GLOBAL FOOTPRINTS
OF MONETARY POLICIES

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TSVETELINA NENOVA\textsuperscript{2} & HÉLÈNE REY\textsuperscript{2,3,4}

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\textsuperscript{2}London Business School
\textsuperscript{3}CEPR
\textsuperscript{4}NBER
\textsuperscript{5}CfM(LSE)

CAMBRIDGE MINI CONFERENCE “DOMINANT CURRENCY PRICING: IMPLICATIONS FOR GLOBAL BUSINESS CYCLE AND STABILIZATION POLICY”
DECEMBER 1, 2020

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.
AVENUES FOR INTERNATIONAL MONETARY POLICY TRANSMISSION

▷ Standard
  ▷ Countries operate in domestic context but trade internationally
  ▷ Through FX Rates and CA Balances
  ▷ Classic Mundellian Paradigm
Avenues for International Monetary Policy Transmission

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➢ Standard & Global Financial Cycle (GFC)
  ➢ Additional transmission from integrated fin’l markets
  ➢ Through Risk Premia, Leverage, Capital Flows, Asset Prices, NFA
  ➢ FX only a partial shocks absorber
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▷ Standard & Global Value Chains (GVC)
  ▷ Additional transmission from integrated production
  ▷ Through supply/production constraints
  ▷ ?
The US within the GFC
GLOBAL TRANSMISSION OF US MP SHOCKS

1. Dominance of USD

- Anchor currency
  [Rey (2013), Gopinath (2015), Ilzetzi, Reinhart & Rogoff (2019, 2020)]

- International financial transactions and trade invoicing
  [Gopinath et al. (2019), Gopinath & Stein (2020), Maggiori, Neiman & Schreger (2020)]
Global Transmission of US MP Shocks

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   ▶ Leverage of financial intermediaries
   ▶ Strong common component in risky asset prices
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   - Leverage of financial intermediaries
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     [Miranda-Agrippino & Rey (2020)]

3. Empirical Evidence
   - Int’l Risk Taking Channel → US MP influences global financial conditions
   - Large macroeconomic effects irrespective of FX regime
HETEROGENEOUS GIANT PLAYERS #1: TRADE
HETEROGENEOUS GIANT PLAYERS #2: EXPORTS
This Paper

Global Footprints of World Giants’ MP

- GFC & GVC simultaneously at play
- **Empirical** characterisation of international transmission
- Account for evolution of the networks’ structure (not today)
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1. Novel dimension of comovements: Price & Quantity of Int’l Risk
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2. Revisit empirical facts on US int’l MP: **New Sample & Data**
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Outline:

1. Novel dimension of comovements: Price & Quantity of Int’l Risk

2. Revisit empirical facts on US int’l MP: New Sample & Data

3. Int’l transmission of Chinese MP: New Indicator for PBoC MP
Price & Quantity of International Risk
**Comovements**

- **Common empirical framework**

\[ y_{j,t} = \nu_j + \lambda_j^G f_t^G + \lambda_j^R f_t^R + \xi_{j,t} \]

- Risky asset prices and capital flows
- Global factors
- Regional factors

Large DFM for both risky asset prices (monthly) and capital flows (quarterly) data.

DFM estimated on 1st diff data, cumulated factors.


Unbalanced panels, Maximum Likelihood
**Comovements**

- **Common empirical framework**

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- Large DFM for both risky asset prices (monthly) and capital flows (quarterly) data

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- Unbalanced panels, Maximum Likelihood
Common Component in Risky Asset Prices #1

- Extends the ‘Global (GFC) Factor’ of Miranda-Agrippino & Rey (2020)

1. **Time:** Monthly observations from 1980:1 to 2019:4
2. **Cross-Section:** Broader coverage ($n \approx 1K$)
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<tr>
<th>Asset Class</th>
<th>Index Universe</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td><strong>Equity</strong></td>
<td>S&amp;P Global 1200</td>
<td>Full set of total return index constituents as of May 2019. For index construction see <a href="https://us.spindices.com/indices/equity/sp-global-1200">https://us.spindices.com/indices/equity/sp-global-1200</a>.</td>
</tr>
<tr>
<td><strong>Commodities</strong></td>
<td>Datastream</td>
<td>Prices of 126 different commodities including oil, gas, agricultural commodities, mining, non-precious metals.</td>
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<td><strong>Bonds</strong></td>
<td>iBoxx</td>
<td>Total returns on 80 corporate bond indices for Euro and Sterling markets.</td>
</tr>
<tr>
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<td>FTSE</td>
<td>Total returns on 150 corporate bond indices from the WorldBIG, EuroBIG, USBIG index series.</td>
</tr>
</tbody>
</table>
Common Component in Risky Asset Prices #2

Miranda-Agrippino & Rey (2015)
Miranda-Agrippino, Nenova & Rey (2019)
Common Component in Capital Flows #1

- Comprehensive data coverage

1. Official IMF Statistics on:
   - Inflows & Outflows
   - FDI, Portfolio Equity, Portfolio Debt, Other Flows
   - AE & EME
   - Commodity Producers & Oil Producers

2. **Time:** Quarterly observations from 1990-Q1 to 2019-Q2

3. **Cross-Section:** 82 Countries
Common Component in Capital Flows #2

Table B.4: Global factors in asset prices and capital flows

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>% COVARIANCE MATRIX</th>
<th>% SPECTRAL DENSITY</th>
<th>ICₚ₁</th>
<th>ICₚ₂</th>
<th>ICₚ₃</th>
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<tbody>
<tr>
<td>GFCFAC</td>
<td>21.5%</td>
<td>24.1%</td>
<td>-0.184</td>
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<td>-0.189</td>
<td>0.049</td>
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<tr>
<td>CFFGU1</td>
<td>7.8%</td>
<td>20.7%</td>
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<td>-0.040</td>
<td>-0.049</td>
<td>0.041</td>
</tr>
<tr>
<td>CFFGU2</td>
<td>5.1%</td>
<td>14.5%</td>
<td>-0.051</td>
<td>-0.047</td>
<td>-0.065</td>
<td>0.007</td>
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<tr>
<td>CFFGU3</td>
<td>4.4%</td>
<td>12.0%</td>
<td>-0.055</td>
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GFC Factor Asset Prices
GFC Factor Capital Flows

BANK OF ENGLAND

11/21
**Common Component in Capital Flows #3**

**Table B.5:** Correlations between global factors in asset prices and capital flows and key financial & economic variables

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<tr>
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**COMMON COMPONENT IN CAPITAL FLOWS #3**

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**Dimensions of GFC**

1. **Prices**: ONE global factor [Miranda-Agrippino & Rey (2020)]
   - Comoves with fin’l markets risk measures
     1. VIX & other RA indices
     2. Leverage of global fin’l intermediaries
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2. **Quantities:** TWO global factors [Davis, Valente & Wincoop (2019)]
   - **F1:** Comoves with AP factor
   - **F2:** Linked to Global Trade and Global Commodity Prices
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↓

Same underlying global drivers
A ‘Global’ VAR for the US

1. Unrestricted Monthly VAR(12) in (log)levels: standard macroeconomic priors [Giannone, Lenza & Primiceri (2015)]

   ▶ Estimation Sample: 1991-2018
A ‘Global’ VAR for the US

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3. Variables
   - Local: IP, CPI, 1Y-Rate, FX
   - Global #1: Global Factors
   - Global #2: Production, Trade, FCI, Liquidity
   - Global #3: CRBPI, VIX
   - Global #4: Inflows & Outflows
INTERNATIONAL TRANSMISSION OF US MP #1
INTERNATIONAL TRANSMISSION OF CHINESE MONETARY POLICY
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INTERNATIONAL TRANSMISSION OF CHINESE MP #1
INTERNATIONAL TRANSMISSION OF CHINESE MP #3
Conclusions

1. GFC & GVC offer fertile ground for int’l MP transmission

2. But ‘the Giants’ decisions ripple through in different ways:
   1. US MP transmits mainly through global fin’l markets
   2. Chinese MP mainly through production and commodity prices
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   ▷ But AEs too are exposed

4. Coming Next..
   ▷ Integrated empirical framework for joint dynamics
   ▷ And to account for the evolution in network structures