



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.

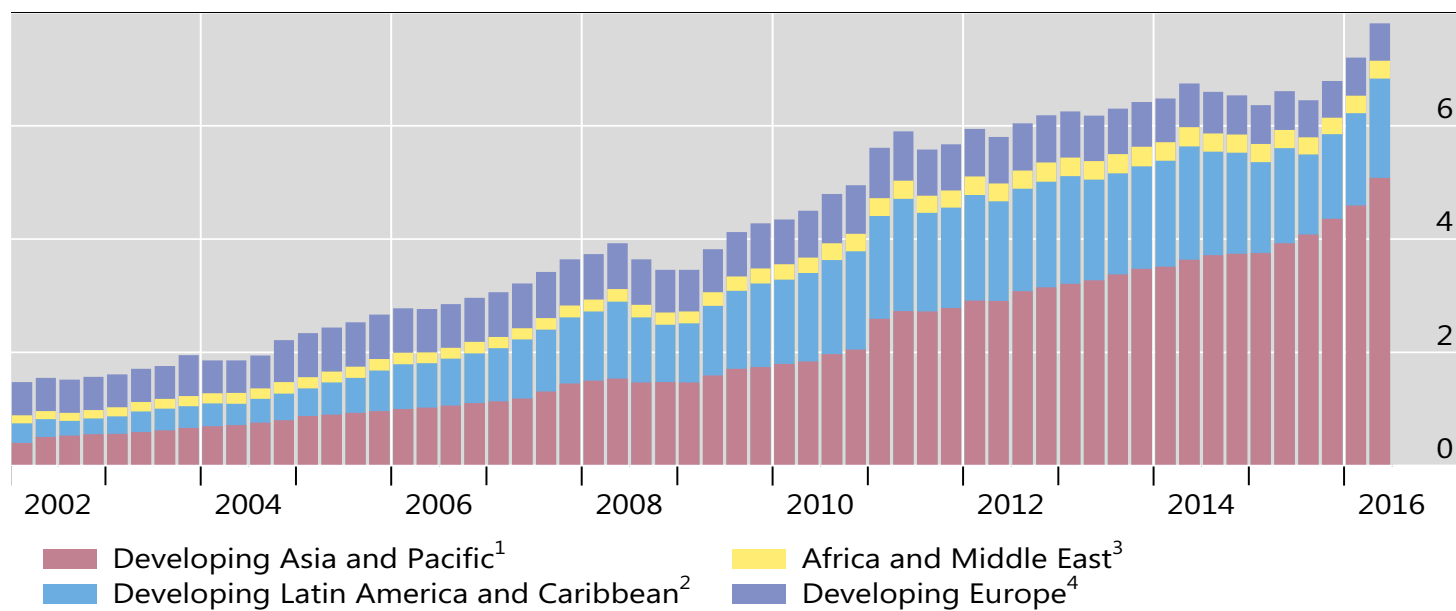
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## Lessons from the EME financial crises of the 1990s

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

## Domestic debt securities

General government, in trillions of US dollars



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

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

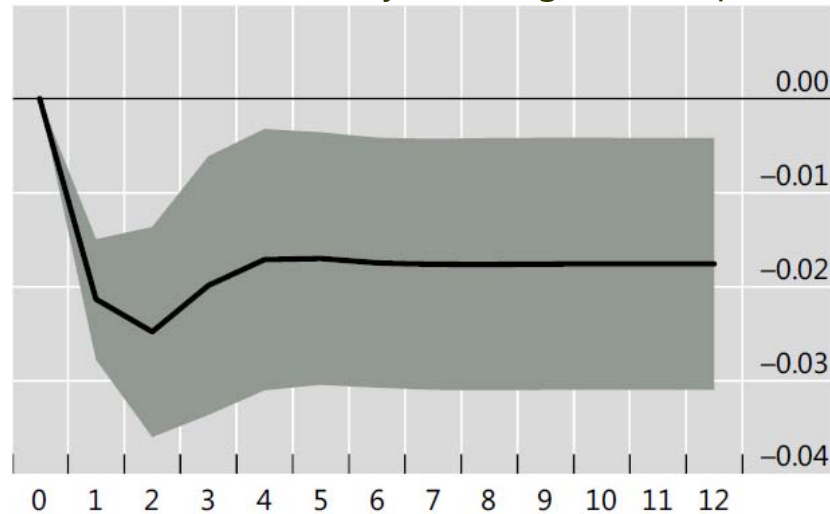
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## Monetary policy and exchange rates

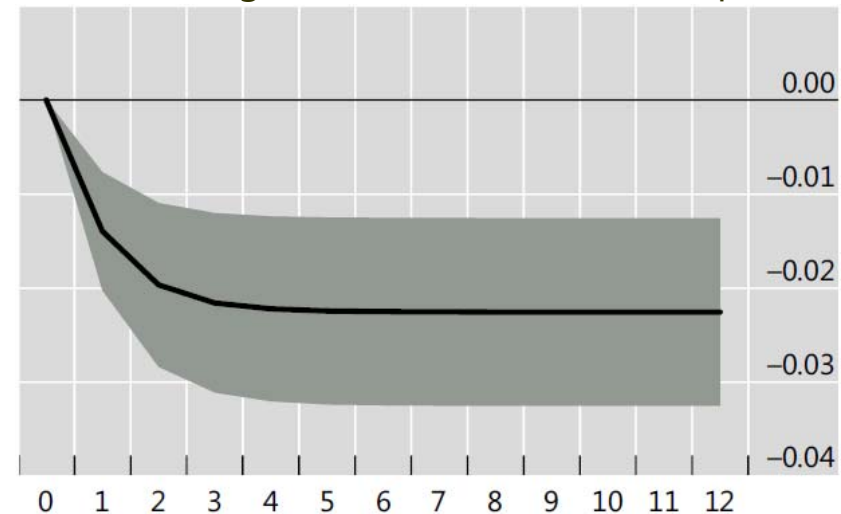
- Conventionally, exchange rates enter through
  - Exchange rate pass-through to inflation
  - Net exports
- Financial channel of exchange rates
  - Goes in the opposite direction to the net exports channel
  - Appreciation loosens domestic financial conditions
  - Appreciation can be expansionary

## Impact of currency appreciation on bond spreads

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



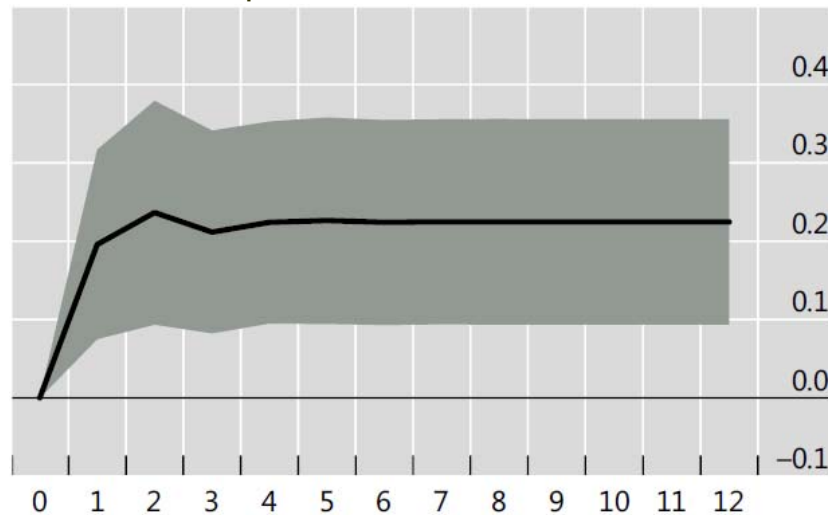
Impact of currency appreciation against USD on Du-Schreger (2016) EME credit risk spread



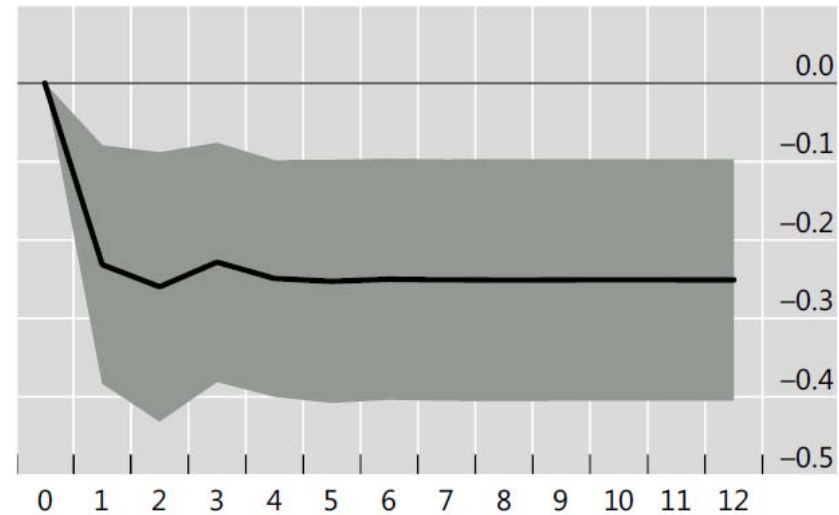
The two panels show the accumulated impulse response functions (IRFs) to a 1 percent appreciation shock to the bilateral exchange rate against the US dollar. Each IRF comes from a separate panel VAR further including domestic inflation, industrial production growth and the change in the 3-month interbank 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.

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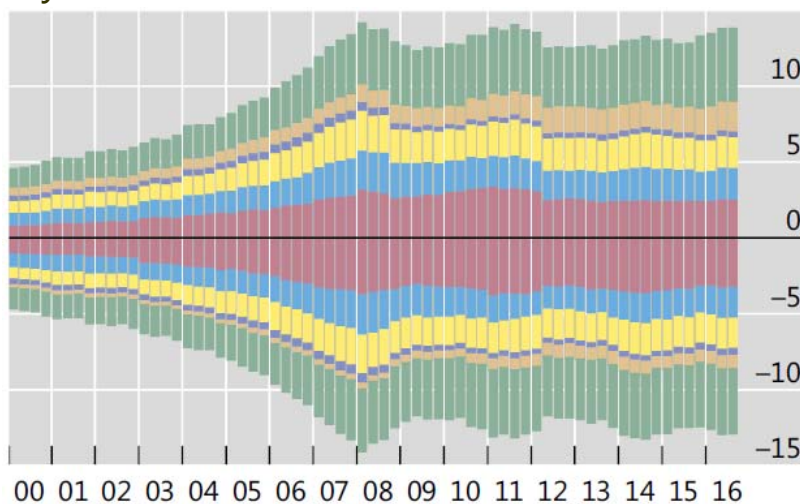
## Financial channel of exchange rates

- 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

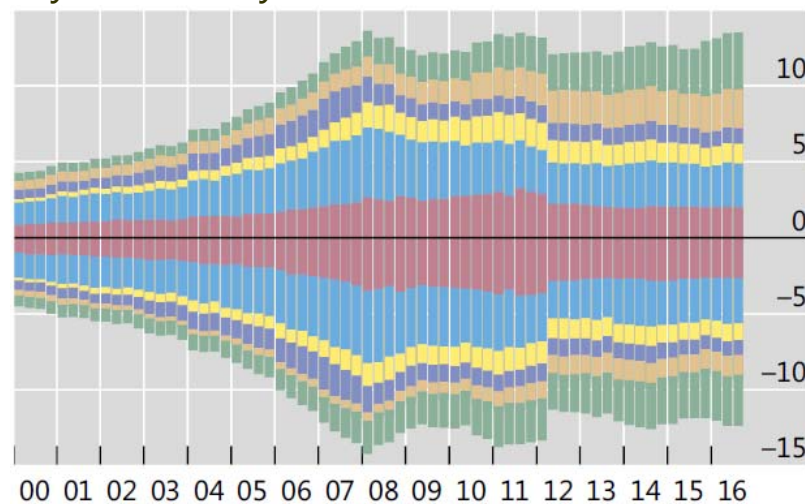
# Cross-border US dollar denominated positions of BIS reporting banks

In trillions of US dollars

By residence



By nationality<sup>1</sup>



Assets (+) and liabilities (-) of:

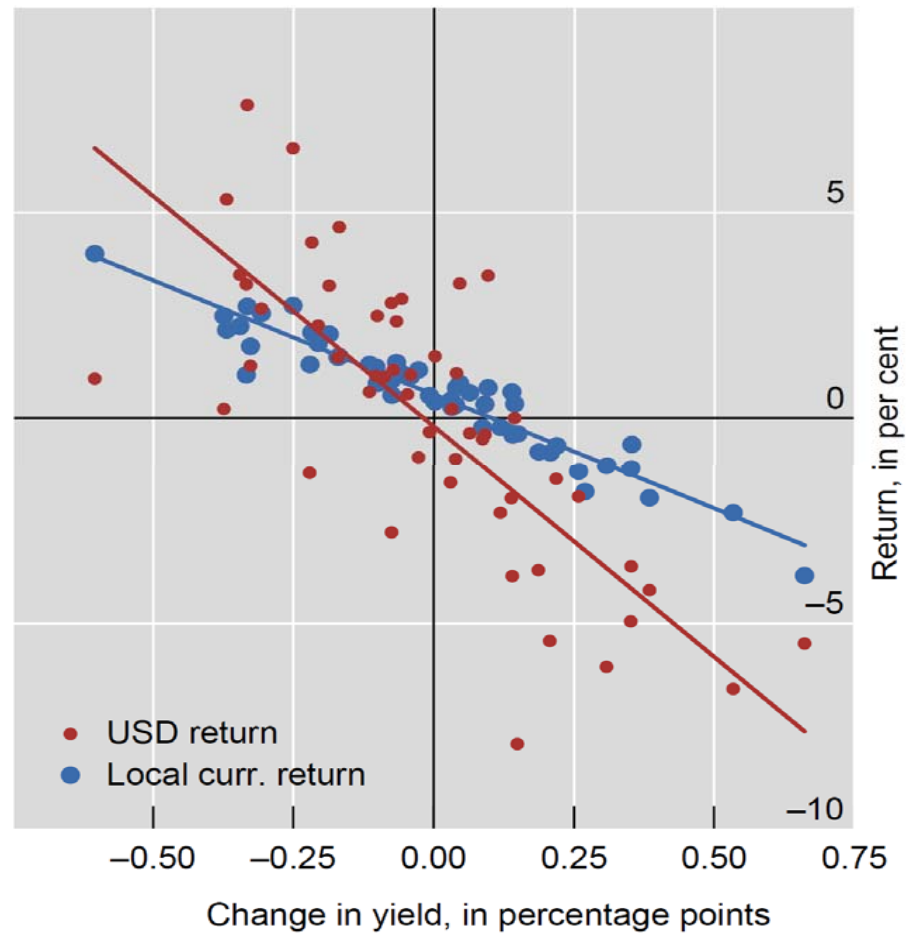
United States United Kingdom Japan  
Euro area Switzerland Other

<sup>1</sup> 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](http://www.bis.org/publ/qtrpdf/r_qt1212v.htm).

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

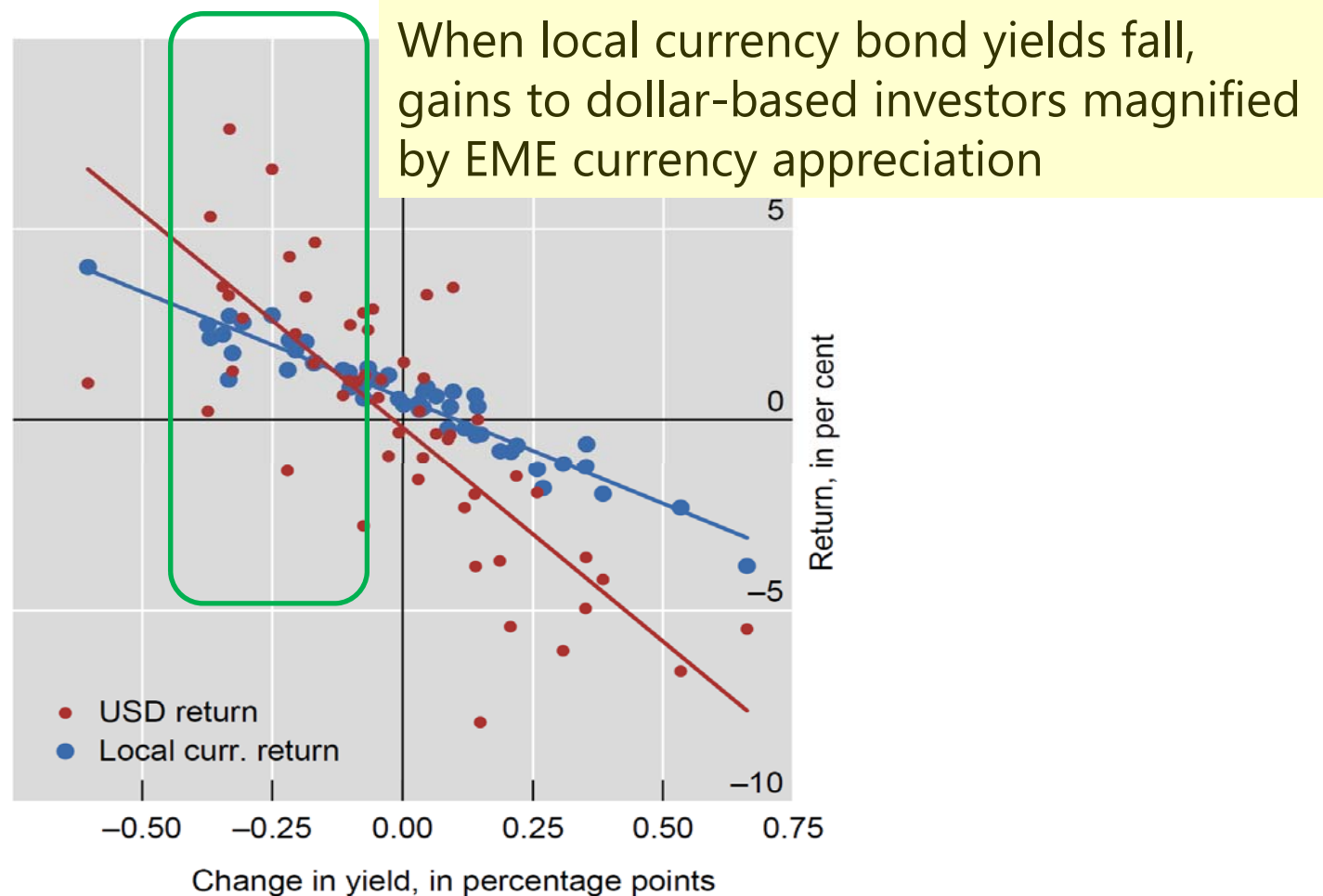


## EME bond fund local currency returns and USD returns



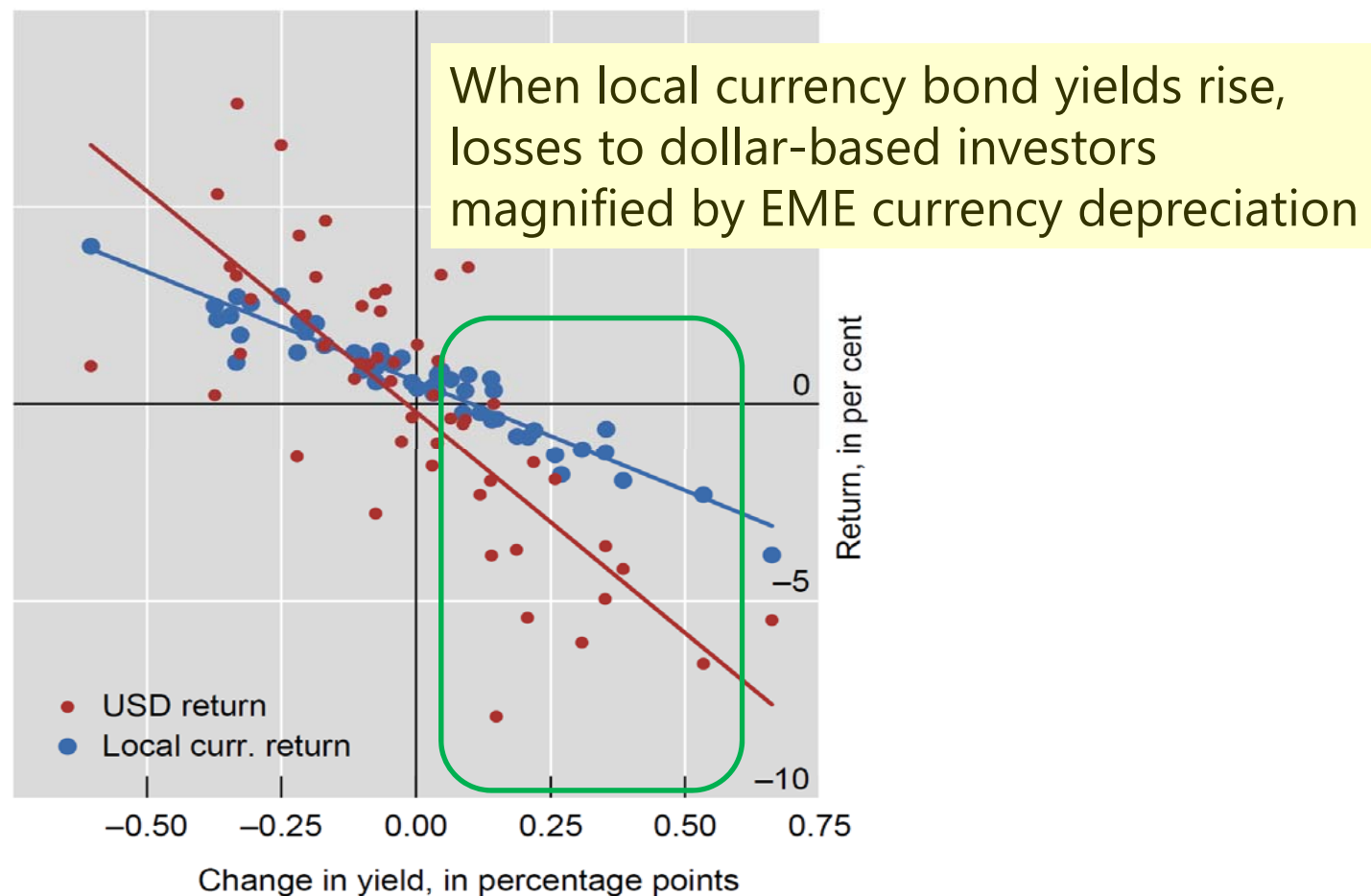
Sources: EPFR; JPMorgan Chase; authors' calculations

## EME bond fund local currency returns and USD returns



Sources: EPFR; JPMorgan Chase; authors' calculations

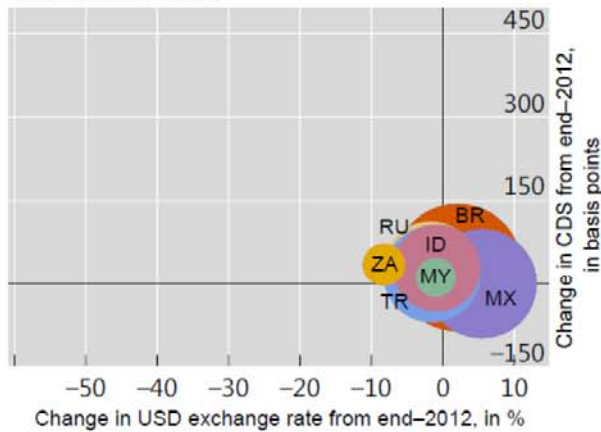
## EME bond fund local currency returns and USD returns



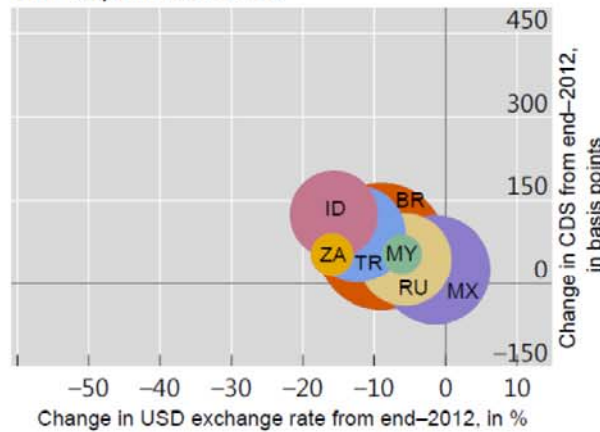
Sources: EPFR; JPMorgan Chase; authors' calculations

# CDS spreads and bilateral USD exchange rate

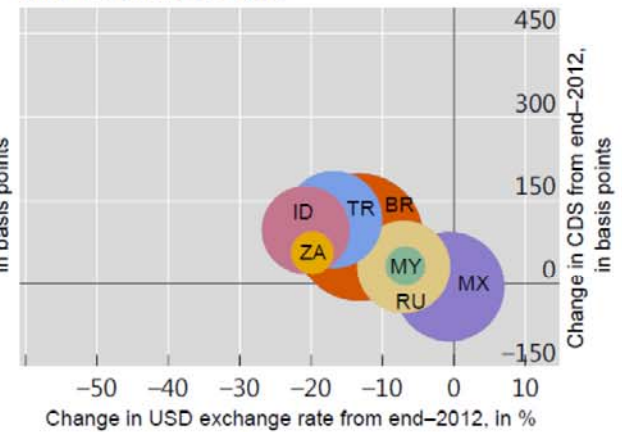
End-March 2013



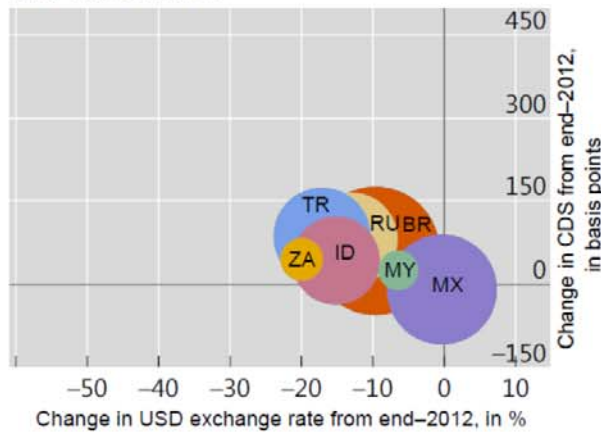
End-September 2013



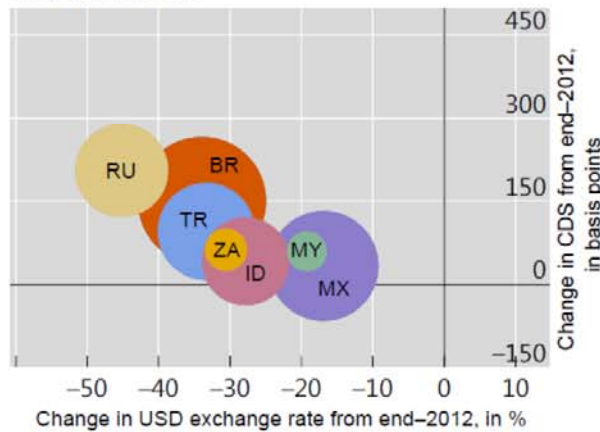
End-December 2013



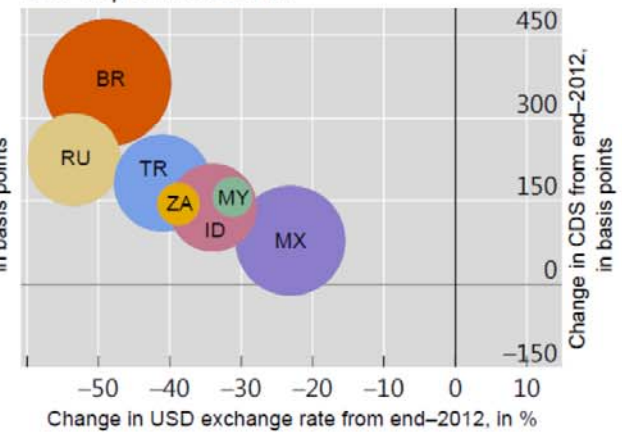
End-March 2014



End-June 2015



End-September 2015



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## 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

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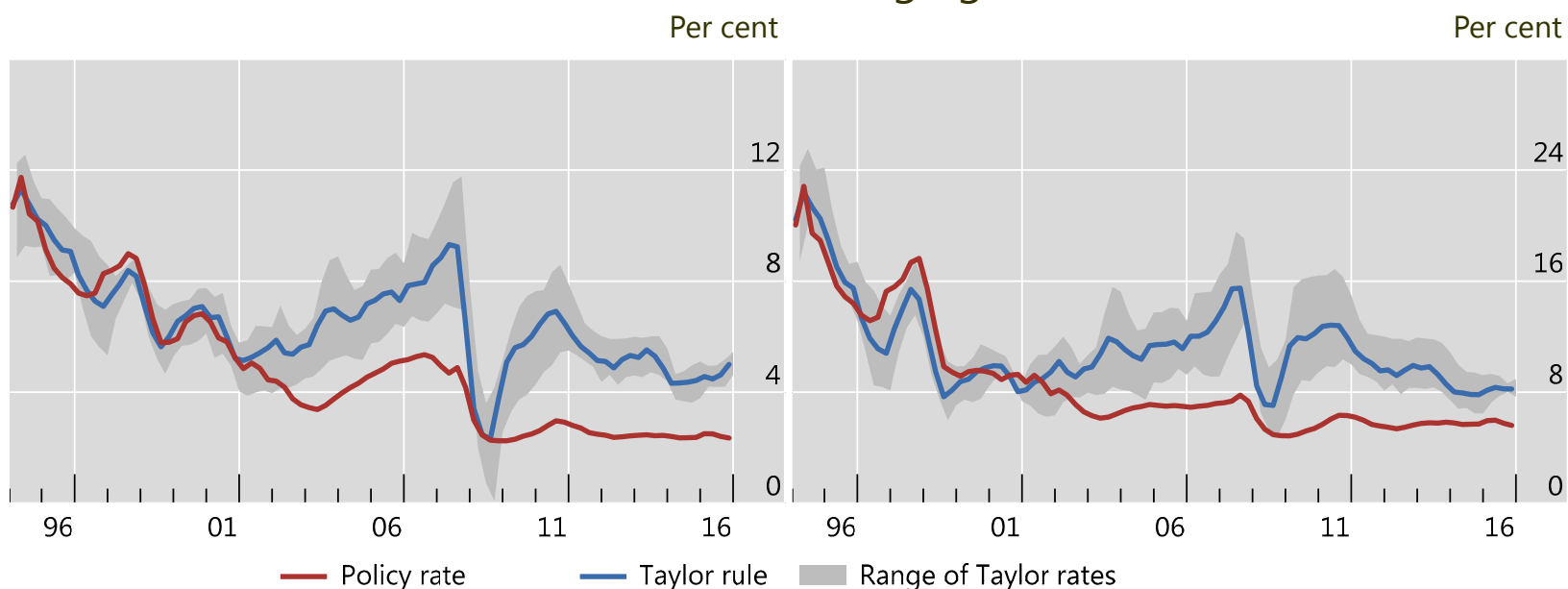
## Monetary policy affected by global liquidity

- 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 rules<sup>1</sup>

Global

Emerging markets



<sup>1</sup> 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.

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## 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

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## 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