U.S. Monetary Policy Spillovers to Emerging Markets: Both Shocks and Vulnerabilities Matter

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Advances in Monetary Economics

September 13, 2022

The paper

- How does a US monetary tightening transmit to EMEs?

- Calibrated New Keynesian two-country DSGE model with financial frictions and EME vulnerabilities:
    1. foreign currency-denominated debt
    2. dominant currency pricing
    3. high exchange rate pass-through/un-anchored inflation expectations

- "Pure" US monetary policy shock and US aggregate demand shock

Results

- Non-vulnerable EME: low FX debt, PCP, anchored $\mathbb{E}[\pi]$

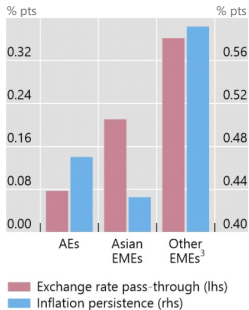 $\implies$ spillovers are quantitatively small and "manageable"

- Vulnerable EME: high FX debt, DCP, un-anchored $\mathbb{E}[\pi]$

  $\implies$ spillovers are quantitatively large and give rise to MP tradeoffs

Policy implications

- Non-vulnerable EME: low FX debt, PCP, anchored $\mathbb{E}[\pi]$
  - $\implies$ spillovers are quantitatively small and "manageable"
  - $\implies$ very close to a Mundell-Fleming world

- Vulnerable EME: high FX debt, DCP, un-anchored $\mathbb{E}[\pi]$
  - $\implies$ spillovers are quantitatively large and give rise to MP tradeoffs
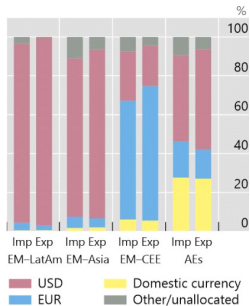 - $\implies$ need additional policy tools: FXI, CFMs, MaPP
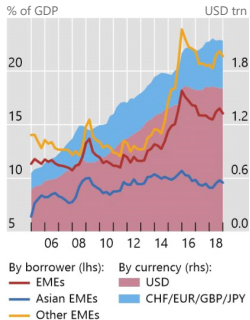   - IMF IPF: Basu, Boz, Gopinath, Roch and Unsal (2020); Adrian, Erceg, Linde, Kolasa and Zabczyk (2022)

Exchange rate pass-through and inflation persistence across regions[1, 2]

% pts / % pts

Exchange rate pass-through (lhs)
Inflation persistence (rhs)

AEs · Asian EMEs · Other EMEs[3]

Trade invoicing currencies in inflation targeting countries[4]

%

USD · EUR · Domestic currency · Other/unallocated

Imp Exp EM–LatAm · Imp Exp EM–Asia · Imp Exp EM–CEE · Imp Exp AEs

Foreign currency debt[5]

% of GDP / USD trn

By borrower (lhs): EMEs · Asian EMEs · Other EMEs
By currency (rhs): USD · CHF/EUR/GBP/JPY

06 08 10 12 14 16 18

EMEs = BR, CL, CO, CZ, HU, ID, IN, KR, MX, PE, PH, PL, RU, TH, TR and ZA; AEs = AU, CA, GB, NO, NZ and SE.

[1] Coefficients are six-year rolling window long-run multipliers from the equation $Inflation_{it} = \alpha_i + \beta_t + \delta\,Inflation_{it-1} - \sum_{j=0}^{3}\gamma_j\Delta NEER_{it-j} + \phi Outputgap_{it} + \varepsilon_{it}$. Sample starts in Q1 1995. For details, see M Jašová, R Moessner and E Takáts, "Exchange rate pass-through: what has changed since the crisis?", *International Journal of Central Banking*, forthcoming, 2019. Also published as *BIS Working Papers*, no 583.   [2] As of Q4 2018.   [3] BR, CL, CO, MX, PE, RU, TR and ZA.   [4] Simple averages across the countries within each region; based on 15 inflation targeting economies with available data. LatAm = Latin America; CEE = central and eastern Europe.   [5] Cross-border and local bank loans extended by LBS-reporting banks to EME non-bank borrowers and international debt securities issued by non-banks residing in EMEs. Non-banks comprise non-bank financial entities, non-financial corporations, governments, households and international organisations.

Sources: G Gopinath, "The international price system", in proceedings of the Federal Reserve Bank of Kansas City Jackson Hole symposium, August 2015; Datastream; Dealogic; Euroclear; Refinitiv; Xtrakter Ltd; national data; BIS locational banking statistics (LBS); BIS calculations.

Non-vulnerable EMEs?

Total FXI[1]

% pts
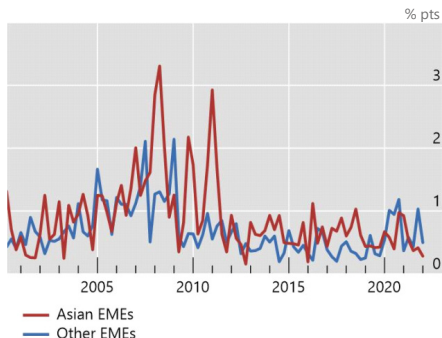
Overall inflow/outflow restrictions index

Index

Asian EMEs
Other EMEs

Inflow:
Asian EMEs
Other EMEs

Outflow:
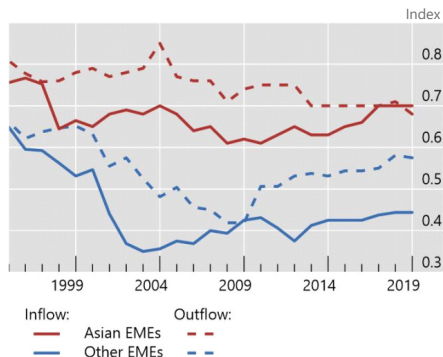
[1] Proxied in percentage points of 3-year moving average GDP.

Sources: Adler, Gustavo, Kyun Suk Chang, Rui C. Mano, and Yuting Shao. 2021. "Foreign Exchange Intervention: A Dataset of Public Data and Proxies," IMF Working Paper Series 21/47, International Monetary Fund, Washington D.C.; Fernández, Klein, Rebucci, Schindler and Uribe (2016) "Capital Control Measures: A New Dataset" IMF Economic Review, Vol. 64 (3): 548-574, 2016; BIS calculations.

Other financial channels?

- **Original sin redux**: local currency borrowing shifts the currency mismatch problem to the balance sheet of global lenders
  - Exchange rate movements can affect lending capacity and trigger capital flow reversal
    - Carstens and Shin (2019); Hofmann, Patel and Wu (2022)

- **Shallow domestic financial markets**: lack of sizable domestic investor base and/or underdeveloped financial markets
  - This leave EMEs dependent on external borrowing, irrespective of currency denomination
    - Cavallino and Sandri (2019); Cavallino and Hofmann (2022)

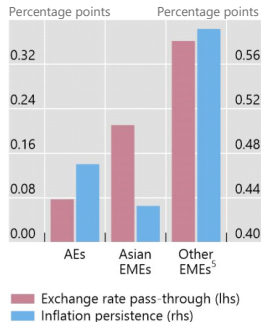# Un-anchored $\mathbf{E}[\pi]$: credibility or ex rate pass-through?

Exchange rate pass-through over time[1, 2]
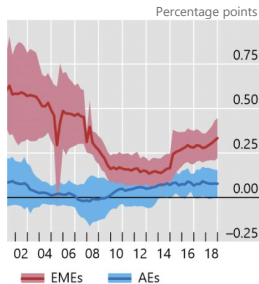
Exchange rates and inflation across countries[3]
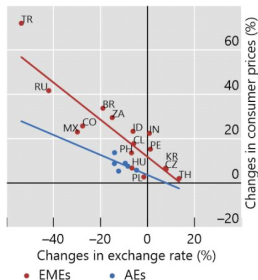
Exchange rate pass-through and inflation persistence across regions[1, 4]

EMEs = BR, CL, CO, CZ, HU, ID, IN, KR, MX, PE, PH, PL, RU, TH, TR and ZA; AEs = AU, CA, GB, NO, NZ and SE.

[1] Coefficients are six-year rolling window long-run multipliers from the equation $Inflation_{it} = \alpha_i + \beta_t + \delta\, Inflation_{it-1} - \sum_{j=0}^{3} \gamma_j \Delta NEER_{it-j} + \phi Outputgap_{it} + \varepsilon_{it}$. Sample starts in Q1 1995. For details, see M Jašová, R Moessner and E Takáts, "Exchange rate pass-through: what has changed since the crisis?", *International Journal of Central Banking*, forthcoming, 2019. Also published as *BIS Working Papers*, no 583.   [2] The ranges indicate the 90% confidence intervals.   [3] Cumulative changes between end-2018 and end-2013 based on nominal effective exchange rates and headline CPI. A positive value in the nominal effective exchange rate indicates appreciation of the domestic currency.   [4] As of Q4 2018.   [5] BR, CL, CO, MX, PE, RU, TR and ZA.

Sources: Datastream; national data; BIS calculations.