Discussion of “Global Footprints of Monetary Policies” 
by Miranda-Agripino, Nenova, Rey

Ben Schumann 
54th Konstanz Seminar

May 25, 2023
The paper

Is a great read
("[...] EMEs, which are hit by a double whammy", "[...] financial markets dance to the same tune")

And also

- Extends Global factor (GF) in asset prices across space (and time) → service to profession
- Estimates new GFs of global capital flows → service to profession
- Produces the prettiest pictures I have ever seen in a paper
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![Mona Lisa](image_url)
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The paper (continued)

- Separates factors into “financial” and “real” (commodity & trade & growth) factors
- Reconfirms results of Miranda-Agrippino and Rey [2020] on global reach of US MP
- Estimates the effects of Chinese (CN) MP
- “Compares” the effects of US monetary policy and CN monetary policy
  * CN MP rather propagate via “real” channels → commodity & trade & growth
  * US MP rather propagate via “financial” channels → risk aversion & US-

This discussion: Mainly focuses on this “comparison”.

I argue that:
- Combining (all) factors with SVAR could “drive home” the story of real vs financial giant
- We should compare “apples and apples” in order to make judgements on different MP effects
- Estimates could speak to global financial cycle vs dollar cycle question
Separates factors into “financial” and “real” (commodity & trade & growth) factors

Reconfirms results of Miranda-Agrippino and Rey [2020] on global reach of US MP

Estimates the effects of Chinese (CN) MP

“Compares” the effects of US monetary policy and CN monetary policy

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Comment 1: Tying together the different sections

Compelling story of the paper

- There are these 2 different types of factors (real and financial)
- There are these 2 different types of “giants” in the global economy
- Policy of one giant rather transmits via real and for the other one via financial channels

My first thoughts:

- Real “giant’s” monetary policy: Stronger impact on real factors
- Financial “giant’s” monetary policy: Stronger impact on financial factors

But we never see this “culmination” of the separate sections in action. Why?

Conjecture: Because (as of now) analysis does not allow to judge which impact is “stronger”?

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American or Chinese dominance?

This paper fits really nicely into one of the major themes of this century

**US vs. CN: Who is dominating the political landscape and the global economy?**

“we compare the global effects of US monetary policy with [...] surprise changes in the Chinese monetary policy stance”

So which central bank is more powerful?

Summary

- Financial vs Real giant
- US MP vs China MP - Can we compare apples and apples
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### CN MP shock
![Graph showing CPB-WTM World Production for CN MP shock]

### US MP shock
![Graph showing CPB-WTM World Production for US MP shock]
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**US vs. CN: Who is dominating the political landscape and the global economy?**

“we compare the global effects of US monetary policy with [...] surprise changes in the Chinese monetary policy stance”

But do we really compare apples and apples?

---

**CN MP shock**

![Graph of Chinese MP shock]

**US MP shock**

![Graph of US MP shock]
Towards comparing apples and apples

Some (unfortunate) differences between estimation and identification of US MP and CN MP shock

<table>
<thead>
<tr>
<th>Normalization</th>
<th>US</th>
<th>CN</th>
<th>CN New</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100Bps</td>
<td>1% increase in MPS</td>
<td>100Bps</td>
</tr>
<tr>
<td>Identification</td>
<td>IV</td>
<td>Recursive “Taylor Rule”</td>
<td>“IV??”</td>
</tr>
<tr>
<td>Instrument</td>
<td>HF Δ of FF4</td>
<td>(cleaned) residual of MPS</td>
<td>Daily Δ of IRS</td>
</tr>
<tr>
<td>Information effects</td>
<td>Excluded</td>
<td>Included?</td>
<td>Included?</td>
</tr>
</tbody>
</table>

For **CN**: Pick your poison → Next Slides: A proposal
Comparing the two CN identification schemes

“New” IV based approach yields many unintuitive estimates

\[ \rightarrow \text{Stick with previous approach for this point of discussion} \]
Exploiting the “Taylor-type rule”

(Former) Governor Zhou (2015): “The **objective** of the [...] **Chinese monetary** authority, [...] is that of **maintaining prices** and the **value of the Renminbi** stable, [...] and **promoting economic growth**”

My “Taylor-Type rule” interpretation of this is

\[ mps_t^{cn} = \alpha_1 \pi_t^{cn} + \alpha_2 \widehat{RMB}_t + \alpha_3 \widehat{Y}_t^{cn} + \sigma_{mp}^{cn} \varepsilon_{t,mp} \] (1)

with \( mps_t^{cn} \) as the monetary policy stance.

→ Arguably “easier” to defend set of zero restrictions on the policy rule (See: Arias et al. [2019])
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Which “Taylor-type rule” did the authors impose?

Judging from the IRFS, authors imposed the following ordering

1. **Non-Moving Variables** \( y_{t}^{NM} \): Prices, Output, World Variables, GF Capital Flows
2. Monetary policy stance indicator \( mps_{t}^{cn} \)
3. **Moving Variables** \( y_{t}^{M} \): RMB, Commodity Prices, VIX, GF Asset Prices

Which structural policy rule does this imply?
The structural policy rule implied by a Cholesky ordering

Disregarding the lagged terms, the authors write down the following system

\[
\begin{bmatrix}
    y_{t}^{NM} \\
    mps_{t}^{cn} \\
    y_{t}^{M}
\end{bmatrix}
= \begin{bmatrix}
    b_{1,1} & 0 & 0 \\
    b_{2,1} & b_{2,2} & 0 \\
    b_{3,1} & b_{3,2} & b_{3,3}
\end{bmatrix}
\begin{bmatrix}
    \epsilon_{t,1} \\
    \epsilon_{t,mp}^{cn} \\
    \epsilon_{t,3}
\end{bmatrix}
\]

Because \( B \) is lower triangular so is its inverse (\( B^{-1} = A \))

\[
\begin{bmatrix}
    a_{1,1} & 0 & 0 \\
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After rearranging the MP equation such that it looks like a “Taylor-type rule”

\[
mps_{t}^{cn} = -\frac{a_{2,1}}{a_{2,2}}y_{t}^{NM} + \frac{0}{a_{2,2}}y_{t}^{M} + \frac{1}{a_{2,2}}\epsilon_{t,mp}^{cn}
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(4)
The “Taylor-type rule” implied by a Cholesky ordering

The rule implied by the Cholesky ordering

\[ mps_{t}^{cn} = - \frac{a_{2,1}}{a_{2,2}} y_{t}^{NM} + \frac{O}{a_{2,2}} y_{t}^{M} + \frac{1}{a_{2,2}} \epsilon_{t,mp}^{cn} \]  

and “Taylor-type rule“ interpretation of Zhou (2015)

\[ mps_{t}^{cn} = \alpha_{1} \pi_{t}^{cn} + \alpha_{2} \hat{RMB}_{t} + \alpha_{3} \hat{Y}_{t}^{cn} + \sigma_{mp}^{cn} \epsilon_{t,mp}^{cn} \]  

Thus: Cholesky implies \( \rightarrow \) structural rule governing the monetary policy stance indicator (MPS)

- includes all non-moving variables (prices, output, World variables, GF capital flows)
- excludes all moving variables (RMB, GF Asset Prices, VIX, etc)
The “Taylor-type rule” implied by a Cholesky ordering

The rule implied by the Cholesky ordering

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Summary Financial vs Real giant US MP vs China MP - Can we compare apples and apples
What would former governor Zhou say?

Hold on! Was that really my intention?
Comment 2: Killing two birds with one stone

Instead of imposing recursive ordering for impact matrix $B$ (or using an (endogenous?) IV),

- Divide $Y_t$ into the policy variables in "Taylor-type rule" ($y^p_t$) and the others ($y^o_t$)
- Impose 'Taylor rule” of Zhou (2015) on the structural matrix $A = B^{-1}$ (See Arias et al. [2019])

One can show that

$$A^{-1} = B = \begin{bmatrix}
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**Pro:** $B$ is a full matrix $\rightarrow$ CN MP shock (like US) has contemporaneous effect on all variables

**Con:** Set identification instead of point identification

Summary

Financial vs Real giant

US MP vs China MP - Can we compare apples and apples

# 11/17
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Summary Financial vs Real giant US MP vs China MP - Can we compare apples and apples Summary
What gives rise to this correlation and how does causality flow?
The GFCyc and the US-$. How does causality flow?

Why are the US-$ and the GFCyc so correlated?

Authors argue: Time varying aggregate risk aversion (TVARA) underlies the global factor (GFCyc)

\[ \text{GFCyc} = f(\text{time varying aggregate risk aversion}) \]

To rationalize the correlation pattern

\[ \text{US-} = f(\text{GFCyc and/or time varying aggregate risk aversion}) \]

Authors: US-$ and GFCyc as two separate amplifiers of global shocks
The transmission mechanism sketched in the paper

- US MP
- US-$
- CN MP
- GFCyc

TVARA
CN MP has little effect on TVARA and global financial cycle

**CN MP**: Effects on (global) output *large*, Effects on TVARA/GFCyc *small*

**US MP**: Effects on (global) output “*small*”, Effects on TVARA/GFCyc *large*

Puzzle? → Maybe it’s the US-($)?
The role of the US-$ as a possible explanation

Georgiadis et al (2023): GFCyc and US-$ not two separate amplifiers

- **US-$ dominance** in global financial architecture necessitates existence of GFCyc
- Whatever moves US-$, moves TVARA and thereby GFCyc

**Possible explanation:** CN MP small effects on TVARA and GFCyc as it does not move US-$
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- Extends existing estimates of global factors in asset prices (thanks!!)
- **NEW:** Provides estimates of global factors in capital flows (thanks!!)
- **NEW:** Estimates the effect of CN monetary policy shocks and compares to US counterpart

This discussion argues that

- Story could be improved by tying together factor and SVAR section → **Real vs. financial “giant”**
- Comparison of CN vs US MP could be improved by aligning estimation and identification
- Findings could be framed as reconfirming outstanding role of US-$
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