Pledged fiscal packages

Fiscal deficits and public debt

Sources: IMF, World Economic Outlook, June 2020; BIS calculations.
Focus on emerging market economies

Exchange rate / US dollar

Cumulated non-resident portfolio flows to EMEs

Sovereign bond spreads for EMEs

A decrease indicates an appreciation of the US dollar.

Sources: Bloomberg; Institute of International Finance; JPMorgan Chase; national data; BIS calculations.
EME central bank actions and bond markets

**Bond fund flows and bond spreads**

- **USD bn**
  - 20
  - 10
  - 0
  - -10
  - -20
- **Bps**
  - 500
  - 425
  - 350
  - 275
  - 200

- **Jan 2020**
- **Feb 2020**
- **Mar 2020**
- **April 2020**
- **May 2020**

- **Bond outflows (lhs)**
- **Bond spreads (rhs)**

**Policy rate and bond purchase announcements**

- **%**
  - 3.75
  - 3.50
  - 3.25
  - 3.00
  - 2.75
- **# of countries**
  - 12
  - 8
  - 4
  - 0

- **Mar 2020**
- **April 2020**
- **May 2020**

- **Average policy rate (lhs)**
- **Asset purchases (rhs)**

Source: Arslan, Drehmann and Hofmann (2020), BIS Bulletin 20
Announcements reduce yields with little effect on exchange rates

Responses calculated as the cumulative difference (10-year yields) or growth (FX) relative to the day prior to the announcement. Day zero is the day of the announcement. An increase in the exchange rate denotes an appreciation of the US dollar.

Source: Arslan, Drehmann and Hofmann (2020), BIS Bulletin 20
High-frequency responses to bond purchase announcements

South Africa

Announced on 25 March 2020

Exchange rates versus the US dollar are standardised to one, and 10-year government bond yields are standardised to zero at the time of the announcement. Crosses denote active quotes. An increase in the exchange rate denotes an appreciation of the US dollar.

Source: Arslan, Drehmann and Hofmann (2020), BIS Bulletin 20
“Original Sin Redux”
Carstens and Shin, *Foreign Affairs*, 2019
Central government debt securities\(^1\): overview

Amounts outstanding, at end-December 2019, in billions of US dollars

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1. Issued on domestic and international markets (heterogeneous sources of data). Domestic bonds exclude money market instruments.
2. General government.
3. Breakdown by type of investor is calculated by applying quarterly estimates derived by Arslanalp et al (2014) on domestic currency denominated aggregates shown. KR is an exception, where The Bank of Korea estimates are used.

Sources: S Arslanalp and T Tsuda, “Tracking Global Demand for Emerging Market Sovereign Debt”, *IMF Working Paper*, no WP/14/39, March 2014; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS calculations.
Central government debt securities\textsuperscript{1}: overview

Amounts outstanding, at end-December 2019

1 Issued on domestic and international markets (heterogeneous sources of data). Domestic bonds exclude money market instruments.
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3 Breakdown by type of investor is calculated by applying quarterly estimates derived by Arslanalp et al (2014) on domestic currency denominated aggregates shown. KR is an exception, where The Bank of Korea estimates are used.

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Central government debt securities

As a percentage of total amounts outstanding, at end-December 2019

1 Issued on domestic and international markets (heterogeneous sources of data). Domestic bonds exclude money market instruments.
2 General government.
3 Breakdown by type of investor is calculated by applying quarterly estimates derived by Arslanalp et al (2014) on domestic currency denominated aggregates shown. KR is an exception, where The Bank of Korea estimates are used.

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Two duration measures

Duration = $-\frac{dP/P}{dr}$

- Compare duration measures with:
  - Percentage return in local currency terms
  - Percentage return in dollar terms
EMEs local currency sovereign bond returns\(^1\),
January 2013 – October 2018

\[ y = -0.06 - 12.4x \]
where \( R^2 = 0.58\)

\[ y = -0.01 - 5.05x \]
where \( R^2 = 0.88\)

\[ y = -0.02 - 12.8x \]
where \( R^2 = 0.70\)

\[ y = 0.03 - 4.59x \]
where \( R^2 = 0.94\)

\(^1\)Total return on bonds denominated in local currency as weekly change in JPMorgan GBI-EM principal return index in local currency and US dollar.

Sources: JPMorgan Chase; BIS calculations.
EMEs local currency sovereign bond returns\(^1\), January 2013 – October 2018

Indonesia

\[ y = -0.09 - 6.6x \]

where \( R^2 = 0.60 \)

\[ y = -0.01 - 4.52x \]

where \( R^2 = 0.88 \)

Brazil

\[ y = -0.11 - 8.52x \]

where \( R^2 = 0.66 \)

\[ y = 0.04 - 4.34x \]

where \( R^2 = 0.93 \)

\(^1\)Total return on bonds denominated in local currency as weekly change in JPMorgan GBI-EM principal return index in local currency and US dollar.

Sources: JPMorgan Chase; BIS calculations.
Advanced economies sovereign bond returns\textsuperscript{1}, January 2013 – October 2018

\textbf{France}\hspace{1cm}\textbf{Sweden}

\begin{align*}
\text{Local currency return} & \quad \text{US dollar return} \\
\text{Return, in percent} & \quad \text{Return, in percent} \\
\text{Change in yield, in percentage points} & \quad \text{Change in yield, in percentage points}
\end{align*}

\begin{align*}
y &= -0.06 - 2.67x \\
\text{where } R^2 &= 0.02 \\
y &= -0.03 - 5.41x \\
\text{where } R^2 &= 0.96
\end{align*}

\begin{align*}
y &= -0.12 - 1.91x \\
\text{where } R^2 &= 0.01 \\
y &= -0.03 - 5.09x \\
\text{where } R^2 &= 0.94
\end{align*}

\textsuperscript{1}GBI Global Country 5 to 7 year maturity indices for the selected economies.

Sources: JPMorgan Chase; BIS calculations.
Covid-19 shock

**Bond fund flows**

**Dollar exchange rate and bond spreads**

- **EMEs**
- **Selected AEs**

- **Dollar exchange rate (lhs)**
- **Bond spreads (rhs)**
Foreign ownership in EME local currency bond markets

Foreign ownership in local currency sovereign bond markets

Scatter plot of changes in local currency yield spreads versus the level of foreign holdings

\[ y = 0.81 + 0.0473x \]
where \( R^2 = 0.3 \)
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 \( R^2 = 0.817 \)
US dollar and local currency returns vis-à-vis yield changes (cont)

**Advanced economies**

**Pre-Covid-19 period**

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

**Covid-19 period**

- \( y = -2.13E-05 - 4.8x \) where \( R^2 = 0.867 \)
- \( y = -0.195 - 8.46x \) where \( R^2 = 0.329 \)
Monetary policy frameworks in EMEs: BIS Annual Economic Report 2019, Chapter II