RMB & SDR: The Q&A brief

- **Will the IMF include the renminbi in its SDR basket? Will it be the CNH or CNY, and with what weight? Do currencies typically appreciate a lot when their weight in SDR increases? What would be the market implications if the RMB were to be included?**
- **In this note, we discuss in a Q&A format the issues surrounding the 2015 quinquennial review of the SDR basket.**

The IMF's 2015 SDR review is approaching. The IMF's Executive Board is expected to announce the review results in October. While the IMF has not given an official date for the review, rumours indicate that the announcement might occur 20 October. The CNH options market is not assigning any particular date as a special 'event' day. The 2010 review report was published 26 October but only made public on 15 November.

Below we highlight the key issues and likely market reactions, in a Q&A format.

What are the latest developments?

- The IMF sent a team to Hong Kong and Beijing two weeks ago to discuss with market participants and senior Chinese officials the modalities of the RMB's inclusion in the SDR basket. The results of the discussion with officials were not made public, but the discussions themselves amount to concrete progress in the technical work necessary for the review.

- During the Strategic Economic Dialogues between the US and China this week, the US Treasury confirmed that the SDR issue was discussed. This makes it all the more likely that the issue features at Chinese President Xi Jinping's state visit to the US in September.

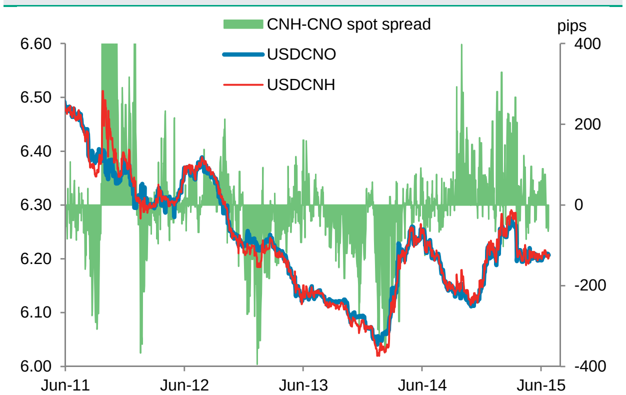
Is the RMB ready for inclusion in the SDR?

- There are two main criteria for currency inclusion. The first – the 'Gateway' criterion – is an assessment based on the country's export share in the world. The second – the 'Freely usable' criterion – is assessed on the basis of trading volume and use in international payments.

- In its 2010 review, the IMF judged that the RMB met the first but not the second criterion. Since then, there has been a sharp increase in China's FX market turnover and usage of the RMB in cross-border payments (mainly involving Chinese trade).

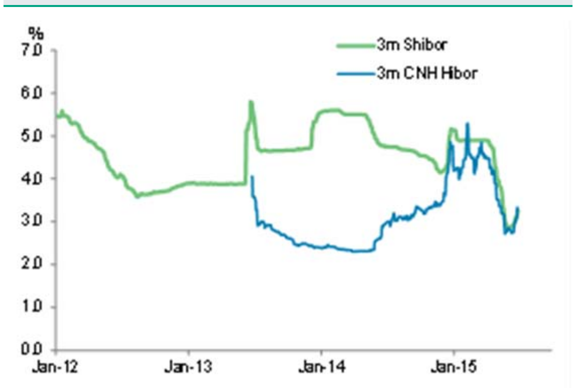
- The IMF has acknowledged this shift. Managing Director Christine Lagarde has noted that adding the RMB to the SDR basket is just a matter of time. However, there are still technical hurdles that raise some serious practical questions (see next section).

Chart 1: CNH versus onshore exchange rate



Source: BNP Paribas, Bloomberg

Chart 2: 3m CNH HIBOR vs 3m onshore SHIBOR



Source: BNP Paribas, Bloomberg

If the RMB is included, will it be USDCNY (onshore) or USDCNH (offshore)?

- Recall that the SDR has an exchange rate reference and a composite interest rate reference. In practice, the SDR exchange rate is determined on the basis of a snapshot of prevailing exchange rates at London midday. And the interest rate reference is based on the 3-month government T-bill equivalent in each currency. Note that the SDR interest rate is crucial as it directly influences the rate at which the IMF lends to countries in distress.

- This creates a catch-22 situation. On the one hand, the USDCNH FX spot market is freely accessible to foreigners, while the onshore USDCNY market is not. In fact, the onshore market is closed at London midday (the time when the SDR exchange rate is computed). On the other hand, the CNH interest rate reference (CNH HIBOR) is still in its infancy and not very liquid, while the onshore interest rate references (eg 3m SHIBOR) are more liquid and representative.

- If the SDR uses the onshore CNY exchange rate, it could create a mismatch of payments for foreign market participants, as they would only be able to execute an SDR-denominated transaction at the CNH exchange rate, which trades at a variable spread to the CNY. But if the SDR uses the CNH, then there would be a credibility issue regarding the interest rate reference. Neither option is perfect.

- The most likely compromise would be for the IMF to use the offshore CNH as the reference for the SDR exchange rate, while using the onshore 3m SHIBOR as the interest rate reference. Of course, the IMF Executive Board would need to be convinced that the onshore and offshore markets will converge fully in the foreseeable future.

- This creates a substantial probability, in our view, that the IMF may defer the decision or make the decision conditional on meeting specific reform criteria within a certain time frame. Essentially, the IMF could do what MSCI did last month – more on this below.

Could the US frustrate Chinese aspirations?

- It is generally believed that the Obama administration is reluctant on the issue of the IMF including the RMB in SDR. The US Treasury Secretary noted in March that China needs to loosen its financial controls before the RMB qualifies to be included in the SDR basket.

- But it would be wrong to think that the US and China are on a collision course on this issue. In reality, the US probably wants to use the SDR as a ‘carrot’ to pry open China’s capital account, sign the bilateral investment treaty, and diminish official tinkering in China’s exchange rate. In fact, the US might privately welcome the inclusion in the belief that this would result in a long-term appreciation of the RMB.

What would be the weight of the RMB?

- If we follow the approach[1] that the IMF has used in its two previous reviews, we estimate the **weight of RMB would be 15%;** higher than the weights of the GBP and the JPY, but lower than the weights of the USD and the EUR.

- The weighting method is based on trends in exports and reserve holdings. Trade is calculated as a five-year average of published statistics. Reserve holdings are based on a five-year average of data compiled by the IMF (COFER). However, there is no public data on how much RMB assets are held by foreign reserve managers. We have plugged in a USD 100bn assumption.

- Chart 3 on the next page shows our calculation of the weights if the RMB were to be included in SDR. The interesting point is that the USD’s weight would be little affected: most of the change would occur to other countries’ weight. In particular, the EUR’s rate would drop from 37.4% to 30.0%, on our calculations.

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[1] *Review of the Method of Valuation of the SDR*, IMF, 26 October 2010

What does the SDR weight have to do with reserve management?

- Causality runs both ways. As the share of each currency in global reserves is one of the weighting criteria, a more popular reserve currency will naturally command a higher SDR weight. Similarly, a currency with high SDR weight would be difficult to ignore from a reserve manager's perspective.

- That said, there is little correspondence between the weights of a currency in SDR and global reserves (see Chart 4 below). Essentially, the USD is over-represented in global reserve portfolios. Reserve managers obviously consider market depth, liquidity and several other factors in making their allocation decisions.

- Thus, even if the IMF assigns a 15% SDR weight to the RMB, this does not necessarily imply a massive and immediate reserve reallocation. Of course, there will be a substantial impact in the medium term. But the pace will depend on how quickly China opens its capital account to accommodate these inflows. At the moment, foreigners' access to local-currency bonds is restricted by QFII and RQFII quotas.

Do currencies fluctuate a lot when their SDR weights change?

- No! Seriously – we did the analysis.

- We examined the history of the IMF's SDR rebalancing decisions (Chart 5 next page). From IMF press releases and cross-checking with media reports, we managed to confirm the dates on which most of the decisions were announced and the date at which the new weights became effective.

- We then looked at large changes in SDR weights and examined the price action in the relevant currency around both the announcement and the effective date. In order to cross-check, we also scanned daily 'market-wraps' written by financial journalists during those periods to see if the exchange rate moves were being attributed to the IMF's SDR decision. The SDR was rarely mentioned.

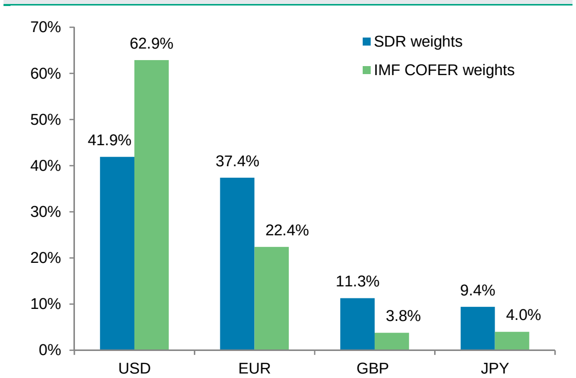
- We produce the relevant charts in the Appendix section. But the upshot is that we do not observe major market reactions that would be consistent with SDR weight changes. For instance, the large decline in SDR weights for the JPY in the 2000 and 2005 reviews were not associated with a large depreciation of the JPY around either the announcement or the effective dates.

Chart 3: Standard IMF methodology puts RMB weight at 15%!

	Exports of Goods & Services (USD bn)	Official holdings (USD bn)	Total of 1 & 2	2015 simulated weights	Current weight (2010 review)
USD	2164	3538	5702	**41.2%**	41.9%
EUR	2739	1422	4161	**30.0%**	37.4%
GBP	866	218	1084	**7.8%**	11.3%
JPY	610	227	837	**6.0%**	9.4%
CNY	1972	100	2072	**15.0%**	
Total	8351	5505	13856	**100%**	100%

Source: BNP Paribas, IMF, World Bank * BNP estimate

Chart 4: Current SDR and reserve weights



Source: BNP Paribas, IMF

Did the JPY appreciate a lot when it was included in the SDR basket?

- Some people point out that the JPY was included in the SDR basket in 1973, at a time when Japan's financial system was primitive compared to China's today. As such, they argue, it is a travesty that the RMB isn't already in the SDR.

- We see this argument as disingenuous. In 1973, the IMF had a completely different evaluation framework. From 1973 to 1980, the SDR consisted of *16* currencies, which included the yen.

- The correct comparison, we believe, is to September 1980, when the IMF whittled the SDR basket down to just four currencies and made the JPY a member of this exalted club. And yes, the JPY appreciated markedly both around the announcement and ahead of the effective dates (see second chart in the appendix). However, the news clips from that time attribute this surge to reserve inflows from Middle-Easts countries, but not specifically the SDR re-weighting.

How did the CNH vol market react during the 2010 review?

- We do not recall that the 2010 SDR review weighed heavily on the CNH market in 2010. There were some scattered calls in Chinese financial circles and the PBoC about why the RMB *should* be included, but not the determined campaign that we see today.

- The PBoC did free up the currency from its post-Lehman pseudo peg in 2010. And the CNH market was launched the same year. It is possible that the SDR review accelerated the PBoC's timeline on implementing these initiatives, but we cannot say for sure.

- A look into the months leading up to the 2010 review is tricky because it coincided with the PBoC restarting RMB appreciation in September. Vols doubled as investors bought RMB calls, vol surfaces flattened/inverted, and risk-reversals re-priced sharply for CNY strength in the two months before the October 2010 review (Chart 6). Note that the rise in USDCNY vols did not occur in the context of a general rise in FX vols, as USDCNY vols sharply outperformed all other FX vols. So there are some historical reasons to expect higher volatility, though it is hard to disentangle the various effects.

- Clearly, the 2015 event is far more significant than the 2010 review. In our view, the announcement effect could have a much larger impact on vols this time, as:

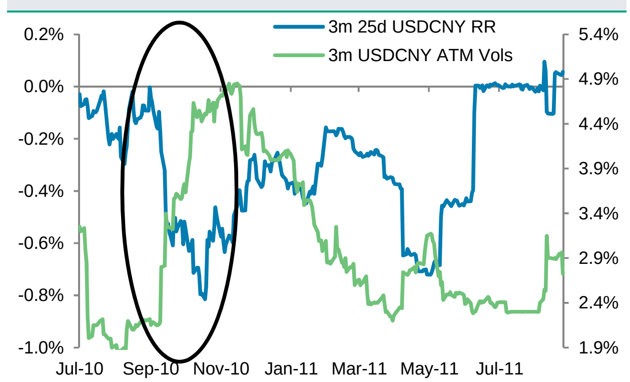
    - There is a much higher likelihood of RMB being included in the SDR this time;
    - Current CNH vols are less than half those in 2010 and the market is only moderately positioned long the CNH against the USD;
    - The announcement will come in the context of the Fed 'lift-off' on rates, so FX volatility in general would be on the rise.

Chart 5: IMF SDR reviews – history of weight changes

	1978-80	1981-85	1986-90	1991-'95	1996-'00	2001-05	2006-10*	2011-15
USD	33%	42%	42%	40%	39%	45%	44%	42%
EUR*	20%	32%	31%	32%	32%	29%	34%	37%
JPY	7.5%	13%	15%	17%	18%	15%	11%	9%
GBP	7.5%	13%	12%	11%	11%	11%	11%	11%
Others	32%	-	-	-	-	-	-	-
Effective date		1-Jan-81			1-Jan-96	1-Jan-01	1-Jan-06	1-Jan-11
Announcement date		Sep-80			Sep 26 199	12-Oct-00	2-Dec-05	15-Nov-10

Source: IMF *Prior to 2000 review the EUR weight was DEM + FRF

Chart 6: 3m 25d USDCNY RR and 3m ATM vols



Source: BNP Paribas, Bloomberg

Should the RMB be included in the SDR, the immediate effect should be a spike higher in front-end USDCNH downside volatility and a sell-off in risk reversals as investors buy USDCNH puts. The CNH strength is likely to stall by the year end, and possibly reverse: the opening up of the capital account at a time of policy divergence between the Fed and the PBoC may result in downward pressure on the RMB (and other G10 currencies), as traditional drivers, such as rate differentials suggest that USDCNH should be rising.

This is likely to push USDCNH higher, with 1y USDCNH implied volatility finding a new equilibrium towards 6%. We therefore like owning forward volatility in USDCNH.

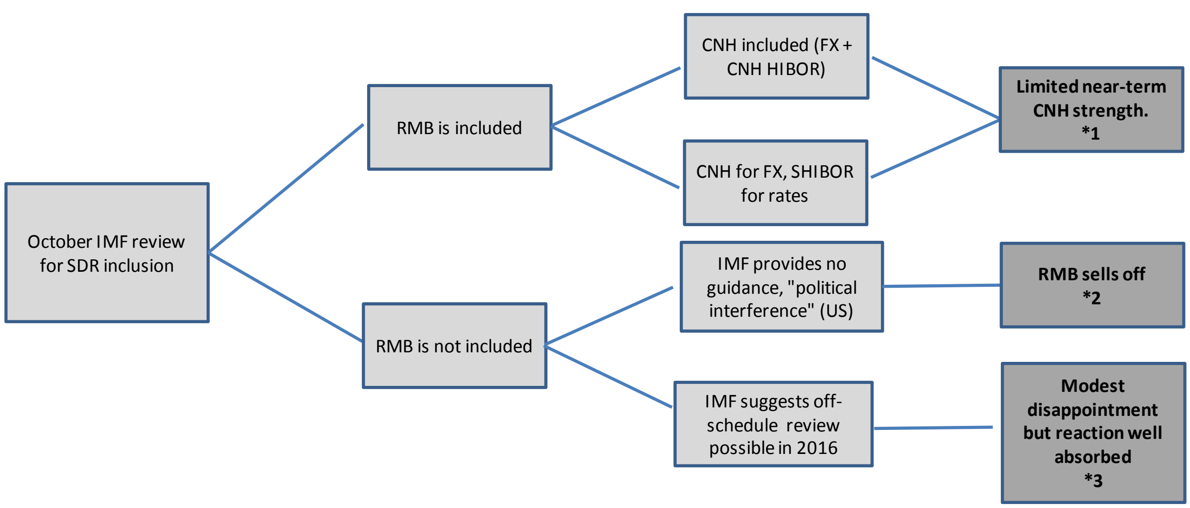
So – what's the upshot? What do you expect to happen?

- **Inclusion confirmed:** As the flow-chart on the following page illustrates, our **base case (70% probability)** is that the IMF includes the RMB in the SDR basket this year, with USDCNH the FX reference, and 3m SHIBOR the interest rate reference. It is possible, though unlikely, that the RMB's initial weight is kept below the 15% mark we estimated above, perhaps by incorporating a time-scale factor for ramping up the weight gradually over a number of years.

- **Delayed inclusion:** Alternatively, and with **a 25% probability**, the IMF declares that technical issues remain with regard to the interest rate reference, and currency accessibility. Once these hurdles are overcome through policy reforms, the IMF would reassess the decision (implying that an inter-period reassessment would take place, say next year).

- **SDR wars:** The risk scenario is a decision that is perceived to be driven by political interference from the US, whereby the IMF fails to offer any convincing argument why the RMB is not included or guidance on what benchmarks need to be achieved to make future inclusion possible. We assign only a **5% probability** to this.

Chart 7: 2015 SDR review – possible scenarios



Source: BNP Paribas

What will be the market impact under these scenarios?

- In our base-case scenario (inclusion confirmed), we expect the CNH to rally against the USD on the announcement. Spot might briefly converge with the fixing, so we may see almost a 2% move down in spot in a very short period.

- But then the move will stall. As noted above, inclusion in SDR is one thing, but the matching scale of reserve inflows will take a long time to materialise. Moreover, as the RMB would have already been included in the SDR basket, the PBoC would be less inclined to continue capping USDCNY to demonstrate a 'stable' exchange rate. We illustrate this scenario in Chart 8 below.

- In the alternate scenario (delayed inclusion), we expect some knee-jerk disappointment. However, the market will soon conclude that inclusion in the future is very likely and that the Chinese authorities are likely to accelerate market reforms to secure an early result. Meanwhile, the PBoC would continue to manage exchange rate volatility and cap the spot rate to maintain an image of exchange rate stability (Chart 9).

- The risk scenario (SDR wars) – is almost the unthinkable. If the IMF's decision is deemed to be politically driven by US opposition, we can't imagine how China might respond. It would be seen as a failure of US-Chinese diplomacy and a direct affront to China's ambitions. It may mark China's entry into the global 'currency wars' business, something which China has avoided to date.

How is the market positioned for this event?

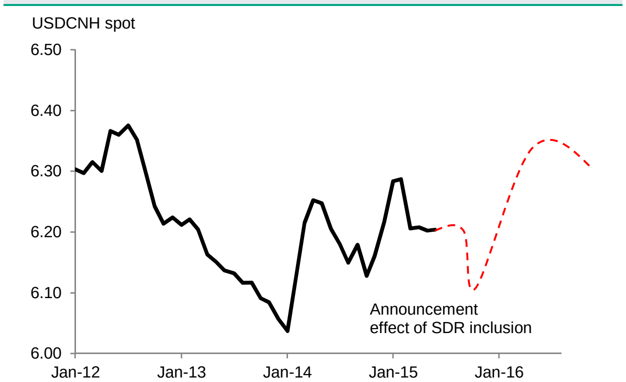
- There appears to be a widespread belief that the IMF *will* include the RMB. However, most investors are being very conservative with their weight estimate – we frequently hear "5-10% at most". Perhaps people haven't taken the trouble to replicate the IMF's methodology.

- Our positioning index on USDCNY is comprised of NDF-onshore spreads, implied vol surface, and a positioning poll conducted by Reuters once every two weeks. The index tells us that the market is moderately short the USD against the RMB.

- In short, there is a general bias to 'believe' in the story, but not an overabundance of speculative fever. That should allow the CNH to rally against the USD if our base-case scenario plays out.

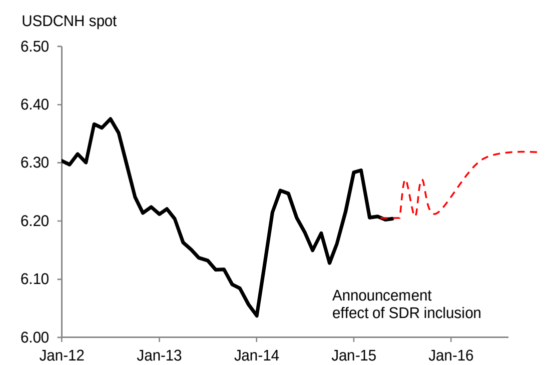
- As the event draws closer, short USDCNH positioning is likely to be built up.

Chart 8: Scenario 1 – Yes we're in!
Market response function



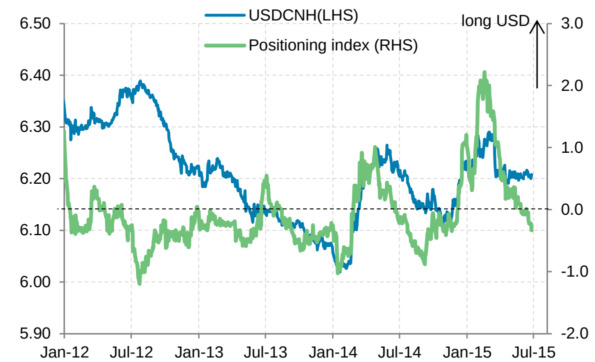
Source: BNP Paribas, Bloomberg

Chart 9: Scenario 2 – What, we gotta wait?
Market response function



Source: BNP Paribas,

Chart 10: Net positioning is moderately short USD



Source: BNP Paribas, Bloomberg, Reuters

Chart 11: Positioning index drivers

	USDCNH				Average
	off/on fwd premia	Vol	Skew	Poll	
25-Jun-15	-0.22	-0.37	0.26	-0.70	-0.33
18-Jun-15	-0.11	-0.49	0.24	-0.47	-0.21
11-Jun-15	0.12	-0.18	0.59	-0.47	0.01
4-Jun-15	0.17	-0.13	0.49	-0.62	-0.02
28-May-15	0.06	-0.09	0.49	-0.62	-0.04
21-May-15	0.38	-0.16	0.58	-0.45	0.09
14-May-15	0.49	-0.11	0.43	-0.45	0.09
7-May-15	0.51	0.52	0.86	-0.48	0.35
30-Apr-15	0.32	0.50	0.71	-0.48	0.26
23-Apr-15	-0.13	0.39	1.08	-0.35	0.25
16-Apr-15	-0.81	0.55	1.31	-0.35	0.17
9-Apr-15	-0.25	0.90	1.87	-0.13	0.60
2-Apr-15	-0.66	0.87	1.92	-0.13	0.50
26-Mar-15	0.04	1.68	2.15	0.46	1.09
19-Mar-15	-0.04	1.81	2.13	0.46	1.09
12-Mar-15	0.10	2.23	2.54	0.90	1.44
4-Mar-15	1.04	2.41	3.34	0.35	1.79
25-Feb-15	0.84	2.35	3.47	0.35	1.75
18-Feb-15	1.19	3.13	3.79	0.35	2.11
11-Feb-15	0.88	2.32	3.69	0.62	1.88

Source: BNP Paribas, Reuters

So what's the trade?

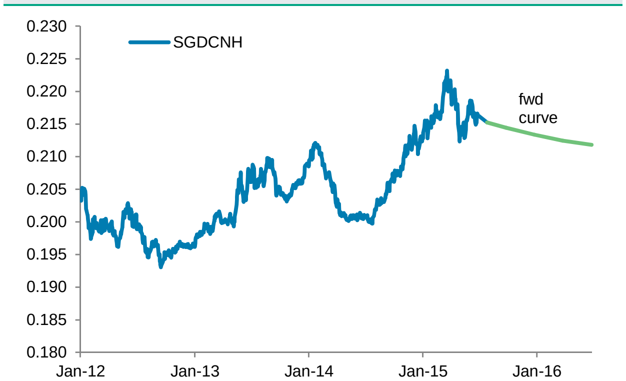
We propose three trade ideas on the back of this theme.

- **Buy the CNH against the SGD via 6m FX forwards.** In our base-case scenario mentioned above, we expect USDCNH to remain stable (around 6.20) until the IMF SDR review, and then fall rapidly towards 6.10, if inclusion is confirmed. On the other hand, we expect USDSGD to be driven by the dollar's broad move. From current levels, we think there is plenty of scope for the market to rebuild long USD positions. The SGD is trading in the top half of its policy trading band and has room to fall. We recommend buying the CNH versus the SGD at current levels (0.215), with a target of 0.2220 and stop loss at 0.2120 (all spot levels). The trade carries positively at 1.8%.

- Buy 5m USDCNH vanilla puts or at-expiry-digitals taking advantage of multi-year lows in front end USDCNH vols. The trade allows to position for the initial expected move in USDCNH lower and a pick-up in front end vols.

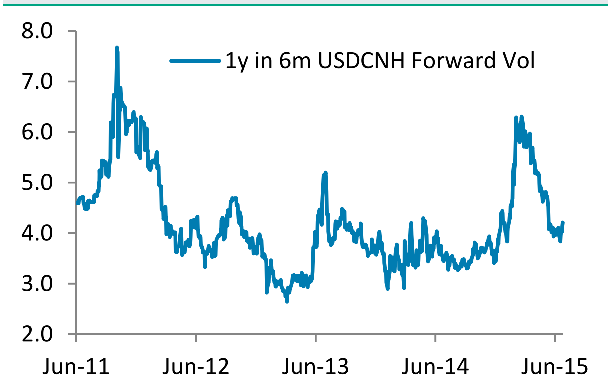
- Buy a 1y USDCNH 6.40 call with monthly 6.20 KI/sell 3m USDCNH call struck at 6.40, offered at 0.18%. The trade positions for an initial decline in USDCNH by selling topside. The long USDCNH call subject to discrete KI is initially short USDCNH delta, and then turns long delta once it knocks in below the 6.20 spot, allowing to position long forward vol and an eventual push in USDCNH higher.

Chart 12: SGDCNH spot and fwd curve



Source: BNP Paribas, Bloomberg

Chart 13: 1y in 6m USDCNH forward Vol



Source: BNP Paribas, Bloomberg

Last question – Could China accelerate FX market reform?

As we highlighted above, the main obstacles for the inclusion of RMB are technical. Standard IMF weighting methodology would put RMB at a 15% weight. But there are issues about accessibility of the FX market, and credibility of interest rate reference.

It is possible that the PBoC decides to head off these concerns through some major reform announcements that demonstrate its commitment to capital account convertibility, and attain a “one currency, one curve” system in a relatively short period of time.

There has been a steady tempo of measures to allow greater cross-border capital flow such as the various “stock connects” programs, and allowing foreign banks access to onshore repo facilities. There could be more such announcements. Something far more dramatic would be to widen the daily trading band, or change the onshore USDCNY fixing reference from its current opaque system to a more transparent market-volume-weighted average system.

We cannot predict when these announcements will come. But it is certain that they are coming. Their intended impact would be to create greater convergence between onshore and offshore market, and permit greater volatility in the exchange rate. The vol market is not taking this into account.

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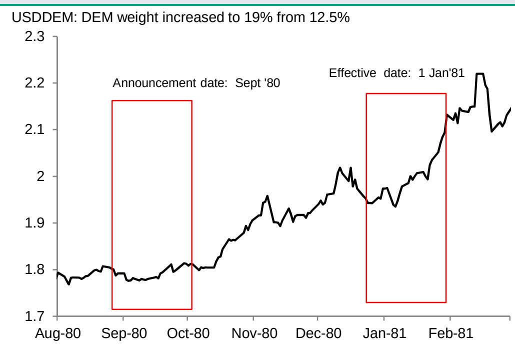
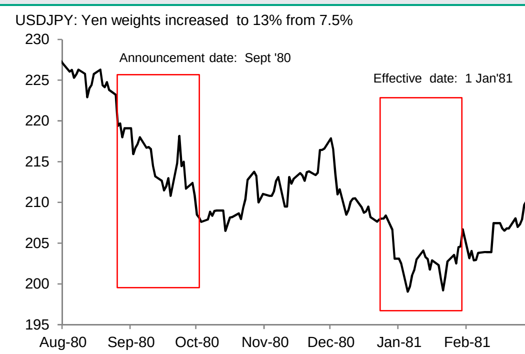
APPENDIX : EUR and JPY FX reactions to large SDR weight changes

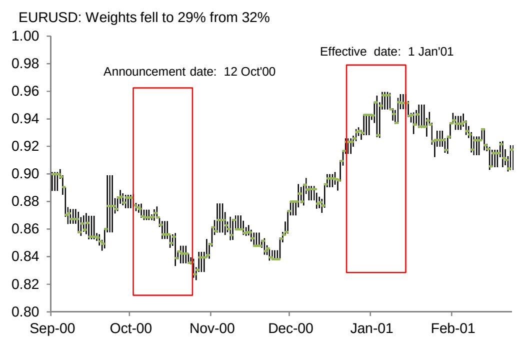
USDDEM price action: 1980 SDR rebalancing decision



USDJPY price action: 1980 SDR rebalancing decision



EURUSD price action: 2000 SDR rebalancing decision



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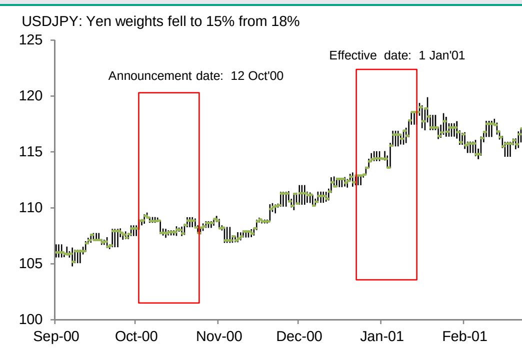
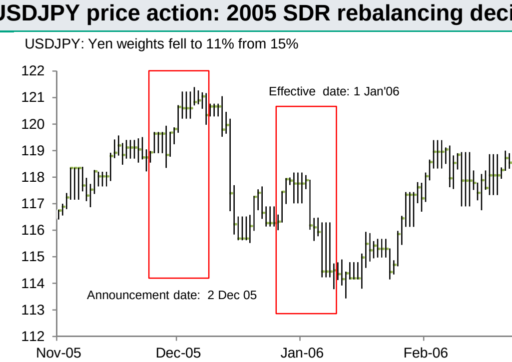
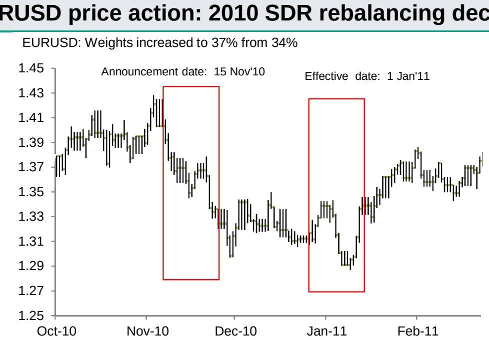


EURUSD price action: 2005 SDR rebalancing decision

USDJPY price action: 2005 SDR rebalancing decision



EURUSD price action: 2010 SDR rebalancing decision



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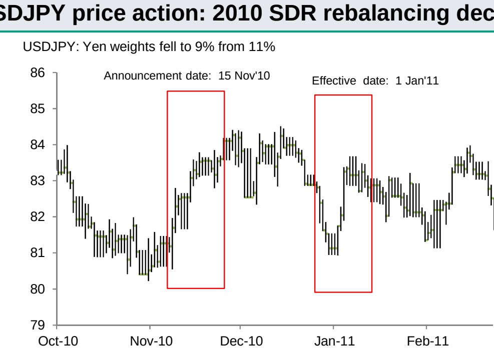

All charts source: BNP Paribas, Bloomberg

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