PBOC’S TRILEMMA

RMB Development

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PBOC STUCK IN THE IMPOSSIBLE TRINITY

Impossible trinity for central bank

Stable currency

Back to peg

Easing monetary policy

Domestic interest rates not low enough

Open capital account

Capital account not so close

Nominal GDP growth

Average bank lending rate

Total capital flows

USD/CNY

Reference rate

Onshore previous closing

Source: PBoC, CEIC, SG Cross Asset Research/Economics
PERSISTENT DEPRECIATION EXPECTATIONS

- RMB barely changed in EER terms
- Depreciation pressure still well present

Source: PBoC, CEIC, Bloomberg, SG Cross Asset Research/Economics
RESIDENT FLOWS DOMINATE THE OUTFLOWS

- Capital outflows started to intensify since Q4 2014

- Top three outflow accounts: deleveraging, shadow diversification, formal diversification

Source: SAFE, CEIC, SG Cross Asset Research/Economics
CAPITAL OUTFLOWS OVERWHELM TRADE SURPLUS

- Settlement behavior highly sensitive to the currency movement
- Banking flows dominate the capital account

Source: PBoC, CEIC, Bloomberg, SG Cross Asset Research/Economics
MAJOR OUTFLOWS ALL FROM CHINESE AND SENSITIVE TO FX

- Capital controls introduced after RMB regime change:
  - A limit of RMB100k per year introduced for individual's overseas cash withdraw via UnionPay
  - Banks must keep the equivalent of 20% dollar reserves for clients' FX derivative positions
  - Closer monitoring of individual FX conversion under the $50k annual quota

Source: SAFE, CEIC, SG Cross Asset Research/Economics
EXTERNAL DEBT OVERALL MANAGEABLE

- Total size of external debt still manageable
  - <10% of GDP
  - 1/4 of official reserves

- Short duration => roll-over risk
- Unhedged => FX mismatch
- Developers’ debt small in size but may have outsized impact

Source: SAFE, CEIC, BIS, SG Cross Asset Research.
MORE INTERVENTIONS THAN MEETS THE EYE

- Q3 2014-Q3 2015: China’s official reserves declined by $230bn

- The actual amount of interventions could be twice the size

Source: PBoC, CEIC, Bloomberg, SG Cross Asset Research/Economics
LIBERALISATION SEQUENCING ISSUES

Financial market liberalisation sequence

- IMF recommendation:
  - Currency flexibility >>
  - Capital market deepening >>
  - Capital account liberalisation

- China’s practice:
  - Capital account liberalisation >>
  - Capital market deepening >>
  - Currency flexibility

Capital account liberalisation sequence

- IMF recommendation:
  - Inflows >> outflows
  - Long-term >> short-term
  - Direct>credit >> portfolio

- China’s practice:
  - Follow the text book, but much slower on outflows liberalisation

Now the problem is … not ideal timing for increasing currency flexibility

- Currency no longer undervalued
- Structural deceleration
- Interest rate differential to vanish
- Official FX reserves not unlimited

Source: SAFE, CEIC, IMF, SG Cross Asset Research/Economics
### PROGRESS OF CAPITAL ACCOUNT LIBERALISATION

#### -- Nonresident; -- Resident; -- Two-way

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Current account</th>
<th>Capital account</th>
<th>Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2012</td>
<td>Aug 11: RMB settlement for trade nationwide</td>
<td>Oct 11: Eased controls on RMB settlement for FDI &amp; ODI</td>
<td>Nov 02: Launched QFII: allow foreign institutional investors (IIs) in exchanges&lt;br&gt;Apr 06: Launched QDII: allow domestic IIs to invest in overseas securities&lt;br&gt;Aug 10: Launched PBoC Channel: allow foreign CBs, RMB clearing/participating banks in interbank bond market, subject to quotas</td>
</tr>
<tr>
<td>Next</td>
<td>To achieve full RMB convertibility in Shanghai FTZ</td>
<td>To set up SZ-HK Stock Connect&lt;br&gt;To expand (R)QFII and eventually phase out quota management for nonresident long-term portfolio flows&lt;br&gt;To launch QDII2: allow domestic individual investor to invest overseas securities</td>
<td></td>
</tr>
</tbody>
</table>

Source: Chinese government, SG Cross Asset Research/Economics
DE FACTO OPENNESS STILL LIMITED

- Non-reserve assets only 25% of GDP
- Future trend: non-official outflows to replace official outflows
- External liabilities less than 50% of GDP
- Future trend: expansion of long-term portfolio inflows

* UK’s external assets and liabilities both around 550% of GDP. Source: SAFE, CEIC, IMF, SG Cross Asset Research/Economics
SDR INCLUSION NO GUARANTEE FOR RESERVE CURRENCY STATUS

- Limited inflows in the short-term
- Long-term impact subject to China’s liberalisation progress

Implication of further liberalisation

- If no change in official reserves, Current account surplus = Capital account deficit
- If China doesn’t run current account deficit, China will be a capital exports and RMB a funding currency on balance
- That is, Resident outflow > Nonresident inflows
- For the currency, the short-term question is how fast Chinese FX diversification will take place.

<table>
<thead>
<tr>
<th></th>
<th>FDI</th>
<th>Portfolio: Equity</th>
<th>Portfolio: Debt</th>
<th>Credit: Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Assets, excl. official reserves (% of GDP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>7.2</td>
<td>2.5</td>
<td>1.6</td>
<td>3.6</td>
</tr>
<tr>
<td>G4 average</td>
<td>50.9</td>
<td>37.4</td>
<td>42.9</td>
<td>25.3</td>
</tr>
<tr>
<td>External Liability (% of GDP)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>25.9</td>
<td>3.6</td>
<td>1.4</td>
<td>5.5</td>
</tr>
<tr>
<td>G4 average</td>
<td>42.2</td>
<td>41.6</td>
<td>52.8</td>
<td>28.0</td>
</tr>
</tbody>
</table>

Source: PBoC, CEIC, Bloomberg, SG Cross Asset Research/Economics
SELF-INFLICTED QUANTITATIVE TIGHTENING

- PBoC’s balance sheet is now shrinking

- RRR cuts are barely keeping up

Source: PBoC, CEIC, SG Cross Asset Research/Economics
FEWER RATE CUTS CAN MEET THE EYE

Benchmark deposit rate cuts have not brought down banks’ interest rate expenses much

And the interbank rates barely changed since mid-2015

Source: PBoC, Bloomberg, SG Cross Asset Research/Economics.
# PBOC’S NEW POLICY TOOLBOX

<table>
<thead>
<tr>
<th>Instruments</th>
<th>Duration</th>
<th>Frequency</th>
<th>Latest implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-dated</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular Open Market Operation (OMO)</td>
<td>most frequent: 7-, 14-day</td>
<td>Auction usually held on Tuesdays and Thursdays. PBoC usually gauges demand one day before an auction.</td>
<td>Latest injection: 7-day reverse repo, late Oct 2015, 2.25%; 14-day reverse repo, 29 Sep 2015, 2.70%; Latest withdrawal: 14-day repo, 25 Nov 2014, 3.2%</td>
</tr>
<tr>
<td>Short-term Liquidity Operation (SLO)</td>
<td>O/N to 7-day</td>
<td>Irregular</td>
<td>Latest injection: 6-day reverse repo, 31 Aug 2015, 2.35%; Latest withdrawal: 5-day repo, 27 Feb 2014, 3.40%</td>
</tr>
<tr>
<td>- OMOs with shorter durations to supplement the regular OMOs</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Standing Lending Facility (SLF)</td>
<td>O/N and 7d for small- and medium- sized financial institutions</td>
<td>Irregular, upon request</td>
<td>Latest injection: Mar15, for those institutions that meet certain macro-prudential criterion: o/n 4.5%, 7-day 5.5%; or 100bp higher for those which fall short.</td>
</tr>
<tr>
<td>- short-term liquidity offered by the central bank at the request of financial institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank reserves</td>
<td>N/A</td>
<td>N/A</td>
<td>Injection: required reserve ratio cuts on 23 Oct Rate on required reserves: 1.62% Rate on excess reserves: 0.72%</td>
</tr>
<tr>
<td>- depository institutions’ required or excess reserves at the central bank</td>
<td></td>
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<tr>
<td><strong>Longer-dated</strong></td>
<td></td>
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<tr>
<td>Medium-term Lending Facility (MLF)</td>
<td>3- and 6-month</td>
<td>Irregular; upon request, can be granted via auctions</td>
<td>Latest injection: 6-month MLF of CNY 105.5bn, Oct 2015, 3.35%; Injection in Q2: 3-month MLF of CNY 384.5bn, Apr 2015, 3.50%</td>
</tr>
<tr>
<td>- medium-term liquidity offered to qualified commercial banks and policy banks at below-market rates</td>
<td></td>
<td></td>
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<tr>
<td>Pledged Supplemental Lending (PSL)</td>
<td>3-year</td>
<td>Irregular</td>
<td>Injection: PSL of CNY 52.1bn to China Development Bank, Sep 2015, 2.85%</td>
</tr>
<tr>
<td>- long-term liquidity provided for development projects such as shanty town renovation</td>
<td></td>
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<tr>
<td>Relending with credit asset collaterals</td>
<td>Less than two years</td>
<td>Irregular</td>
<td>Amount granted in the two pilot provinces in 2014: PBoC Guangdong branch provided CNY1.68bn in 2014, with one-year interest rate 3.5%; PBoC Shandong branch provided CNY0.85bn</td>
</tr>
<tr>
<td>- similar to PSL but allows local banks to use high-quality loans as collateral, thus aimed at smaller banks without enough bonds to apply for PSL</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Other forms of relending</td>
<td>Less than two years</td>
<td>Irregular</td>
<td>N/A</td>
</tr>
<tr>
<td>- targeted at small banks without enough bonds to apply for PSL; some programmes required no collateral</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: PBoC, SG Cross Asset Research/Economics
MONETARY POLICY TRANSMISSION IMPAIRED

- Lack of credit demand, despite lower borrowing cost
- NPL cycle continues to burden banks

Source: PBoC, CEIC, SG Cross Asset Research / Economics
PBOC WAY OUT OF THE IMPOSSIBLE TRINITY

Stable currency

Therefore, PBoC has to let go the currency
Maybe not in one go, but step by step

Official reserves are not unlimited

Impossible trinity for central bank

Easing monetary policy

PBoC needs to keep interest rates low or lower for smoothing structural deceleration, whereas the Fed is seen to raise rates

Open capital account

RMB internationalisation & reserve currency status seems as a national strategy. Outflows liberalisation cannot be deferred indefinitely

Source: PBoC, CEIC, SG Cross Asset Research/Economics
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