of the RMB markets and of the FX markets in general. Note that CME Group currently offers futures based on the CNH vs. the U.S. dollar (USD). [1]

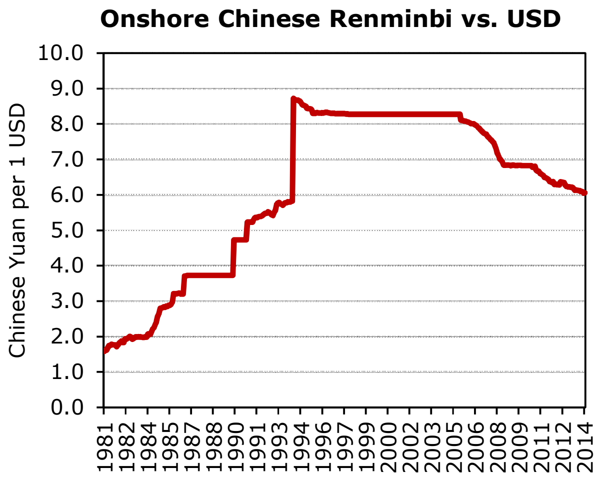
About CNY

The renminbi or "people's currency" (designated as RMB or ¥ or RM¥) is the official legal tender in mainland China albeit not in Hong Kong. This is the formal reference most frequently used by Chinese officialdom to refer to the currency. Although there is no precise translation into English, it is generally analogous to a reference to the terms "money" or "legal tender."

The Chinese yuan refers to the standard unit of renminbi and is analogous to the term "dollar" in English. *I.e.,* the yuan represents the onshore or mainland Chinese spot currency market. [2] CNY is the ISO 4217 code for RMB[3] and is used to designated Chinese yuan or renminbi in FX transactions.

For most of its early history after its introduction in 1948, the RMB had been pegged at 2.46 CNY per USD. The currency strengthened during the 1980s to a high of 1.50 CNY per USD by 1980s. Subsequently, as the PRC gradually transitioned from a centrally planned to a market driven economy, the currency was devalued to a low of 8.62 CNY per USD by 1994. Between 1997 and 2005, the currency remained steadily pegged at 8.27 CNY per USD.

As a result of the CNY's low peg and concerted industrialization, international trading activities intensified and PRC's current account surplus increased rapidly. These factors exerted upward pressure on CNY and the reference peg was amended as of July 2005, resulting in an immediate revaluation to 8.11 CNY per USD.



A peg was reintroduced in July 2008 in response to the financial crisis. But the PBOC announced in June 2010 that it would take further steps to reform its exchange rate regime, introducing enhanced flexibility. Since then, the CNY has generally

[1] CME Group introduced futures based on the value of the U.S. dollar vs. offshore Chinese renminbi (CNH) in response to these developments. These contracts are quoted in terms of offshore RMB or CNH per USD. They call for the delivery of $100,000 USD vs. an equivalent amount of CNH through Hong Kong domiciled banking facilities. Another CNH contract is available in an "E-micro" format which calls for the delivery of $10,000 USD vs. an equivalent amount of CNH. Daily pays and collects are administered in CNH. For more details, please visit our website at http://www.cmegroup.com/trading/fx/emerging-market/usd-cnh_contract_specifications.html

[2] The "kuai" represents a slang reference for RMB and is analogous to the term "buck" in the U.S. Similar references may be found in the United Kingdom where the British Pound may alternatively be referred to as "sterling" (a formal reference), "pound" (in everyday usage) or "quid" (in slang).

[3] No official ISO code currently exists for CNH and it is simply referred to as "offshore RMB" or "offshore CNY" with the same ISO code, which can cause confusion distinguishing between onshore CNY and offshore CNY settlements and reporting.

strengthened vs. other world currencies albeit with some recent retreats in response to slowing economic growth. Still, by some analyses, the official exchange rate of the CNY may be as much as 30-40% undervalued relative to the USD.

The CNY remains subject to a "managed float" exchange rate regime which permits the currency to float within a specified range about the value of basket of world currencies. The basket is reported to largely be comprised of the U.S. dollar (USD), Euro (EUR), Japanese yen (JPY), Korean won (KRW) with smaller proportions referencing the value of the Australian dollar (AUD), British pound (GBP), Canadian dollar (CAD), Russian ruble (RUB), Singapore dollar (SGD) and Thai baht (THB).

The range or band within which CNY is allowed to float about the official PBOC rate had been established at 0.3% on a daily basis. But the band was expanded to 0.5% as of May 2007. The band was further expanded to 1.0% in April 2012, a policy that has helped increase two-way interest in trading the currency. A 50 to 100 bps expansion of the trading band to 1.5%-2% is anticipated some time in 2014, with some speculating as early as Q2. This should further bolster two-way trading in RMB.

About CNH

Previously, RMB has been rather grossly underutilized as a medium for international trade relative to the significance of the Chinese economy. The Chinese economy has grown rapidly in recent years with 2013 GDP at 56.9 trillion yuan ($9.4 trillion) and second only to U.S. 2013 GDP at $15.76 trillion[4]. The PRC is the world's largest exporter. However, GDP growth is slowing with 7.5% target for 2014 and 7.7% GDP registered in 2013.

Though GDP growth concerns remain, RMB has made significant gains by becoming the seventh most utilized international trade payment currency according to SWIFT's latest report. Comparatively, RMB still has a long way to go to catch up with USD and EUR which account for 39.5% and 33.2% of transactions, compared to 1.39% for RMB. [5]

This is a result of concerted steps having been taken to "internationalize" the RMB. This began with a December 2008 announcement from Premier Wen of a pilot program for cross border trade settlement of RMB with Hong Kong, Macau and other ASEAN countries. The RMB became officially deliverable in Hong Kong on July 19, 2010 with a joint announcement between the PBOC and HKMA. Thus, the market for CNH was officially commenced.

Any offshore corporate entity or individual investor is allowed to buy, hold or sell CNH. Corporate or individual investors not domiciled in Hong Kong may participate in CNH markets by establishing CNH denominated nostro or non-resident accounts in Hong Kong, frequently facilitated by a local bank with correspondent Hong Kong banking relationships.

Offshore FX market participants are, however, restricted from participating in the onshore CNY market with some exceptions. Specifically, Qualified Foreign Institutional Investors (QFIIs) are granted quotas to participate in specified onshore trading and investment activities.

Certain corporate entities are allowed to participate in foreign direct investment (FDI) in PRC proper. Offshore corporate entities are permitted to transact in CNY if the FX exchange is part of a cross-border trade settlement process. By the same token, onshore (or PRC domiciled) entities are generally constrained from participating in the CNH marketplace.

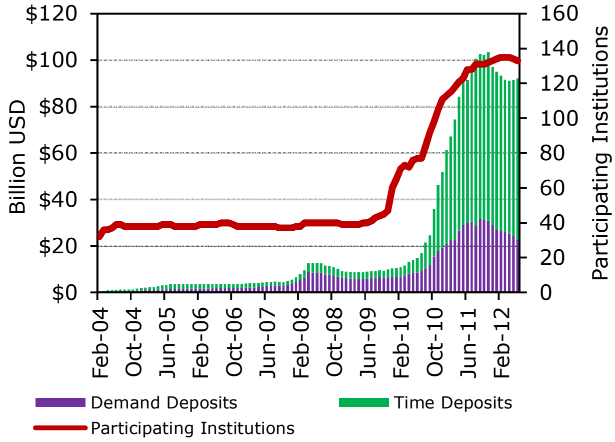
The CNH market has grown rapidly to the extent that some 146 authorized Hong Kong institutions held some 860.472 billion CNH, or the equivalent of $141.8516 billion USD, in time and demand deposits as of December 2013. [6] CNH spot, swaps, forwards, futures, and options market liquidity has improved significantly with some OTC estimates around CNH

[4] National Bureau of Statistics of China: http://www.stats.gov.cn/english/PressRelease/201402/t20140224_515103.html and U.S. Department of Commerce, Bureau of Economic Analysis: http://www.bea.gov/national/index.htm#gdp

[5] SWIFT's RMB Tracker, 27 February 2014: http://www.swift.com/assets/swift_com/documents/products_services/RMB_tracker_February2014_final_sdc.pdf

[6] Hong Kong Monetary Authority (HKMA) Monthly Statistical Bulletin (February 2014, Issue No. 234): http://www.hkma.gov.hk/eng/market-data-and-statistics/monthly-statistical-bulletin/table.shtml

average trading volume (ADV) at nearly $30bn combined. BIS' Triennial Central Bank Survey of FX turnover puts RMB average daily volume (ADV) at $120 billion but does not break out CNH from onshore RMB. [7]



Source: Hong Kong Monetary Authority

Because the CNH market in Hong Kong is limited to Hong Kong domiciled entities or those holding a nostro account in Hong Kong, the market is effectively regulated by the Hong Kong Monetary Authority. However, the HKMA is not authorized to intervene in the market and, therefore, the market is open and operates akin to the markets for other deliverable currencies in Hong Kong.

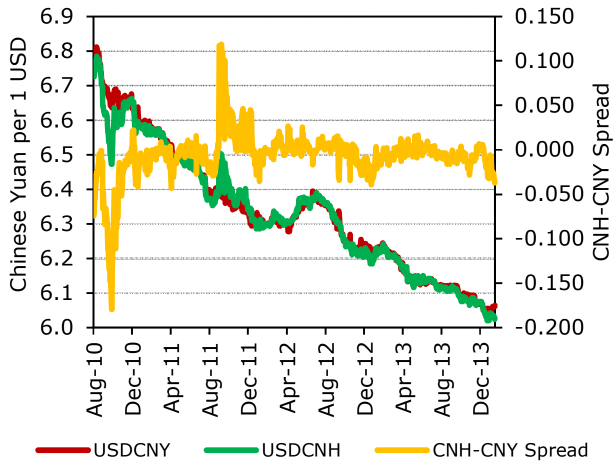
While the People's Bank of China and the State Administration of Foreign Exchange (SAFE) regulate onshore CNY markets, they have no direct oversight in Hong Kong. Still, these bodies regulate RMB flows between onshore and offshore accounts and, therefore, may affect the supply and liquidity of CNH as well as the alignment between CNH and CNY rates.

Different Markets

While there is but a single Chinese renminbi, the onshore and offshore environments for trading CNY and CNH are sufficiently insulated one from the other that two distinct markets have emerged for the two variations on the general theme.

Thus, we observe somewhat different exchange rates in the CNY vs. CNH markets by design. Divergences may motivate cross-border flows of funds which will ensure convergence in the longer term. But in the shorter term, disconnects in relative value may be observed, noting that the supply of CNH remains relatively limited compared to CNY.

Most recently in February, CNY weakened nearly 1.5% vs. USD driven by the PBOC CNY fixing rate set weaker than expected. Some market participants explain the move on PBOC's intention to widen the trading band of CNY. Whatever the reason, the recent spike in volatility has led to short term divergence in the CNY/CNH spread.



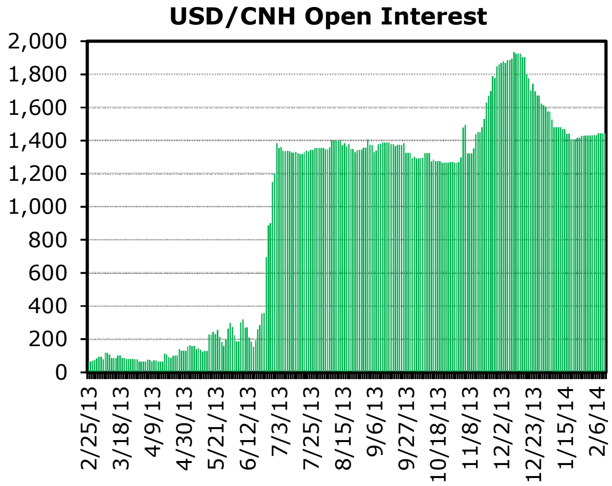
Further adding to the complexity, we may also reference the traditional offshore market for RMB in the form of USD settled non-deliverable forwards (NDFs). These NDFs tend to trade independently of both onshore CNY and offshore CNH. Trading and hedging trends indicate that CNY NDFs are losing popularity as means of hedging or expressing onshore CNY views and rather, USD/CNH forwards and futures are picking additional liquidity as the favored derivative instruments.

CME USD/CNH Futures

CME's CNH futures contract launched at the end of February 2013 is a young and growing contract which illustrates hedging trends in CNH, distinguished from hedging trends of other

[7] Bank of International Settlements Triennial Central Bank Survey, FX turnover in April 2013: https://www.bis.org/publ/rpfx13fx.pdf

currencies. The plurality of open interest held is in contracts extending out some 6 to 12 months from the present. This distinguished CNH futures from most other FX futures where the bulk of open interest is typically held in the front month.



Pricing differentials observed in the various RMB markets are a reflection of the comparative difficulties associated with cross-border transfers. Ultimately, the market valuation differentials should converge to zero once the flows are fully convertible between onshore and offshore markets.

Operational and Settlement Issues

The RMB settlement system in Hong Kong is administered under the auspices of HKMA. The service uses the Hong Kong Real Time Gross Settlement (RTGS) infrastructure, which is further deployed for the settlement of Hong Kong dollars (HKD), USD and Euros along with the Central Clearing and Settlement System (CCASS). RTGS is operated by HK Interbank Clearing Ltd.

The Bank of China (BOC) Hong Kong acts as the central clearing bank for the RMB Settlement System. Hong Kong banks wishing to use the service open accounts with BOC and payments are cleared across those accounts.

The service covers check clearing, an automated system for remittance processing and RMB bank card payments as well as interbank payments. Banks can square their RMB positions on a Payment versus Payment (PVP) basis. It further permits USD/RMB, HKD/RMB and EUR/RMB transactions to be concluded on a PVP basis.

Participating banks are allowed to convert foreign currency into RMB and vice-versa by buying or selling the foreign currency with BOC at the onshore exchange rate if the RMB is related to trade flows. BOC then squares their positions by buying or selling currency with PBOC in Shanghai vs. RMB. Thus, RMB may be transferred between onshore and offshore sources.

Looking Forward

Hong Kong now stands out as the largest offshore RMB trading center with approximately 73% of all RMB payments passing via Hong Kong facilities.

Hong Kong financial institutions now offer a wide range of RMB-denominated retail banking services including deposit-taking, currency exchange, remittance, debit and credit cards, checks, subscription and trading of RMB-denominated fixed income securities as well as RMB settlement.

RMB-denominated capital markets are developing and expanding quickly in Hong Kong. Trading in so-called Dim Sum bonds, or CNH-denominated bonds issued in Hong Kong, rose from RMB 200 million in January 2011 to RMB 500-600bn in 2013. In April 2011, the first RMB-denominated IPO was listed on the Hong Kong Exchange by Hui Xian, part of Cheung Kong Group. The Dim Sum bond market is growing but remains insignificant compared to the trillion RMB onshore bond market.

In June 2011, more than 900 financial institutions in over 70 countries, engaged in RMB transactions across various financial markets. Projections from SWIFT suggest that trading in RMB will account for upwards to 5% of the FX spot and derivatives business by 2020, up from the current level of 1.39%.

The United Kingdom and the City of London Corporation have been positioning itself as the next major offshore RMB center with government officials and key market participants on both sides meeting on a regular basis to discuss how best to develop this market.

In January 2012, U.K. Treasury and HKMA officials launched a joint private sector forum that aims to improve cooperation between the UK and Hong Kong to support the development of offshore RMB trading.

On 22 June 2013, Governor Zhou Xiaochuan and former Governor Mervyn King signed an agreement to establish a 3-year GBP/RMB currency swap line with a maximum value of RMB 200bn ($33bn) to promote bilateral trade between the UK and China.

Conclusion

The rapid emergence of offshore trading in Chinese renminbi (the "CNH" market) domiciled in Hong Kong represents a significant development towards the internationalization of the RMB as the PRC continues to assert itself on the world economic stage. These developments merit close consideration in light of the economic significance of the PRC now and continuing into the future.

As the underlying cash market grows, we anticipate the proliferation of derivative hedging products for clients to manage their RMB risk. In particular, CNH options have grown in liquidity and popularity as a risk management tool. CNH option liquidity is estimated around $3-5bn by local market traders though patchiness in liquidity exists. CME is currently assessing launching USD/CNH options on futures for 2014.

CME USD/CNH futures offer a facile means by which to trade based upon one's expectations of further developments in the off-shore RMB or CNH market. For more information, refer to our website at http://www.cmegroup.com/trading/fx/emerging-market/usd-cnh.html.

U.S. Dollar/Offshore Chinese Renminbi (USD/RMB) Futures

Contract Size	100,000 USD
Contract Months	13 consecutive calendar months (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec) plus 8 March quarterly months (3-year maturity range)
Minimum Price Fluctuation (Tick)	Outrights quoted in 0.0001 offshore Chinese renminbi per USD = 10 CNH (≈ USD $1.60) per contract. 0.00005 offshore Chinese renminbi per USD increments (5 CNH/contract) for USD/CNH futures intra-currency spreads executed electronically.
Trading Hours	On CME Globex, Sundays: 5:00 p.m. – 4:00 p.m. Central Time (CT) next day. Monday – Friday: 5:00 p.m. – 4:00 p.m. CT the next day, except on Friday – closes at 4:00 p.m. and reopens Sunday at 5:00 p.m. CT.
Last Trade Date and Time	Trading ceases at 11:00 a.m. Hong Kong time on 2nd Hong Kong business day immediately preceding 3rd Wednesday of the contract month (i.e., In Chicago, 9:00 p.m. CT on Sunday night during the winter and 10:00 p.m. CT on Sunday night during the summer).
CNH-Denominated	Daily pays and collects calculated and banked in CNH
Delivery Process/ Delivery Day	Final settlement facilitated through delivery of $100,000 from short to long; vs. delivery of equivalent value of CNH from long to short; through correspondent banks as approved by CME Clearing on 3rd Wednesday of contract month. Payment of CNH vs. USD embargoed by CME Clearing pending receipt of Payment Orders from both long and short.

E-Micro U.S. Dollar/Offshore Chinese Renminbi (USD/RMB) Futures

Contract Size	10,000 USD
Contract Months	12 consecutive calendar months (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec)
Minimum Price Fluctuation (Tick)	Outrights quoted in 0.0001 offshore Chinese renminbi per USD = 1 CNH (≈ USD $.16) per contract. 0.00005 offshore Chinese renminbi per USD increments (.5 CNH/contract) for USD/CNH futures intra-currency spreads executed electronically.
Trading Hours	On CME Globex, Sundays: 5:00 p.m. – 4:00 p.m. Central Time (CT) next day. Monday – Friday: 5:00 p.m. – 4:00 p.m. CT the next day, except on Friday – closes at 4:00 p.m. and reopens Sunday at 5:00 p.m. CT.
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CNH-Denominated	Daily pays and collects calculated and banked in CNH
Delivery Process/ Delivery Day	Final settlement facilitated through delivery of $10,000 from short to long; vs. delivery of equivalent value of CNH from long to short; through correspondent banks as approved by CME Clearing on 3rd Wednesday of contract month. Payment of CNH vs. USD embargoed by CME Clearing pending receipt of Payment Orders from both long and short.