Discussion of

The Spill-back and Spillover Effects of US Monetary Policy: Evidence from Chinese Export Prices

by Li, Lu, Wei and Yao

Georgios Georgiadis [‡]
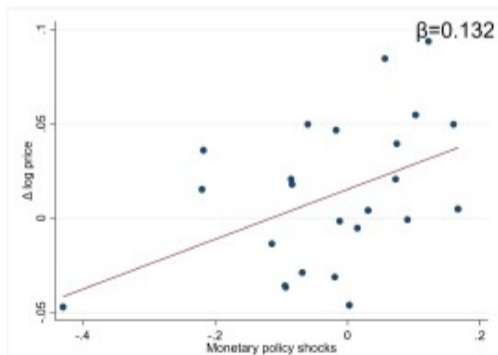
[‡]ECB

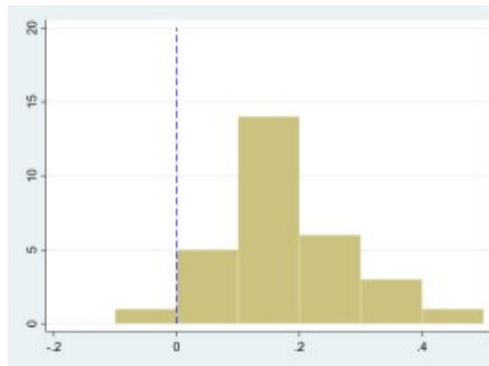HKIMR-ECB-BOFIT Joint Conference
15 January 2025

Paper in a nutshell: Fed tightening raises US and RoW import prices
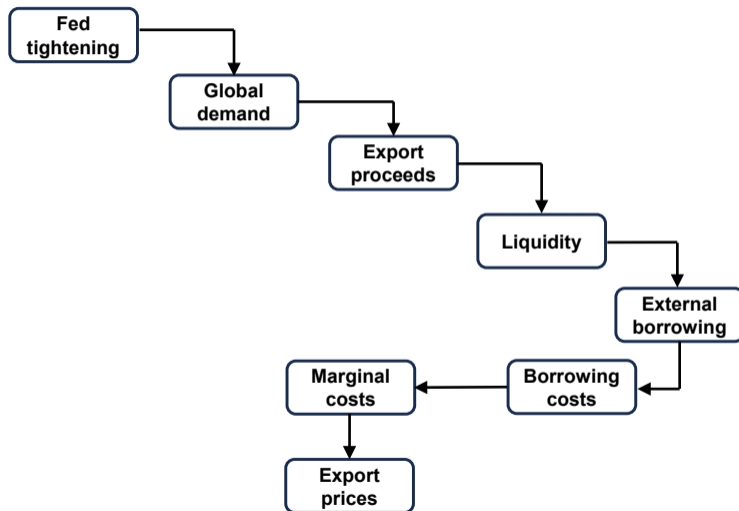
**US import price vs.
Fed policy tightening shocks**

**Distribution of country-specific import price
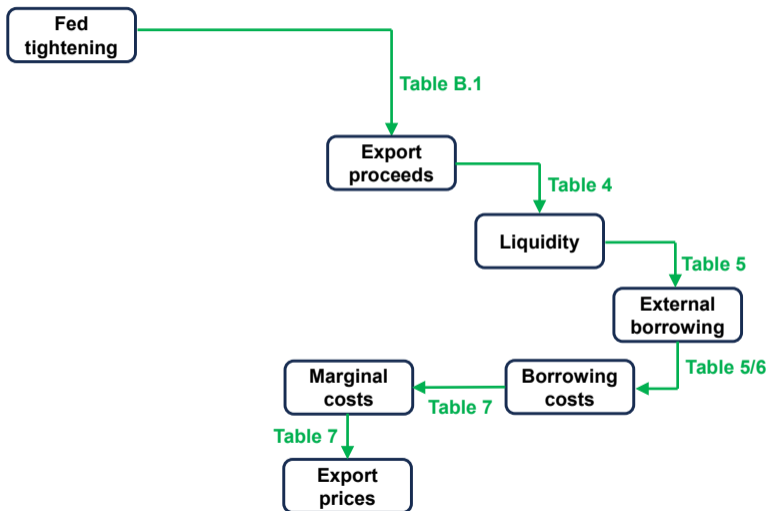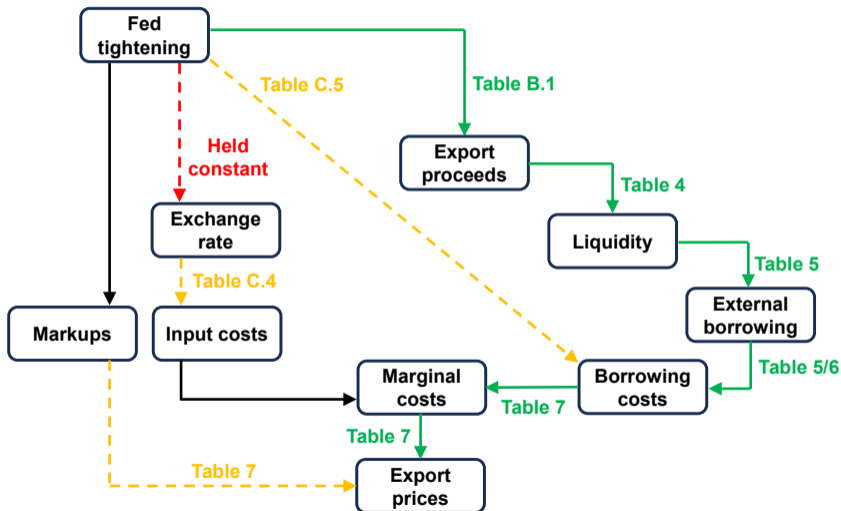sensitivity to Fed policy tightening shocks**

Hypothesised mechanism

Tracing the mechanism in the data

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Ruling out competing explanations

The analysis

Focus on China's exports to US & rest of the world over 2000m1-2006m12

Disaggregated firm-level data to test mechanism

- Firm-product-destination exports (monthly, HS8→HS6): General Administration of Customs
- Firm financial variables: Annual Survey of Industrial Enterprises, National Bureau of Statistics

Specification

- Exogenous variation in Fed policy: High-frequency surprise m_t of Bu et al. (2021)
- Main regression: $\pi_{ft} = \alpha + \beta m_t + \phi \mathcal{E}_t^{cny/usd} + \gamma z_{f,t-1} + \delta_i + \epsilon_{ft}$, $\pi_{ft} \equiv \sum_p \omega_{fpt} \Delta log(\sum_d \omega_{fpdt} P_{fpdt})$
- Baseline: ≈80K firms and ≈1million firm-time observations

Key insight

- Fed tightening raises *US dollar* import prices
- Distinct from effect on local-currency import prices of Gopinath et al. (2020)

Comment ♯1: **Are results relevant in 2024?**

- 2000-2006 special period
- WTO membership in 2001, spectacular growth in exports
- CNY/USD tightly managed (but robustly significant in all regressions?)
- Changes in: composition of exports? competitive environment? availability of external finance?
- "positive effects of US tightening on Chinese export prices greatly reduced in [2009-15]" (p. 36)

China's exports/GDP (%, WDI)

CNY/USD
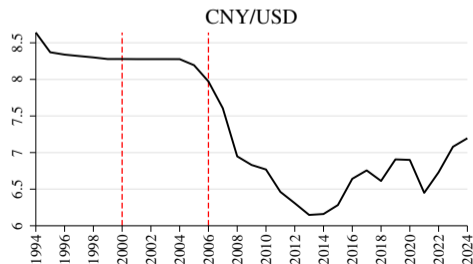
Comment ♯2: **Size of estimated effects plausible?**

- Paper: Fed shock that raises (daily) 2Y-Treasury rate by 100bp raises annual US import prices by 25% and CPI by 3-8% (for given domestic prices)

- Data: 2021-23 Fed tightening raised 2Y-Treasury rate by 500bp

- **Means tightening raised US CPI by 15-40% (for given domestic prices)!**

- A third, 'supply-demand' culprit for pandemic inflation surge?

- Are (conditional) domestic price effects even stronger (see Comment ♯3)?
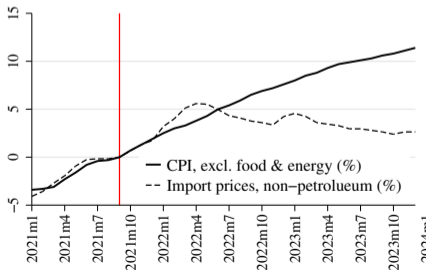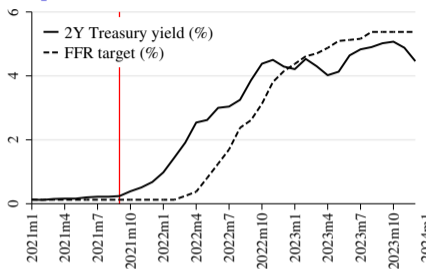
Comment ♯3: **Does monetary policy learn something new?**

- Paper frames relevance primarily with reference to Fed policy effectiveness

- Ultimately macro-level matters

- Massive amount of time-series work on effects of Fed policy

- Many different estimators, instruments & identification assumptions

- A cursory look suggests: At macro level import prices seem to *fall* in plausible setups

IRFs to Fed tightening: Breitenlechner et al. (2022)

US import prices

... excl. petroleum
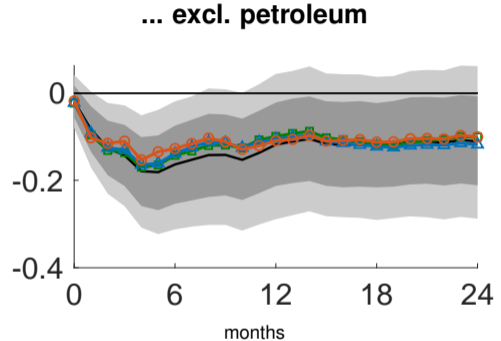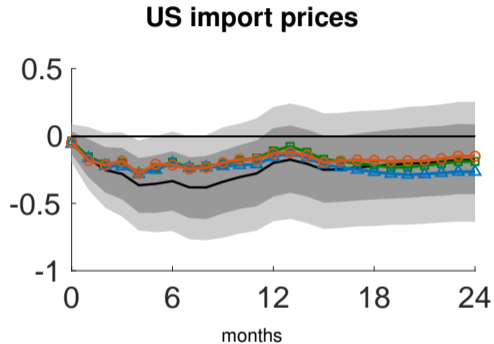
Note: Bayesian proxy SVAR (Arias et al., 2018, 2021) with US IP, CPI, NEER, EBP, 1Y-TB rate, VXO, and RoW IP as endogenous variables. Poor-man's pure interest rate surprises used as proxy variable for US monetary policy shock (Jarocinski and Karadi, 2020). Sample period is 1990m1-2019m6.

IRFs to Fed tightening: Extending Georgiadis and Jarocinski (2023)
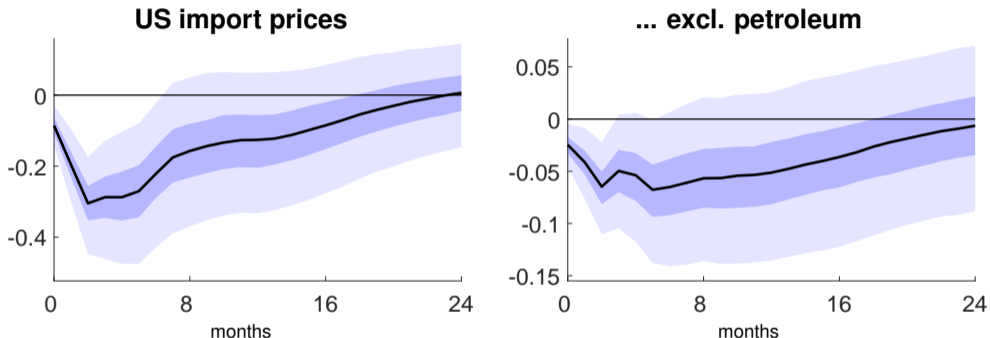
US import prices

... excl. petroleum

Note: Bayesian SVAR with US real GDP, GDP deflator, EBP, S&P 500m, 1Y and 10Y TB rates as endogenous variables. Conventional monetary policy shock of Jarocinski and Karadi (forthcoming) used as internal instrument. Sample period is 1991m1-2024m6.

Robust to other estimators and other internal instruments
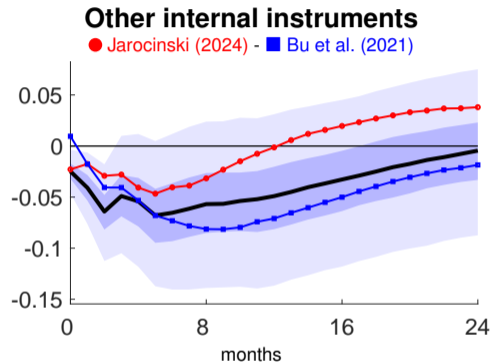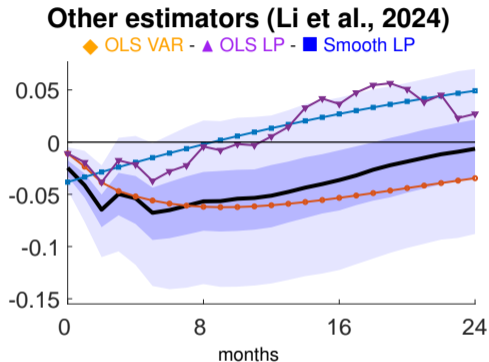
Other estimators (Li et al., 2024)
◆ OLS VAR - ▲ OLS LP - ■ Smooth LP

Other internal instruments
● Jarocinski (2024) - ■ Bu et al. (2021)

Note: Bayesian SVAR with US real GDP, GDP deflator, EBP, S&P 500m, 1Y and 10Y TB rates as endogenous variables. Conventional monetary policy shock of Jarocinski and Karadi (forthcoming) used for identification. Sample period is at most 1991m1-2024m6, depending on internal instrument used.

▸ IRFs for output, prices & financial variables

Hope with other internal instruments?

Import prices (excl. petroleum)

● Miranda-Agrippino and Ricco (2021) - ■ Swanson (2021) - X Bauer and Swanson (2023) - ▲ Jarocinski and Karadi (2020)
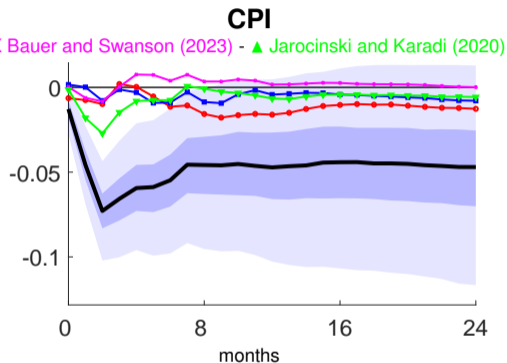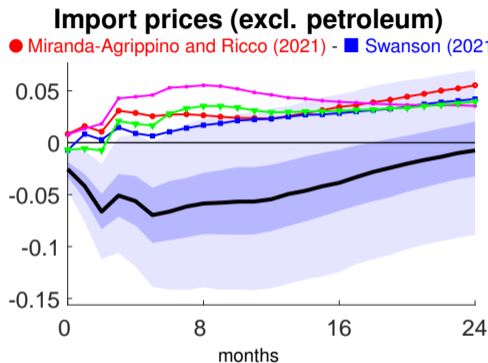
CPI

Note: Bayesian SVAR with US real GDP, GDP deflator, EBP, S&P 500m, 1Y and 10Y TB rates as endogenous variables. Conventional monetary policy shock of Jarocinski and Karadi (forthcoming) used for identification. Sample period is at most 1991m1-2024m6, depending on internal instrument used.

▶ IRFs for output, prices & financial variables

Other comments

- Important related work: Bruno and Shin (2023)
- Figures 1-3: p-value? Sample period? Why contemporaneous controls (beyond $\mathcal{E}_t^{cny/usd}$)?
- Show firm-weighted, aggregate export price index and distribution of firm price changes
- Does sequence in constructing the dependent variable matter, i.e. average firm-product price change across destinations vs. average firm-destination price change across product?
- Shouldn't persistence be accounted for by P_{t-1} instead of ΔP_{t-1}?
- Why results with m-o-m changes not shown (FN 14)? $P_t - P_{t-12}$ has 11 months of price changes before the shock occurs
- Figure 5: Are two months important outliers? Which periods are these?
- Ciminelli et al. (2022) construct Bu et al. (2021) susprise net of CBI effects
- Would find it easier to follow with $fpdt$ (firm-product-destination) instead of $ihct$
- Why not shut down global demand $\rightarrow$ marginal cost channel in regressions (its done in Figures 1-3)? Because it is going in opposite direction anyways?
- Table 3: Only CBI effect significant in monthly regressions?
- Equation (2): What is τ? Show partial derivative for c?
- Choice of controls often not clear—e.g. why lagged sales?

Wrapping up

- Shed light on transmission of US monetary policy spillovers

- Fantastic data

- Meticulous tracing of the mechanism in the data

- Highly robust results

- A few comments/questions on relevance in 2024 & interpretation of the magnitudes

Arias, J., Rubio-Ramirez, J., Waggoner, D., 2018. Inference Based on Structural Vector Autoregressions Identified with Sign and Zero Restrictions: Theory and Applications. Econometrica 86, 685–720.

Arias, J., Rubio Ramírez, J., Waggoner, D., 2021. Inference in Bayesian Proxy-SVARs. Journal of Econometrics 225, 88–106.

Bauer, M., Swanson, E., 2023. An Alternative Explanation for the "Fed Information Effect". American Economic Review 113, 664–700.

Breitenlechner, M., Georgiadis, G., Schumann, B., 2022. What goes around comes around: How large are spillbacks from US monetary policy? Journal of Monetary Economics 131, 45–60.

Bruno, V., Shin, H.S., 2023. Dollar and Exports. Review of Financial Studies 36, 2963–2996.

Bu, C., Rogers, J., Wu, W., 2021. A Unified Measure of Fed Monetary Policy Shocks. Journal of Monetary Economics 118, 331–349.

Ciminelli, G., Rogers, J., Wu, W., 2022. The Effects of U.S. Monetary Policy on International Mutual Fund Investment. Journal of International Money and Finance 127.

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Gopinath, G., Boz, E., Casas, C., Diez, F., Gourinchas, P.O., Plagborg-Moller, M., 2020. Dominant Currency Paradigm. American Economic Review 110, 677–719.

Jarocinski, M., 2024. Estimating the Fed's Unconventional Policy Shocks. Journal of Monetary Economics 144.

Jarocinski, M., Karadi, P., 2020. Deconstructing Monetary Policy Surprises: The Role of Information Shocks. American Economic Journal: Macroeconomics 12, 1–43.

Jarocinski, M., Karadi, P., forthcoming. ?Title? ECB Working Paper .

Li, D., Plagborg-Moller, M., Wolf, C., 2024. Local Projections vs. VARs: Lessons From Thousands of DGPs. Journal of Econometrics .

Miranda-Agrippino, S., Ricco, G., 2021. The Transmission of Monetary Policy Shocks. American Economic Journal: Macroeconomics 13, 74–107.

Swanson, E., 2021. Measuring the Effects of Federal Reserve Forward Guidance and Asset Purchases on Financial Markets. Journal of Monetary Economics 118, 32–53.

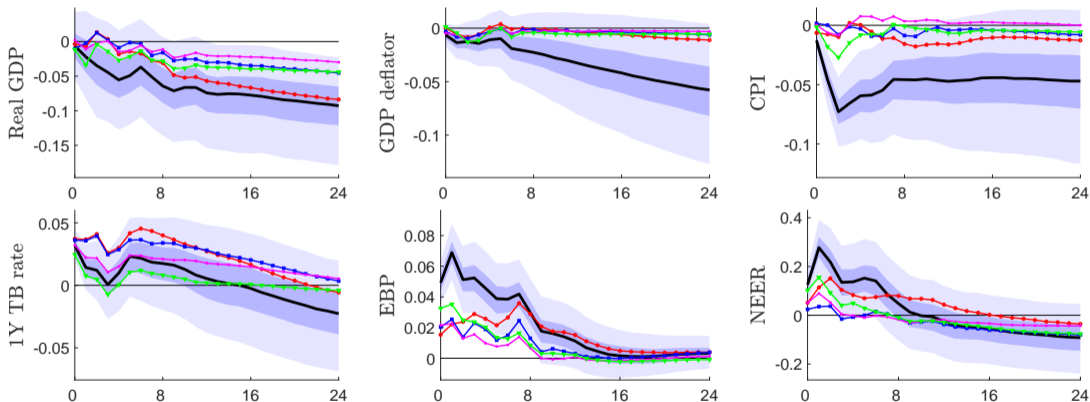# IRFs of additional variables: Other internal instruments (1/2)

● Jarocinski (2024) - ■: Bu et al. (2021).
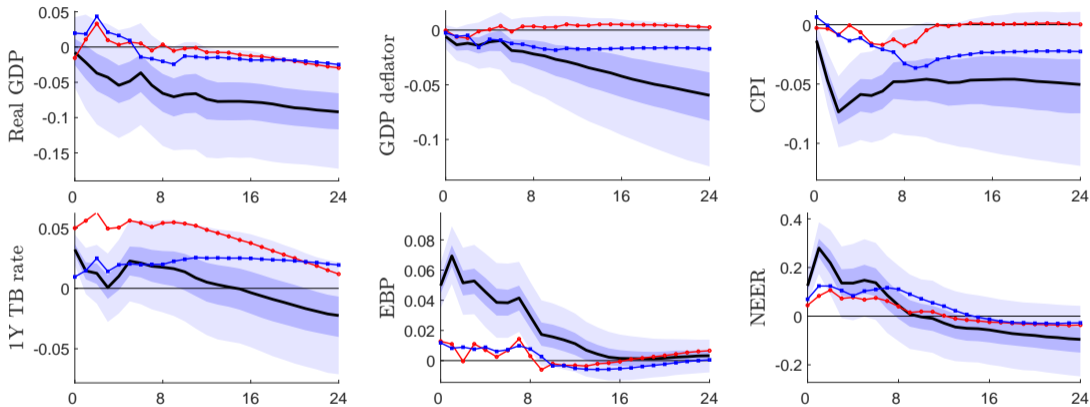
Note: Bayesian SVAR with US real GDP, GDP deflator, EBP, S&P 500m, 1Y and 10Y TB rates as endogenous variables. Further variables added one at a time. Black solid lines: Conventional monetary policy shock of Jarocinski and Karadi (forthcoming) used as internal instrument. Sample period is at most 1991m1-2024m6, depending on internal instrument used.

IRFs of additional variables: Other internal instruments (2/2)

● - Miranda-Agrippino and Ricco (2021) - ■: Swanson (2021) - X Bauer and Swanson (2023) - ▲: Jarocinski and Karadi (2020).

Note: Bayesian SVAR with US real GDP, GDP deflator, EBP, S&P 500m, 1Y and 10Y TB rates as endogenous variables. Further variables added one at a time. Black solid lines: Conventional monetary policy shock of Jarocinski and Karadi (forthcoming) used as internal instrument. Sample period is at most 1991m1-2024m6, depending on internal instrument used.