

BANK FOR INTERNATIONAL SETTLEMENTS

Monetary policy challenges posed by global liquidity

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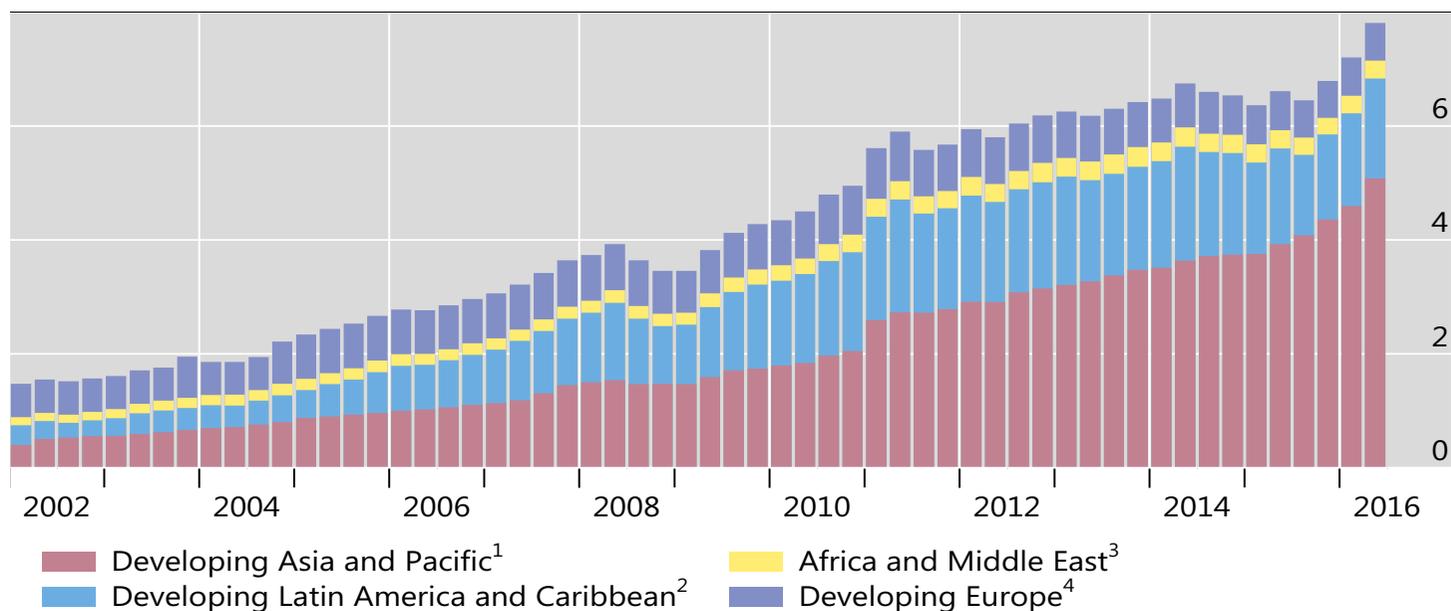
* The views expressed here are mine, not necessarily those of the Bank for International Settlements.

Lessons from the EME financial crises of the 1990s

- Avoid currency mismatch
- Avoid maturity mismatch
- Local currency bond markets as a response

Domestic debt securities

General government, in trillions of US dollars



¹ China, Chinese Taipei, Indonesia, India, Korea, Malaysia, Philippines, Pakistan, Singapore, Thailand. ² Brazil, Chile, Colombia, Mexico, Peru. ³ Israel, Lebanon, Saudi Arabia, South Africa. ⁴ Belarus, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Russia, Serbia, Turkey, Ukraine.

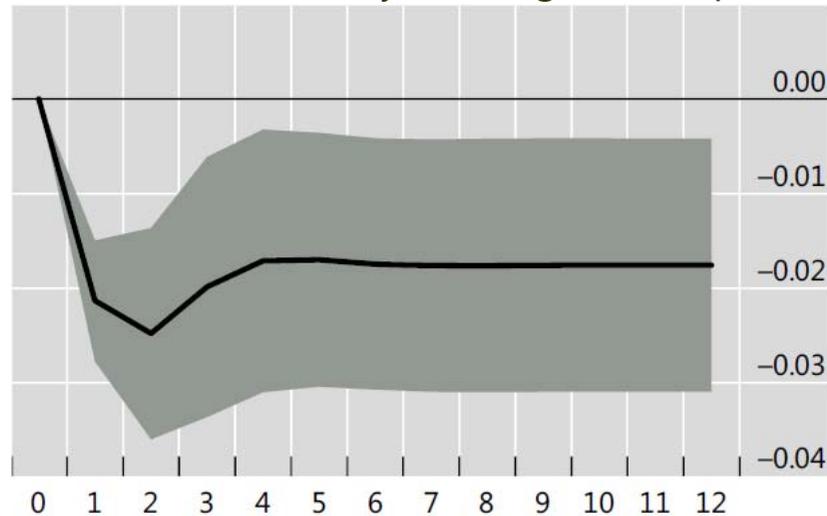
Source: Dealogic; National data; BIS debt securities statistics.

Monetary policy and exchange rates

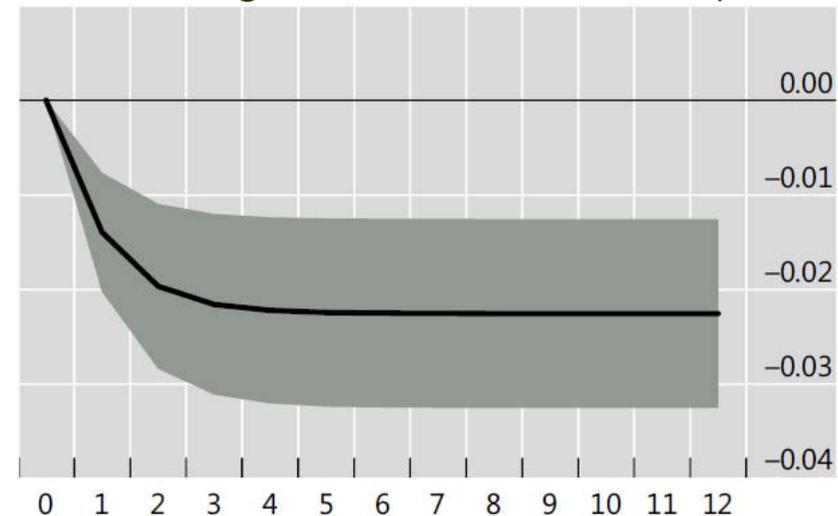
- Conventionally, exchange rates enter through
 - Exchange rate pass-through to inflation
 - Net exports
- Financial channel of exchange rates
 - Goes in the opposite direction to the net exports channel
 - Appreciation loosens domestic financial conditions
 - Appreciation can be expansionary

Impact of currency appreciation on bond spreads

Impact of currency appreciation against USD on EME local currency sovereign bond spread



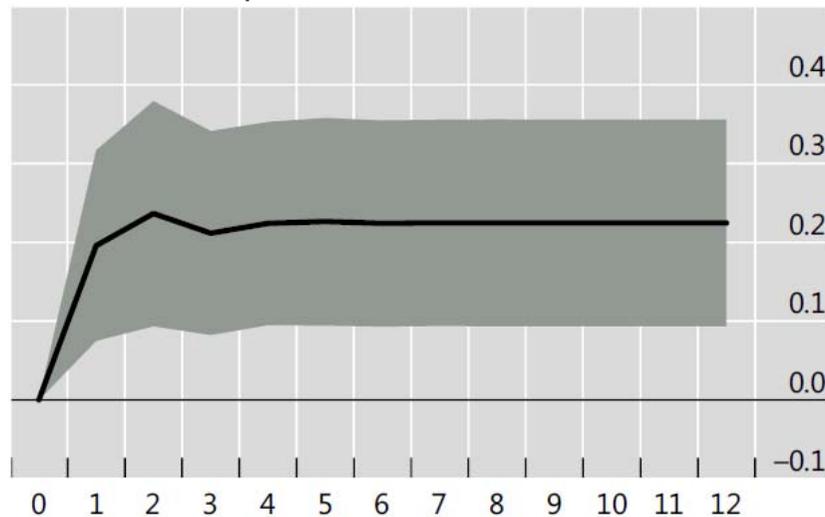
Impact of currency appreciation against USD on Du-Schreger (2016) EME credit risk spread



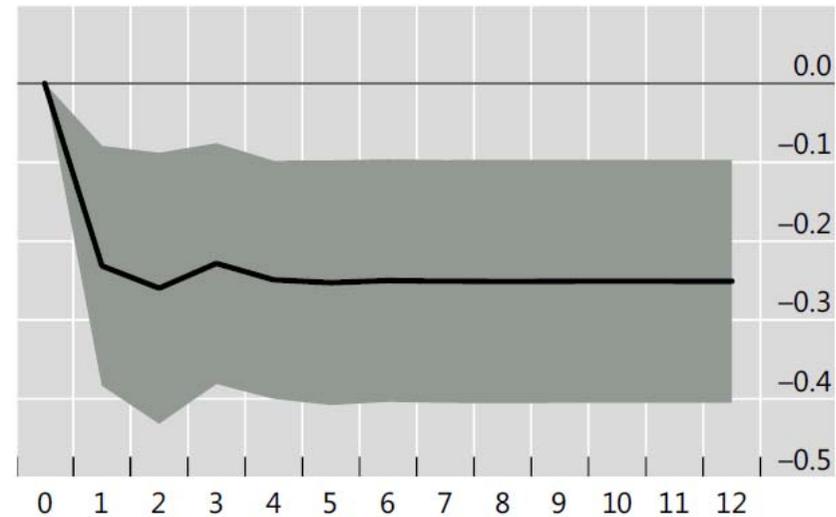
The two panels show the accumulated impulse response functions (IRFs) to a 1 percent appreciation shock to the bilateral exchange rate against the US dollar. Each IRF comes from a separate panel VAR further including domestic inflation, industrial production growth and the change in the 3-month interbank rate as endogenous variables as well as lags of the change in the VIX, US inflation, US industrial output growth and the change in the US 3-month interbank rate as exogenous variables. The exchange rate shock is identified based on a Cholesky ordering with the exchange rate ordered last in the system. The shaded area denotes the two standard error band around the IRF, obtained from a Monte Carlo simulation with 1,000 replications. See Hofmann, Shim and Shin (2017) for further details.

Impact of currency appreciation on industrial production

Impact of currency appreciation against USD on industrial production



Impact of trade-weighted exchange rate appreciation on industrial production



The figure shows the accumulated impulse response functions (IRFs) of EME industrial production growth (IP) to a 1 percent exchange rate appreciation shock. The IRFs come from a panel VAR including domestic output growth, domestic inflation, the change in the domestic 3-month interest rate, the change in the 5-year local currency sovereign bond spread, the change in the bilateral exchange rate against the US dollar (BER) and the change in the trade-weighted exchange rate (NEER). The VAR further includes lags of the change in the VIX, US inflation, US industrial output growth and the change in the US 3-month interbank rate as exogenous variables. The exchange rate shock is identified based on a Cholesky ordering. In the left-hand panel the change in the BER is ordered last in the system, while in the right-hand panel it is the change in the NEER. The shaded area denotes the two standard error band around the IRF, obtained from a Monte Carlo simulation with 1,000 replications. See Hofmann, Shim and Shin (2017) for further details.

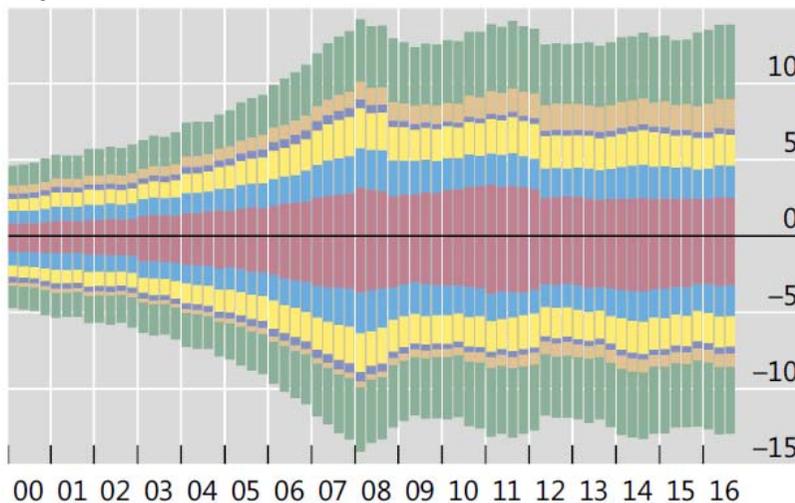
Financial channel of exchange rates

- Conventional view
 - Global economy as a collection of islands
 - Exchange rates determine trade balance
 - Depreciation is expansionary
- Financial channel of exchange rates
 - Global economy is matrix of financial claims
 - Matrix does not respect geography
 - Exchange rates influence risk-taking
 - Appreciation is expansionary

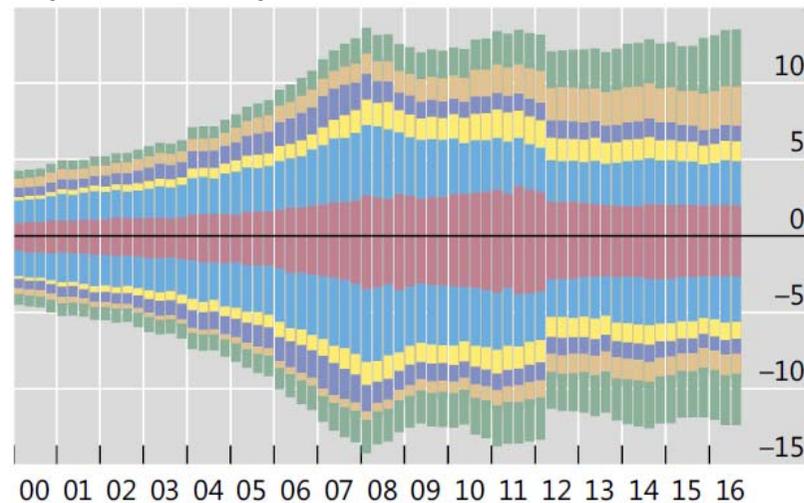
Cross-border US dollar denominated positions of BIS reporting banks

In trillions of US dollars

By residence



By nationality¹



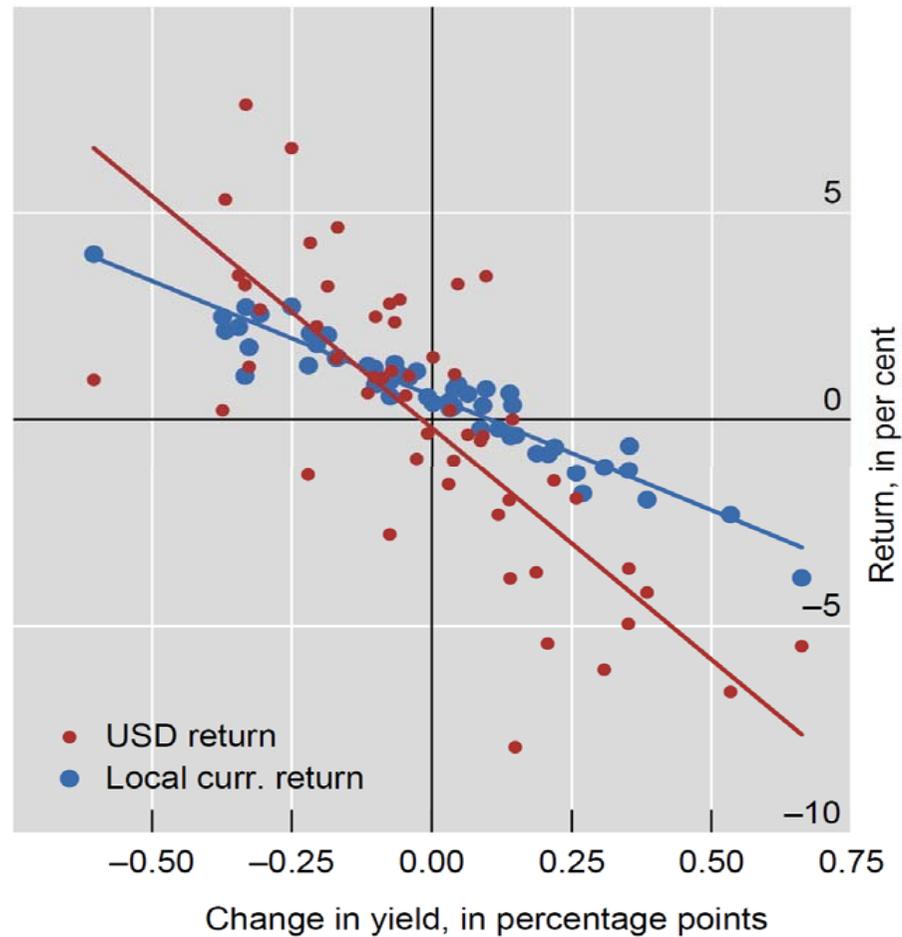
Assets (+) and liabilities (-) of:

United States (red), Euro area (blue), United Kingdom (yellow), Switzerland (purple), Japan (orange), Other (green)

¹ The break in series between Q1 2012 and Q2 2012 is due to the Q2 2012 introduction of a more comprehensive reporting of cross-border positions. For more details, see www.bis.org/publ/qtrpdf/r_qt1212v.htm.

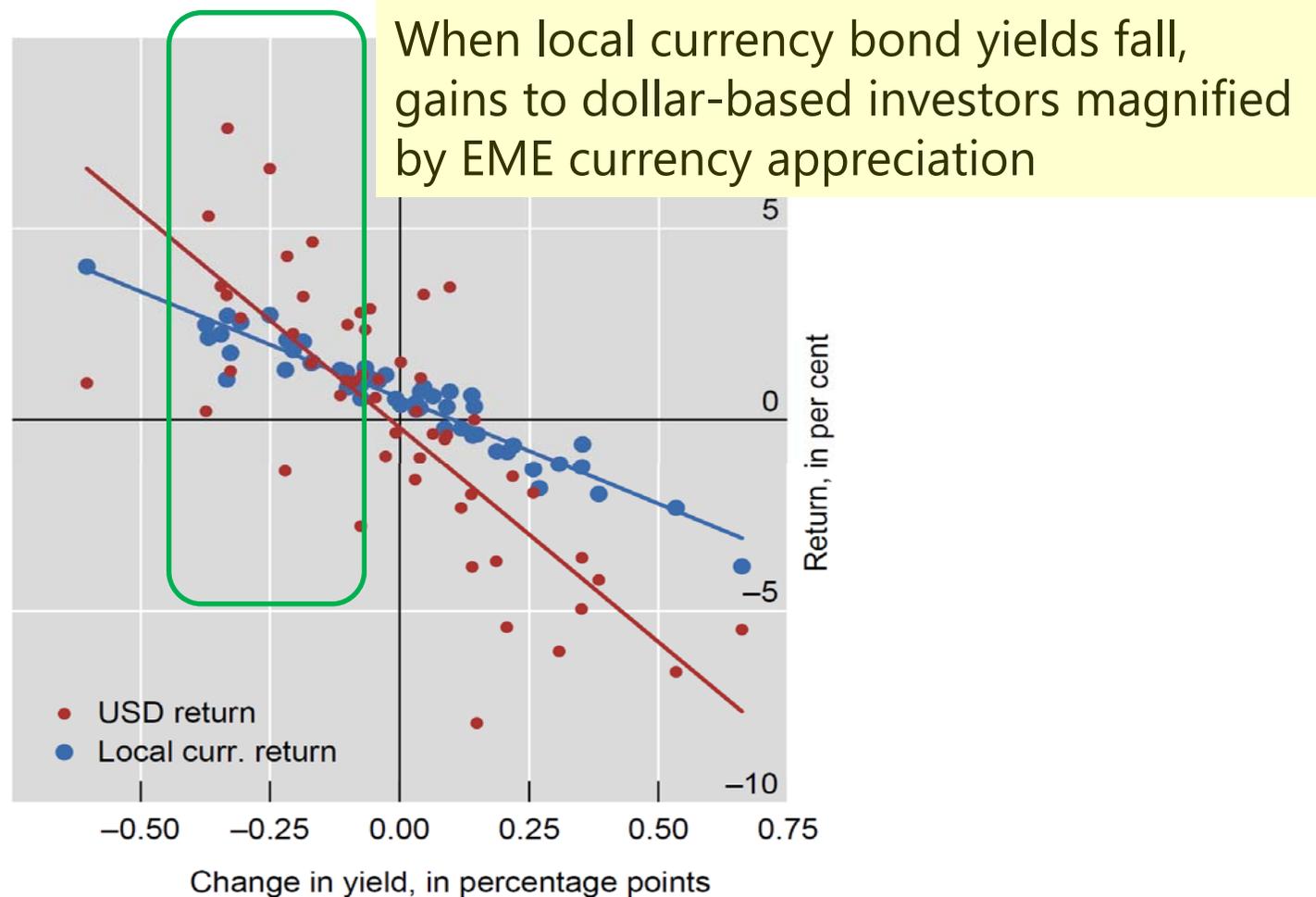
Sources: BIS locational banking statistics, Tables A5 (by residence) and A7 (by nationality).

EME bond fund local currency returns and USD returns



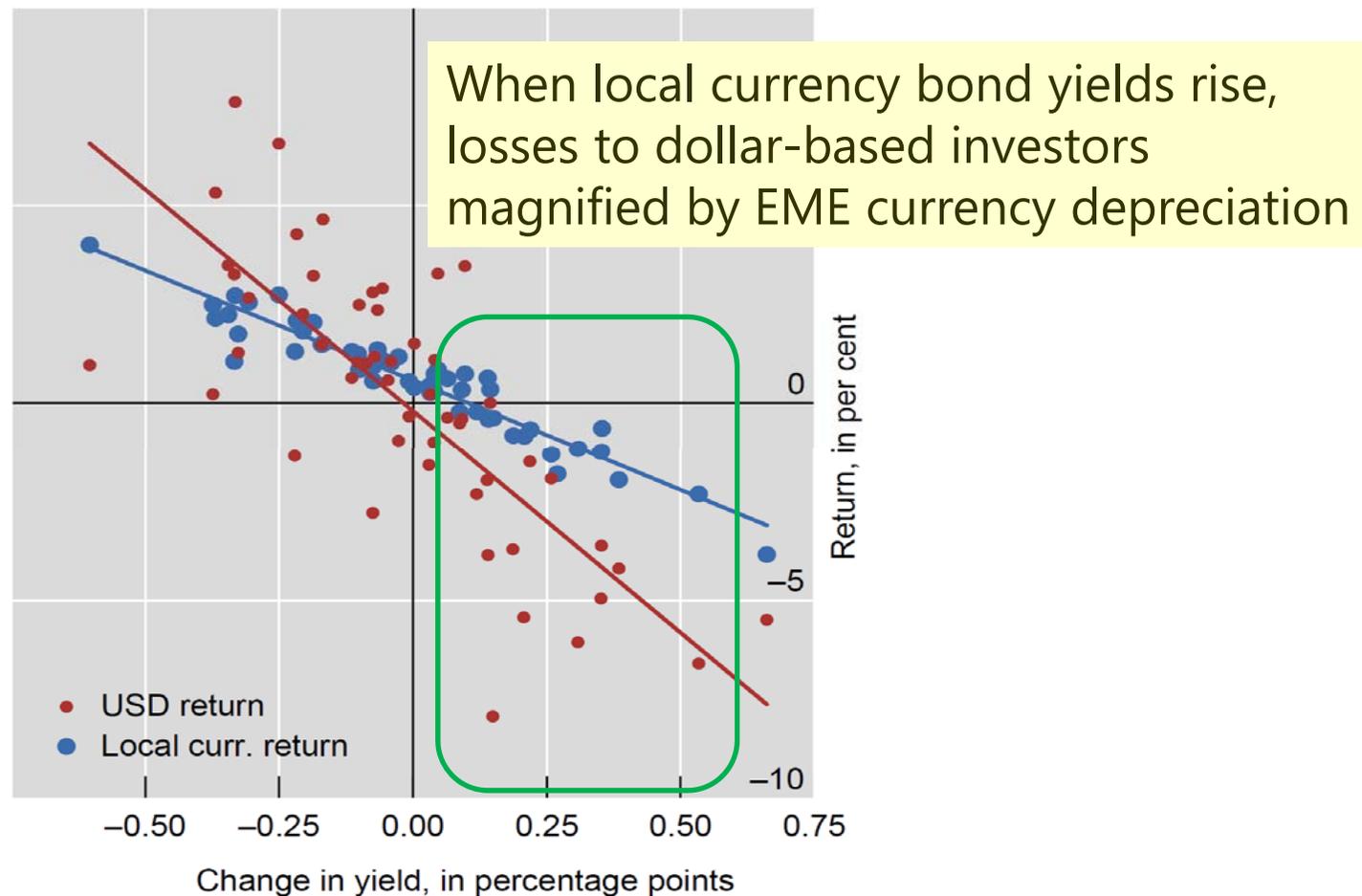
Sources: EPFR; JPMorgan Chase; authors' calculations

EME bond fund local currency returns and USD returns



Sources: EPFR; JPMorgan Chase; authors' calculations

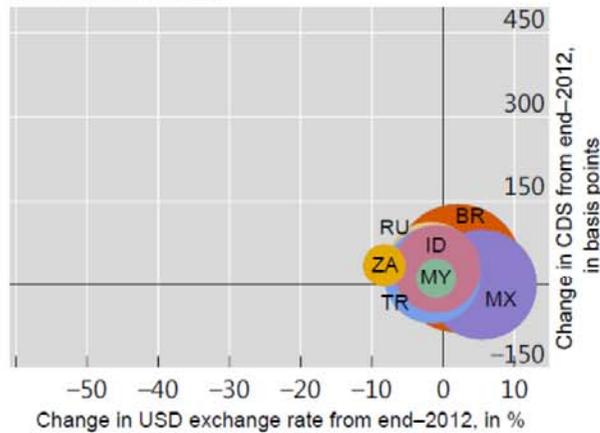
EME bond fund local currency returns and USD returns



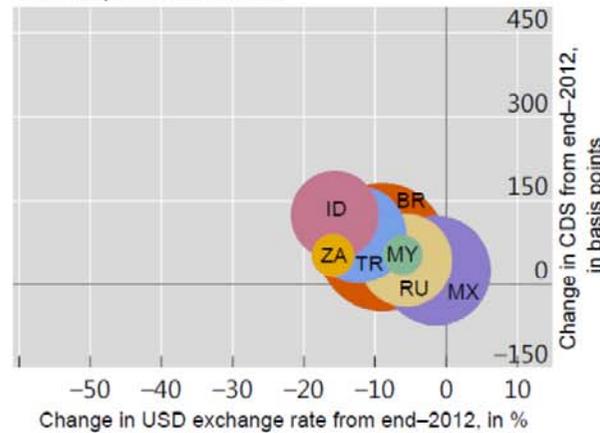
Sources: EPFR; JPMorgan Chase; authors' calculations

CDS spreads and bilateral USD exchange rate

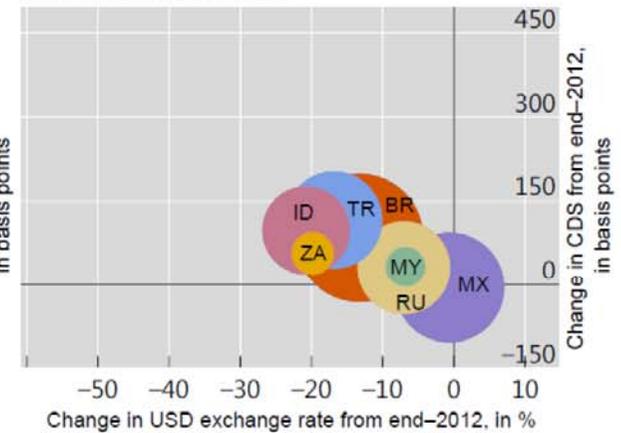
End-March 2013



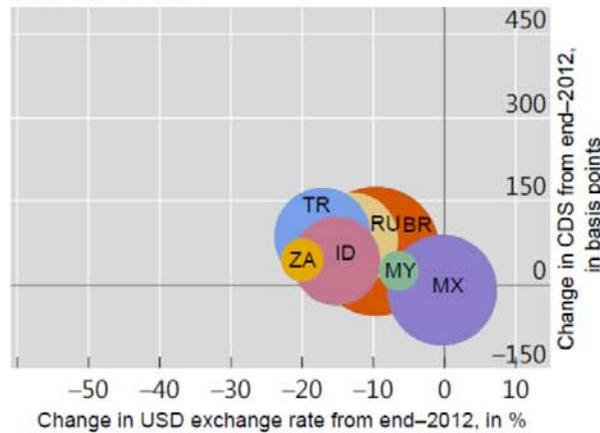
End-September 2013



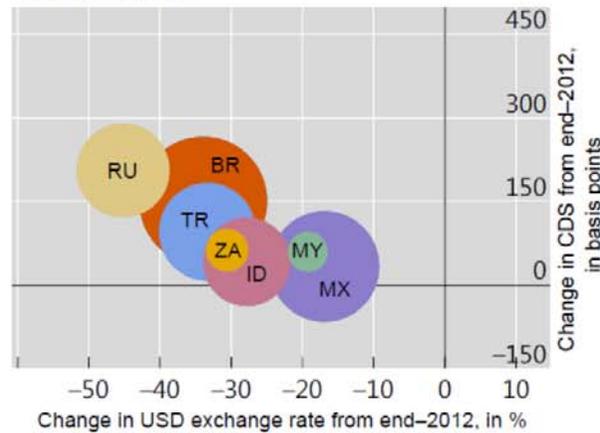
End-December 2013



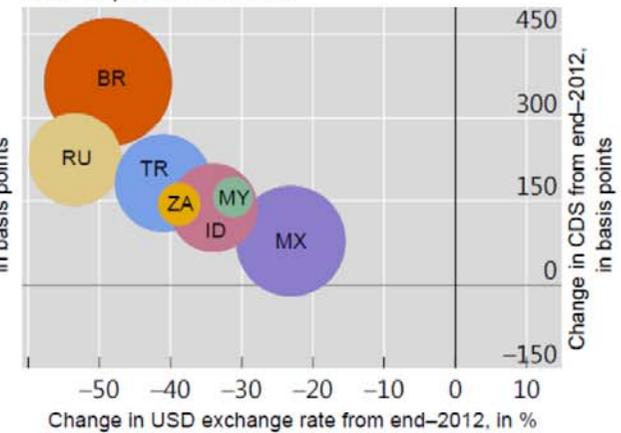
End-March 2014



End-June 2015



End-September 2015



Findings from Hofmann, Shim and Shin (2017)

- Exchange rate vis-à-vis USD is significant determinant of EME local currency bond market conditions
 - Appreciation is associated with looser financial conditions
 - Effect works through risk premium
- Appreciation in trade-weighted exchange rate unrelated to USD goes in opposite direction
 - Financial channel of exchange rates is consistent with textbook net exports channel

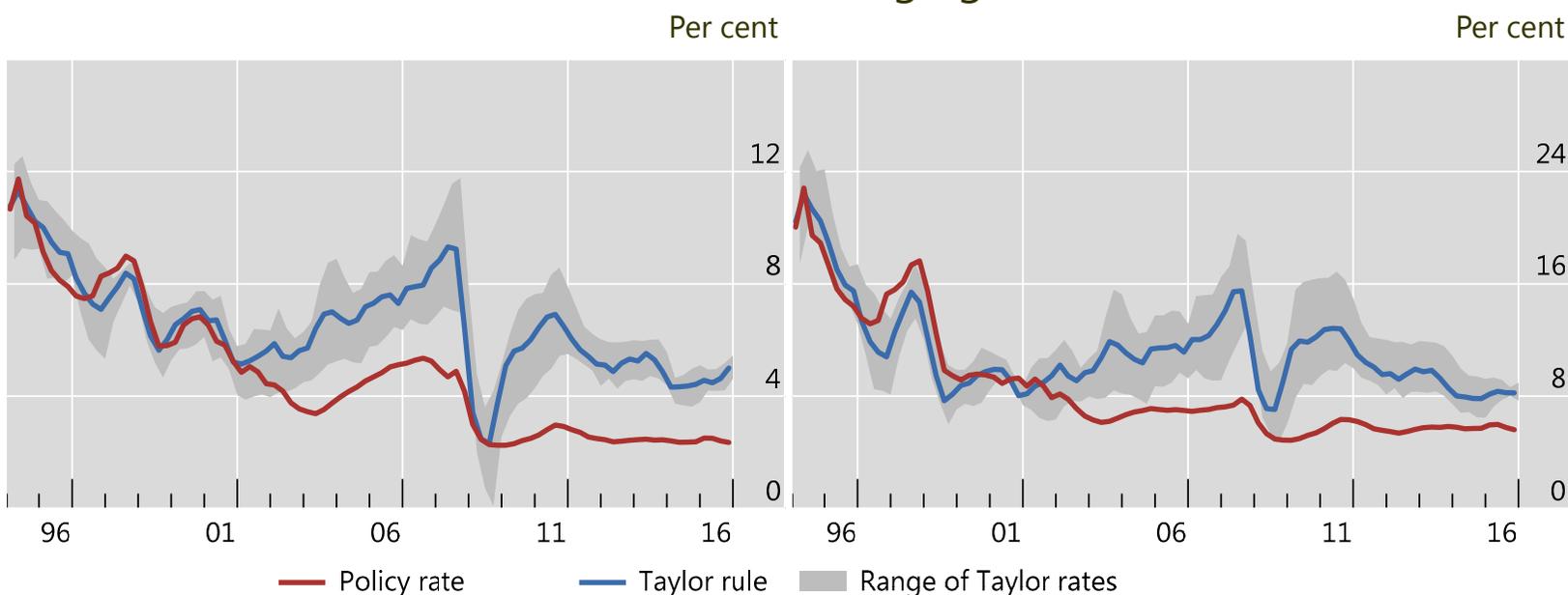
Monetary policy affected by global liquidity

- Weak dollar phase
 - Buoyant financial conditions
 - Buoyant real economic activity
 - Capital inflows to EMEs
 - Subdued inflation
- Strong dollar phase
 - Tighter financial conditions
 - Slowing real economic activity
 - Capital outflows from EMEs
 - Pass-through to inflation

Policy rates compared to Taylor rules¹

Global

Emerging markets



¹ See B Hofmann and B Bogdanova, "Taylor rules and monetary policy: a global 'Great Deviation'?", *BIS Quarterly Review*, September 2012, pp 37–49.

Sources: IMF, *International Financial Statistics* and *World Economic Outlook*; Bloomberg; CEIC; Consensus Economics; Datastream; national data; BIS calculations.

Complementing monetary policy with other tools?

- Macroprudential tools
- Capital flow management (CFM) measures

Balance sheet tools

- Ghosh, Ostry and Qureshi (2017, MIT Press) *Taming the Tide of Capital Flows: A Policy Guide*
- These IMF authors find that increase in **FX reserves to GDP ratio** stems credit growth; offsets increase in capital inflows to GDP ratio by same coefficient
- One interpretation: FX reserve accumulation financed by sale of domestic currency bonds counters financial channel of exchange rates
 - Lean against bond yield compression
 - Lean against currency appreciation
- Interpretation as **Reverse QE**
- Size and scope limited by multilateral obligations against currency manipulation

Conclusions

- Development of local currency bond markets still leaves challenges for monetary and financial stability in EMEs
- Exchange rate emerges as a key economic variable for the conduct of monetary policy
 - Influences local currency yield curve
 - Determines financial conditions
 - Acts as transmission channel of global liquidity
- Agenda for multilateral discussions