COVID-19 EXPOSES ASIAN BANKS’ VULNERABILITY TO US DOLLAR FUNDING

Cyn-Young Park  
Director  
Regional Cooperation and Integration Division  
Economic Research and Regional Cooperation Department  
Asian Development Bank

Peter Rosenkranz  
Economist  

Mara Claire Tayag  
Senior Economics Officer  

8 July 2020  |  Asian Impact – ADB Research in Action  
COVID-19 and Dollar Funding Strains

Disclaimer: The views expressed in this presentation are views of the authors and do not necessarily reflect those of the ADB, its Board of Governors, or the governments they represent.
Key Messages

- A sudden squeeze in US dollar funding liquidity can hurt emerging market borrowers, trigger capital flight, and pose risks to financial stability.

- During periods of financial distress arising from high US dollar funding costs, non-US global banks may be forced to curtail lending to emerging Asian economies.

- We show empirically that (i) economies with higher exposure to US dollar funding tend to be more vulnerable to stress in the US dollar funding market and that (ii) this can trigger nonresident investors to pull out investments, increasing financial volatility in emerging market economies.

- COVID-19 provides an opportunity for regional financial cooperation to regain reform momentum to address these structural issues over the long term.
Dollar liquidity strains during the COVID-19 crisis exhibit a similar pattern to the global financial crisis

- Non-US global banks rely on foreign exchange swaps, given their limited access to a stable US dollar deposit base

- The cross-currency basis swap widened for several emerging Asian currencies and to a much greater degree than it did for the euro, British pound, or Japanese yen

- Measures taken by the Fed to establish swap lines and introduce a temporary repo facility helped arrest panic on the USD funding market

Cross-Currency Basis Swap (basis points)


Asian banks’ US dollar funding activities have grown since the global financial crisis

- Asian banks’ cross-border assets and liabilities have risen considerably since the aftermath of the global financial crisis, with the majority denominated in foreign currency (primarily in US dollar).

- The landscape of non-US global banks has changed post-GFC.

- Since Q4 2016, Asia accounts for the highest share of cross-border claims denominated in US dollars among non-US global banks.

- In line with global trends, Asian banks have also been increasingly engaged with nonbank counterparts in cross-border banking activities.

US dollar-denominated cross-border bank holdings by non-US banks ($ trillion, Q1 2000 – Q3 2019)

EU = European Union, ROW = rest of the world, US = United States.
Implications of Asian bank exposure to US dollar funding

- High and growing exposure to US dollar funding by global non-US banks remains a source of structural financial vulnerability in the global banking system.
- A squeeze in global US dollar liquidity conditions can elevate risks to financial stability in emerging Asian economies.
- Analyzing the determinants and effects of the cross-currency basis swap, we find empirically that:
  - Higher USD exposure of the domestic banking system (i) is significantly and positively associated with a widening cross-currency basis swap and (ii) amplifies the effect of financial stress on the cross-currency basis swap.
  - A widening in the cross-currency basis swap is significantly and positively related to nonresident capital outflows, especially driven by debt and bank flows.
## Impact of US dollar share in banking activities on cross-currency basis swap (Regression 1)

**Table:**

<table>
<thead>
<tr>
<th>Regressors</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth</td>
<td>-0.263</td>
<td>-0.313</td>
<td>-0.383</td>
<td>-0.281</td>
<td>-0.183</td>
<td>-0.352</td>
<td>-0.559</td>
</tr>
<tr>
<td></td>
<td>(0.679)</td>
<td>(0.687)</td>
<td>(0.706)</td>
<td>(0.678)</td>
<td>(0.678)</td>
<td>(0.673)</td>
<td>(0.708)</td>
</tr>
<tr>
<td>FSI</td>
<td>6.073***</td>
<td>6.057***</td>
<td>5.769***</td>
<td>6.218***</td>
<td>6.138***</td>
<td>5.963***</td>
<td>5.504***</td>
</tr>
<tr>
<td></td>
<td>(1.731)</td>
<td>(1.755)</td>
<td>(1.664)</td>
<td>(1.749)</td>
<td>(1.764)</td>
<td>(1.739)</td>
<td>(1.551)</td>
</tr>
<tr>
<td>USD bank holding variable (see above)</td>
<td>3.354*</td>
<td>5.556**</td>
<td>-2.174</td>
<td>3.818**</td>
<td>3.493*</td>
<td>5.490**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.796)</td>
<td>(2.209)</td>
<td>(1.560)</td>
<td>(1.758)</td>
<td>(1.983)</td>
<td>(2.440)</td>
<td></td>
</tr>
<tr>
<td>FSI * USD bank holding variable (see above)</td>
<td>5.040**</td>
<td>3.541***</td>
<td>4.991**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.032)</td>
<td>(1.159)</td>
<td>(2.517)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EME</td>
<td>114.460***</td>
<td>114.780***</td>
<td>119.470***</td>
<td>114.270***</td>
<td>117.630***</td>
<td>115.150***</td>
<td>119.280***</td>
</tr>
<tr>
<td>Crisis</td>
<td>-0.440</td>
<td>-0.972</td>
<td>-6.170</td>
<td>-2.356</td>
<td>-6.146</td>
<td>-0.828</td>
<td>-5.214</td>
</tr>
<tr>
<td>EME * crisis</td>
<td>37.274***</td>
<td>35.396***</td>
<td>38.454***</td>
<td>37.321***</td>
<td>39.828***</td>
<td>35.345***</td>
<td>37.704***</td>
</tr>
<tr>
<td></td>
<td>(2.148)</td>
<td>(2.636)</td>
<td>(2.481)</td>
<td>(2.791)</td>
<td>(2.738)</td>
<td>(2.354)</td>
<td>(2.261)</td>
</tr>
<tr>
<td>Currency fixed effects</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.672</td>
<td>0.675</td>
<td>0.682</td>
<td>0.672</td>
<td>0.676</td>
<td>0.675</td>
<td>0.684</td>
</tr>
<tr>
<td>Observations</td>
<td>788</td>
<td>782</td>
<td>782</td>
<td>788</td>
<td>788</td>
<td>783</td>
<td>783</td>
</tr>
</tbody>
</table>
## Impact of cross-currency basis swap on nonresident capital outflows (Regression 2)

<table>
<thead>
<tr>
<th>Regressors</th>
<th>All (1)</th>
<th>Debt (2)</th>
<th>Equity (3)</th>
<th>Bank (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-currency basis swap (negative)</td>
<td>0.274*** (0.0900)</td>
<td>0.364*** (0.0700)</td>
<td>0.0450 (0.0005)</td>
<td>0.259*** (0.0900)</td>
</tr>
</tbody>
</table>

### Pull Factors
- **GDP growth**
  - All: -0.028*** (0.006)
  - Debt: -0.023*** (0.006)
  - Equity: -0.025** (0.011)
  - Bank: -0.016** (0.007)
- **Inflation**
  - All: -0.027*** (0.007)
  - Debt: 0.012* (0.006)
  - Equity: 0.001 (0.007)
  - Bank: -0.027*** (0.008)
- **Interest rate differential**
  - All: 0.326 (0.530)
  - Debt: 0.240 (0.640)
  - Equity: 0.094 (0.510)
  - Bank: 0.655 (0.670)
- **Exchange rate**
  - All: -0.479** (0.236)
  - Debt: -1.034*** (0.259)
  - Equity: 0.709*** (0.239)
  - Bank: -0.176 (0.281)

### Push Factors
- **US GDP growth**
  - All: 0.013 (0.015)
  - Debt: 0.085*** (0.019)
  - Equity: 0.036*** (0.014)
  - Bank: 0.004 (0.016)
- **US debt spread**
  - All: -0.170 (0.125)
  - Debt: -0.002 (0.122)
  - Equity: -0.337*** (0.109)
  - Bank: -0.060 (0.136)
- **VIX**
  - All: 0.016*** (0.006)
  - Debt: 0.006* (0.004)
  - Equity: 0.015*** (0.004)
  - Bank: 0.015** (0.007)
- **Constant**
  - All: 0.081 (0.222)
  - Debt: 0.172 (0.257)
  - Equity: -0.828*** (0.213)
  - Bank: -0.102 (0.274)

- **Country fixed effects**: Yes
- **R-squared**: 0.195
- **Observations**: 2,081

Source: Authors’ calculations.
Determinants of the cross-currency basis swap and effect on nonresident capital outflows

Regression 1

- **Financial Stress Index (Country-level)**
  - Equity markets
  - Debt markets
  - Foreign exchange markets
  - Banking sector

- **Share of Bank Holdings Denominated in USD (or FC)**
  - Assets
  - Liabilities
  - Assets + Liabilities

Regression 2

- **Pull Factors**
  - Equity
  - Debt
  - Bank

- **Nonresident Capital Outflows**

- **Push Factors**

**Emerging Market Economy**

**Financial Crises**

FC = foreign currency, USD = United States dollar.
Source: Authors' compilation.
A strong and multi-layered global financial safety net is needed

<table>
<thead>
<tr>
<th>Scope</th>
<th>Element</th>
<th>Conditionality</th>
<th>Availability and key factors determining access</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>Foreign exchange reserves</td>
<td>No</td>
<td>Past reserve accumulation, exchange rate regime</td>
</tr>
<tr>
<td>Bilateral</td>
<td>Central bank swap lines</td>
<td>Yes</td>
<td>Economic and political links with the reserve currency issuing country</td>
</tr>
<tr>
<td>Regional</td>
<td>RFA financing</td>
<td>For many RFAs</td>
<td>RFA forward commitment capacity; sometimes limited to a multiple of paid-in capital</td>
</tr>
<tr>
<td></td>
<td>Asia and Pacific: ADB’s crisis response and lending facilities</td>
<td>Yes</td>
<td>OCR-eligible and graduated DMCs, capped at $500 million per exogenous shock or crisis episode (CSF)</td>
</tr>
<tr>
<td>Global</td>
<td>IMF financing</td>
<td>For most instruments</td>
<td>IMF forward commitment capacity, IMF quota, political factors</td>
</tr>
</tbody>
</table>
Policy Considerations for Asia

- Sustain market confidence and ensure adequate liquidity: while the region’s macrofinancial positions remain sound, policy makers should remain vigilant against financial turmoil.

- Strengthen financial safety nets: Asian economies need to deepen regional cooperation and strengthen regional financial arrangements to prevent a crisis.

- Develop and nurture vibrant local currency bond markets: The region needs to broaden and deepen local currency markets to help address the currency and maturity mismatches of Asian financial systems.

- Persistent and big demand for US dollar funding by non-US banks reveals fundamental issues in the current international monetary system.

- Develop currency hedging markets in Asia: FX risk management remains underdeveloped in the region due to lack of instruments and high cost.
Thank you!

ADB Brief No. 146: COVID-19 Exposes Asian Banks’ Vulnerability to US Dollar Funding

ADB Report: Strengthening Asia’s Financial Safety Net