GLOBAL FOOTPRINTS
OF MONETARY POLICIES

SILVIA MIRANDA-AGRIPPINO¹,³
TSVETELINA NENOVA² & HÉLÈNE REY²,³,⁴

¹BANK OF ENGLAND & CfM  ²LONDON BUSINESS SCHOOL  ³CEPR  ⁴NBER

KONSTANZ SEMINAR ON MONETARY THEORY & MONETARY POLICY
23-25 MAY, 2023

The views expressed are those of the authors and do not represent those of the Bank of England, the Monetary Policy Committee, the Financial Policy Committee or the Prudential Regulation Authority.
Potential for International Monetary Policy Transmission

1. Classic
   - Countries engage in bilateral trade
   - Potency of transmission depends on CA balances
   - FX is a shock absorber ➔ classic Mundellian paradigm
Potential for International Monetary Policy Transmission

1. Classic
   - Countries engage in bilateral trade
   - Potency of transmission depends on CA balances
   - FX is a shock absorber → classic Mundellian paradigm

2. Amplification through Global Financial Cycle [Rey (2013)]
   - Global fin’l aggregates comove to a very large extent
   - MP influences common component ⇒ global spillovers
   - Through fin’l conditions: risk, leverage, capital flows, asset prices
   - FX only a partial shocks absorber
Why traditionally focus on US MP?

1. Because it’s at the centre of the international financial system

2. Because of the dominant role of the USD
Why traditionally focus on US MP?

1. **Because it’s at the centre of the international financial system**
2. **Because of the dominant role of the USD**

*Note:* Includes private & official cross-border investment in Eqy + Debt securities. Coppola, Maggiori, Neiman and Schreger (2021) + IMF’s Coordinated Portfolio Investment Survey (CPIS), 2013
Why traditionally focus on US MP?

1. Because it’s at the centre of the international financial system

2. Because of the dominant role of the USD
Why traditionally focus on US MP?

1. Because it’s at the centre of the international financial system

2. Because of the dominant role of the USD

- **International financial transactions & trade invoicing**
  [Gopinath et al. (2019), Gopinath & Stein (2020), Maggiori, Neiman & Schreger (2020)]

- **Reserve/Anchor currency**
AVENUES FOR INTERNATIONAL MONETARY POLICY TRANSMISSION

1. Classic

2. Amplification through Global Financial Cycle

3. Amplification through Global Value Chains
   ○ Additional transmission from integrated production
   ○ Through supply/production constraints
Global Spillovers of US and Chinese Monetary Policy

- **Via Global Cycles:**
  1. Financial
  2. Trade/Commodity

- Empirical characterisation of international transmission
This Paper

Global Spillovers of US and Chinese Monetary Policy

○ Via Global Cycles:
  1. Financial
  2. Trade/Commodity

○ Empirical characterisation of international transmission

▷ Outline:
This Paper

Global Spillovers of US and Chinese Monetary Policy

- **Via Global Cycles:**
  1. Financial
  2. Trade/Commodity

- Empirical characterisation of international transmission

▷ Outline:

1. Recap & extension of Global Financial Cycle Facts
   ▶ New data & new facts
   ▶ Global Spillovers of US MP
Global Spillovers of US and Chinese Monetary Policy

- Via Global Cycles:
  1. Financial
  2. Trade/Commodity

- Empirical characterisation of international transmission

Outline:

1. Recap & extension of Global Financial Cycle Facts
   - New data & new facts
   - Global Spillovers of US MP

2. Global Trade & Commodity Cycle
   - New data & new facts
   - Global Spillovers of Chinese MP
DIMENSIONS OF GLOBAL COMOVEMENTS #1:
GLOBAL FINANCIAL CYCLE & US MP TRANSMISSION
Do global risky asset prices co-move?

Yes, a lot.

1 factor in global risky asset prices

\[ \approx 1/4 \] of common variance

\( \approx 1/4 \) of common variance
Do global risky asset prices co-move?

Yes, a lot.

- 1 factor in global risky asset prices
- Explains $\simeq 1/4$ of common variance ($n \simeq 1K$)
Do global risky asset prices co-move?

Yes, a lot.

- 1 factor in global risky asset prices
- Explains $\approx 1/4$ of common variance ($n \approx 1K$)
CO-MOVEMENT EXTENDS TO QUANTITIES

1. Between asset prices and capital flows (corr ≃ 80%)
2. Between inflows & outflows
3. And across flows types (FDIs less so)
Co-movement extends to quantities

1. Between asset prices and capital flows (corr ≃ 80%)
2. **Between inflows & outflows**
3. And across flows types (FDIs less so)
Co-movement extends to quantities

1. Between asset prices and capital flows (corr $\approx 80\%$)
2. Between inflows & outflows
3. And across flows types (FDIs less so)
What’s behind the factors?

- Stylised model of heterogeneous investors
- Common component \( f(\text{time-varying aggregate risk aversion}) \)
What’s behind the factors?

- Stylised model of heterogeneous investors
- **Common component** = \( f(\text{time-varying aggregate risk aversion}) \)
What’s behind the factors?

- Stylised model of heterogeneous investors
- Common component = \( f(\text{time-varying aggregate risk aversion}) \)

Specific role for MP: Coimbra & Rey (forth.)
Median IRFs, 68% & 90% posterior credible sets, 1991:2018.
Global Transmission of US MP

Median IRFs, 68% & 90% posterior credible sets, 1991:2018.
Global Transmission of US MP

Median IRFs, 68% & 90% posterior credible sets, 1991:2018.
Global Transmission of US MP

Median IRFs, 68% & 90% posterior credible sets, 1991:2018.
Do all countries respond in the same way?

[Still a role for FX, but partial] [Corsetti, Kuester, Müller and Schmidt (2021)]

[And additional vulnerabilities for EMEs]

Median IRFs, 68% & 90% posterior credible sets, 1991:2018.
DO ALL COUNTRIES RESPOND IN THE SAME WAY?

○ Still a role for FX, but partial [Corsetti, Kuester, Müller and Schmidt (2021)]
Do all countries respond in the same way?

- Still a role for FX, but partial [Corsetti, Kuester, Müller and Schmidt (2021)]
- And additional vulnerabilities for EMEs

Median IRFs, 68% & 90% posterior credible sets, 1991:2018.
Dimensions of Global Comovements #2:

Global Trade/Commodity Cycle & Chinese MP Transmission
GFC is not the only Global Cycle
GFC is not the only Global Cycle

1. Large commonality between capital flows, commodity prices, global trade [Davis et al. (2019)]
2. Emergence of China
GFC is not the only Global Cycle

1. Large commonality between capital flows, cmdy prices, global trade [Davis et al. (2019)]

2. Emergence of China

Trade (no services), IMF’s Direction of Trade Statistics (DOTS)
Evolution of the PBoC’s MP

- **Objectives:** stable inflation, growth/employment, currency [Ma & He (2020), Wu & Li (2016)]

- **Achieved through price and quantity policy instruments** [Huang, Ge & Wang (2020)]

- From central planning to interest rate liberalisation:
  - Bank loans quota, benchmark lending and deposit rates prior to 2000
  - Official shift to M2 growth in 2000
  - Market rates after the GF Crisis, SHIBOR and interbank repo [Fernald, Spiegel & Swanson (2014)]
  - PBoC’s loan prime rates (LPR) from 2019
1. Monetary Policy Indicator [Xu & Jia (2019)]
   - Combines prices and quantities
   - Triangularisation consistent with Taylor rule
1. Monetary Policy Indicator [Xu & Jia (2019)]

- Combines prices and quantities
- Triangularisation consistent with Taylor rule
1. Monetary Policy Indicator [Xu & Jia (2019)]

- Combines prices and quantities
- Triangularisation consistent with Taylor rule

- Replicability, units, and ad hoc restrictions
2. Markets’ reaction to PBoC announcements [Kamber & Mohanty (BIS, 2018)]

- Daily changes in 1-year interest rate swap (IRS) on interbank 7-day repo
- Announcements: lending rates (LR), reserve requirements (RRR), FX, MPR
2. Markets’ reaction to PBoC announcements [Kamber & Mohanty (BIS, 2018)]

- Daily changes in 1-year interest rate swap (IRS) on interbank 7-day repo
- Announcements: lending rates (LR), reserve requirements (RRR), FX, MPR
2. Markets’ reaction to PBoC announcements [Kamber & Mohanty (BIS, 2018)]

- Daily changes in 1-year interest rate swap (IRS) on interbank 7-day repo
- Announcements: lending rates (LR), reserve requirements (RRR), FX, MPR

- Largely predictable, still many caveats...
Global Transmission of Chinese MP

Median IRFs, 68% & 90% posterior credible sets, 1999:2018.
Global Transmission of Chinese MP

Median IRFs, 68% & 90% posterior credible sets, 1999:2018.
Global Transmission of Chinese MP

Median IRFs, 68% & 90% posterior credible sets, 1999:2018.
Global Transmission of Chinese MP

Median IRFs, 68% & 90% posterior credible sets, 1999:2018.
**Special Exposure**

- AE with important manufacturing sector
### Special Exposure

- AE with important manufacturing sector

![Graphs showing Median IRFs, 68% & 90% posterior credible sets, 1999:2018.](image)

- Financial conditions of commodity producers

![Graphs showing Outflows from Cmdy Prod and Inflows to Cmdy Prod.](image)
Conclusions

- Global comovements enable and amplify int’l transmission of MP shocks
  1. **Global Financial Cycle**: asset prices, capital flows, risk, leverage
  2. **Global Trade & Cmdy Cycle**: commodity prices, capital flows, trade

- US MP most powerful at influencing global financial conditions

- Integrated production networks & GVC new pieces on the chessboard
  - Different channels, equivalent broad reach
  - Rising influence of Chinese policies

- Coming Next..
  - Integrated empirical framework for joint dynamics: GVAR [Cesa-Bianchi, Pesaran & Rebucci (2012); Dees and Galesi (2019)] Networks in VARs [Mlikota (2023)]
  - **Account for evolution of network structures**
GOING FORWARD: EVOLUTION OF NETWORKS: EXPORTS, 2000 VS 2019

- Merchandise trade, excludes services
- IMF’s Direction of Trade Statistics (DOTS)
Going Forward: Evolution of networks: PF A + L, 2000 vs 2018

- Includes private & official cross-border investment in Eqy + Debt securities
- Coppola, Maggiori, Neiman & Schreger (2021) + IMF’s Coordinated Portfolio Investment Survey (CPIS)