Capital flows to EMEs and corporate sector liquidity during the Covid-19 pandemic

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* The views expressed in this presentation are those of the presenter and not necessarily those of the Bank for International Settlements.
Outline of presentation

1. Portfolio flows to EMEs during the Covid-19 pandemic
   - Severe bond portfolio outflows
   - Comparing the Covid-19 pandemic with the taper tantrum and the GFC
   - Fund-level investor behavior during the Covid-19 pandemic

2. Original sin redux in EMEs during the Covid-19 pandemic (BIS Bulletin no 5)
   - Currency declines, EME bond outflows and spike in EME local currency bond spread
   - Foreign ownership in EME local currency bond markets
   - US dollar and local currency returns from the point of view of global investors
   - Policy frameworks in EMEs

3. Corporate sector liquidity during the Covid-19 pandemic (BIS Bulletin no 10)
   - Cash buffers vs debt service; undrawn credit lines vs debt service
   - Cash buffers & revenues vs operating expenses and interest (and principal) payments
   - Policy options
Portfolio outflows from EMEs during the Covid-19 pandemic eclipsed those seen in GFC and taper tantrum.

As these outflows occurred, EME currencies depreciated rapidly against the US dollar (8% by early April 2020).

This points to important interactions between EME portfolio flows and exchange rates.
Two ways to look at bond fund flows

- Comparing dollar value of total investor flows over long period using EPFR data may not provide accurate picture.
- Coverage of funds investing in EME bonds tracked by EPFR has changed substantially over time.
- Assets managed by all EME bond mutual funds and ETFs have increased since 2006, especially rapidly since 2010.
Identifying and comparing severe redemption episodes

Define a severe redemption episode as a period of deep and durable redemptions on mutual funds and EFTs investing in an asset class, satisfying the following four conditions:

1. The episode starts when the ratio of investor outflows from mutual funds and ETFs to their TNA surpasses 1%;
2. The ratio should stay above 1% for two or more consecutive weeks;
3. The ratio surpasses 2% at least once during the period; and
4. The episode ends when the ratio falls below 1%.

The GFC redemption episode has the longest duration and the highest peak, while the Covid-19 episode has the second longest duration and the second highest peak. Both feature same intensity (average weekly redemptions).

### Table 1: Episodes of severe redemptions on EME bond funds

<table>
<thead>
<tr>
<th>Severe redemption episode</th>
<th>Start date</th>
<th>End date</th>
<th>Duration (in weeks)</th>
<th>Maximum depth$^1$</th>
<th>Cumulative redemptions$^1$</th>
<th>Average weekly redemptions$^1$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great financial crisis</td>
<td>18 Sep 2008</td>
<td>12 Nov 2008</td>
<td>8</td>
<td>4.03</td>
<td>19.37</td>
<td>2.42</td>
</tr>
<tr>
<td>European debt crisis</td>
<td>22 Sep 2011</td>
<td>5 Oct 2011</td>
<td>2</td>
<td>2.31</td>
<td>3.40</td>
<td>1.70</td>
</tr>
<tr>
<td>Taper Tantrum</td>
<td>13 Jun 2013</td>
<td>26 Jun 2013</td>
<td>2</td>
<td>2.21</td>
<td>3.27</td>
<td>1.63</td>
</tr>
<tr>
<td>Covid-19 crisis</td>
<td>5 Mar 2020</td>
<td>1 Apr 2020</td>
<td>4</td>
<td>3.74</td>
<td>9.66</td>
<td>2.42</td>
</tr>
</tbody>
</table>

$^1$ As a percentage of total net assets. Over the duration of the episode.

Sources: EPFR; authors’ calculations.
Which asset classes drove severe redemptions on EME bond funds?
Funds facing large redemptions during the Covid-19 episode (extension of Shek et al 2018)
Original sin redux during the Covid-19 pandemic (Hofmann et al, *BIS Bulletin* no 5)

- Borrowing in domestic currency has not insulated EMEs from currency movements, as sharp currency declines have set in motion amplifying dynamics between EME bond outflows and spike in EME local currency bond spread.
- Borrowing in local currency from foreign lenders mitigates currency mismatch for the borrower but shifts currency mismatches to the lender’s balance sheets – “original sin redux” by Carstens and Shin (2019).

**Graph 1**: Bond outflows, exchange rate depreciation and rising bond spreads

1. Weekly data across major emerging market economies (EMEs) and selected advanced economies (AEs) (Canada and the United Kingdom) up to 18 March 2020 from EPFR. Data cover net portfolio flows (adjusted for exchange rate changes) to dedicated funds for individual EMEs and selected AEs and to EME funds with country/regional decomposition.
2. Simple averages of EMEs excluding China. An increase indicates USD appreciation.
3. Spread between the yield of the GBI-EM Broad index excluding China, 7–10 years, over benchmark US Treasury yield.

Sources: Bloomberg; EPFR; national data; BIS calculations.
Reliance on foreign portfolio capital leads to vulnerability to global financial shocks

Owing to their smaller domestic institutional investor base, EME bond markets have relied on external portfolio investors for their growth. EMEs with higher shares of foreign ownership in local currency bond markets have experienced significantly larger increases in local currency bond spreads in the wake of the Covid-19 pandemic.
US dollar and local currency returns vis-à-vis yield changes

Emerging market economies

Pre-Covid-19 period

\[ y = 0.00309 - 3.87x \]
where \( R^2 = 0.76 \)

\[ y = -0.0886 - 7.95x \]
where \( R^2 = 0.473 \)

Covid-19 period

\[ y = -0.0114 - 4.98x \]
where \( R^2 = 0.955 \)

\[ y = -0.164 - 10.1x \]
where \( R^2 = 0.817 \)

Advanced economies

\[ y = -0.0272 - 5.42x \]
where \( R^2 = 0.913 \)

\[ y = -0.089 - 2.46x \]
where \( R^2 = 0.0263 \)

\[ y = -2.13E-05 - 4.8x \]
where \( R^2 = 0.867 \)

\[ y = -0.195 - 8.46x \]
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1 GBI-EM Broad 5–7 years, principal return in the US dollar and in local currency against yield change. 2 January 2013 to 10 February 2020, weekly data. 3 11 February 2020 to 23 March 2020, daily data. 4 GBI Broad 5–7 years for Canada, France and Sweden, principal return in the US dollar and in local currency against yield change.

Sources: JPMorgan Chase; BIS calculations.
Exchange rates co-move with bond yields in EMEs

Exchange rates and sovereign spreads

Impact of exchange rate depreciation

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1 JPMorgan GBI-EM Broad Diversified index spread over the 10-year US Treasury yield. 2 Weighted average using the country weights (excluding DO, RO and UY) of the JPMorgan GBI-EM Broad Diversified index as of 28 February 2020. 3 Impact of a 1% depreciation shock to the bilateral USD exchange rate (log exchange rate changes on days of US and euro area monetary policy news). 4 Spread between the five-year local currency government bond yield and a synthetic local currency five-year yield given by the sum of the five-year US Treasury yield and the five-year cross-currency swap rate.

Sources: Hofmann et al (2019); Bloomberg; Datastream; JPMorgan Chase; BIS calculations.
The role of sound policy frameworks in EMEs

- The Covid-19 pandemic is a stress test for EMEs’ (integrated) policy frameworks.
  - To meet challenges from capital flows and exchange rate volatility, many EMEs adopted policy frameworks combining inflation targeting with MaPP tools & FX reserve accumulation (BIS 2019).
- These frameworks have brought stability to EMEs, and should help EMEs weather Covid-19 fallout.
  - Better anchored infl. expectations mitigate the impact of exchange rate depreciation on inflation.
  - MaPP policies also enhance the resilience of the financial system.
  - FX reserves can buffer the shocks from the Covid-19 crisis and alleviate financial stress on EMEs, as they enable central banks to lean against currency depreciation and capital outflows.
- Yet, in order to meet the challenge of large capital outflows by global investors, EME central banks may need to expand their toolkit, taking up the role of a dealer or buyer of last resort.
  - In particular, they may need deploy their balance sheets by providing targeted liquidity to market participants, by intermediating in the repo market or by purchasing domestic bonds.
  - The central banks of Colombia, Indonesia, the Philippines, Poland, South Africa recently launched bond purchase programmes, while the Bank of Thailand introduced a mutual fund liquidity facility.
The Covid-19 pandemic and corporate sector liquidity (Banerjee et al, BIS Bulletin no 10)

- In terms of the gap between cash and debt servicing costs falling due in one year as of end-2019 in all economies, at least 25% of firms did not hold enough cash to cover all debt obligations falling due in 2020. That said,
- Corporate liquidity positions generally appear stronger as of end-2019 than they were in 2008 before the GFC.
- The ability of the textile and commodity sectors to service their debts from cash appears particularly limited.
In 2019, the median firm in many economies had access to undrawn credit larger than total debt service due in 1 year and the median firm in oil, gas and machinery sectors have credit lines worth over 200% of debt due in 1 year.

Access to credit line is uneven; credit line often has short residual maturity; and banks may be reluctant to renew it.
Corporate resilience to collapsing revenues: a simulation

Facing lockdowns and public health actions, firm revenues decrease more than costs, so cash is used to cover losses.

Assume cost-revenue elasticity of 0.6 and consider a scenario where 2020 revenues decline by 25% relative to 2019.

If firms can roll over all (none) of their maturing debt in 2020, 40% (60%) of firms in the median country would be unable to cover their 2020 operating expenses and interest (and debt) payments with their cash buffers & revenues.

Corporate leverage will increase by 10%p in the median economy if firms fill funding gaps with borrowed funds.
Policy options to avoid negative consequences for real economy and financial markets

● Bridging loans
  ▪ Help avoid near-term default, but increase corporate leverage and create solvency challenges in the longer term

● Subsidies for firms in the hardest hit sectors
  ▪ Conditional on maintaining employment, thus avoiding unnecessary lay-offs & firm bankruptcies
  ▪ Depending on how long this shutdown persists, these fiscal measures are likely to become increasingly important relative to liquidity bridging operations.

● Monitor drawdowns and availability of credit lines. When banks do not roll over expiring credit lines, governments can ease the rollover by providing guarantees or credit enhancements.

● Mechanisms to prevent the seizing of trade credit
  ▪ Schemes that help firms sell their receivables or receive credit against them may be needed.
  ▪ One possibility would be for central banks to offer a facility where certain short-term claims collateralised with specific types of assets can be rediscounted.
  ▪ Another would be for governments or a single government-related entity to take advantage of centralisation to net out trade credit assets and liabilities.
Additional slides
Shocks on ultimate investors drove redemptions on EME bond funds

When bond returns in CN, HK, KR, SG started to go down in February 2020, bond fund flows to these economies remained positive and relatively strong. By contrast, when the Covid-19 outbreak started to affect Europe and the US in earnest in early March, investors in bond funds investing in these EMEs engaged in severe redemptions.
Co-movement of portfolio fund flows during severe redemptions

- AE bond fund flows and EME bond fund flows exhibited very high co-movement during and around Covid-19.
- Correlation coefficient of the ratio of investor flows to AE bond funds to their TNA and the ratio for EME bond funds during (around) Covid-19 was 0.996 (0.997). This is much larger than 0.33 observed during the GFC episode.
References