

# Dollar Reserves and U.S. Yields: Identifying the Price Impact of Official Flows

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# Interesting and timely contribution

- Impact of foreign official (FO) flows on US 5Y, 10Y, and 30Y yields is more than **twice** previously estimated (1999M1 - 2018M12)
  - On impact: FO sale of \$100bn raises yields by  $> 100$ bp, (19-44bp in lit)
  - If identified in SVAR through heteroskedasticity
  - Include 'omitted variables', i.a., foreign g't yields, and FRB shocks (Swanson 2021)
  - Robust to including Private flows and International yield factors
- IRFs are significant at 10% (for a while)
- Doomsday implication:
  - Shift by China's UST holdings by 1% raises yields by 24.4bp !

# International partners

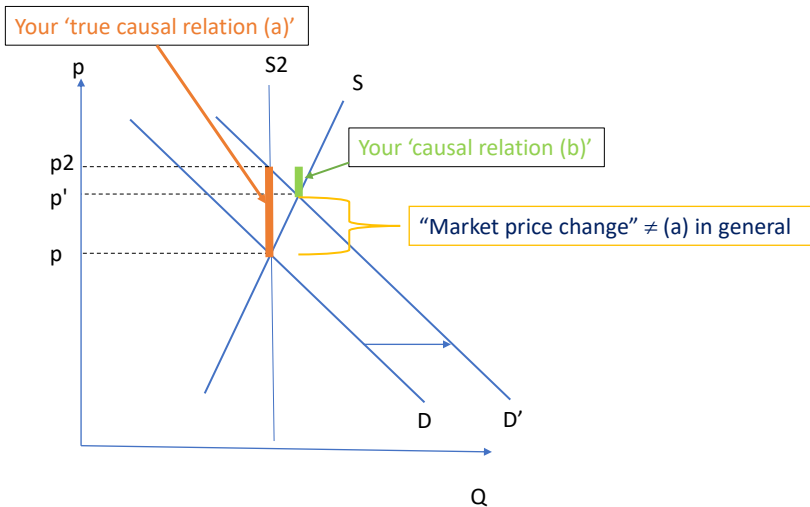
- Authors note global economic conditions a key driver ("precautionary, mercantilist, and exchange rate smoothing motives" by other countries)
  - Should you include OECD (non-US) GDP series as controls?
- Results with foreign yields (& structural budget positions) should be the benchmark rather than robustness?
- More generally: bilateral panel VAR?
  - China vs Saudi Arabia exercise shows how heterogeneous circumstances drive FO flows
  - Get an FO flows panel even for a subset of countries to assess the importance of partner conditions

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  - Causal relation (b)  $\downarrow$  yield  $\Rightarrow$   $\downarrow$  Demand [ $cov(UST, yield) > 0$ ]
  - "... an estimate which confounds (a) and (b) will be less negative than the true causal effect (a) which we wish to estimate"
- Isn't this just description of the effects of shift in demand? In a D& S framework?
  - discuss supply-factor for identification

# Simultaneity bias?



- Many international drivers of UST demand
  - "precautionary, mercantilist, and exchange rate smoothing motives"
  - but only control for global yields (common factor)
- Plenty to add?
  - global GDP growth (monthly economic activity indices)
  - global financial conditions
  - global structural deficits
  - EER
  - panel VAR



# Identification by heteroskedasticity

- Brunnermeier et al. (2021), Lutkepohl et al. (2021), etc.

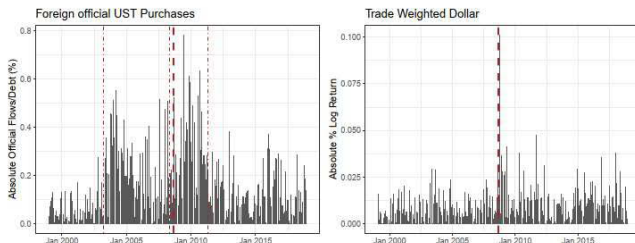
$$\begin{aligned}E(u_t u_t') &= \Sigma_i, \quad i \in \{1, 2\}, \Sigma_1 \neq \Sigma_2 \\ \Sigma_1 &= BB' \\ \Sigma_2 &= B\Lambda B'\end{aligned}$$

- $\Lambda$  diagonal,  $\lambda_{kk} > 0$ , and distinct (error variance isn't scaled equally across variables)
- It is not the change of volatility in macro aggregates that is in doubt (GFC!), instead:
  - 1 the shock variances change in a way that is distinct across variables (needed for uniqueness of  $B$ )
  - 2 the responses of variables (pre/post Lehman) are unchanged
- Then, structural shocks can be recovered

# Identification by heteroskedasticity

- The exposition could be clarified. Authors show:
  - Discussion why Lehman Brothers the right place for variance change
  - Point to other studies
  - Test for a single known structural break in Sep 2008
  - 3 "unknown-date" test breaks: April 03, May 08, May 11
  - Testing with  $FO^2$  produces 3 different (though similar) breakpoints
  - Provide evidence of VAR parameter stability (in estimated SVAR)
  - Tests to support the assumption that  $\lambda_{kk}$  are distinct
- Too many steps? I would like to see that the break tests are there to illustrate, not to guide the assumed breakpoint test, maybe move the rest to an appendix?

Figure 3: ABSOLUTE FO FLOWS AND U.S. DOLLAR RETURNS



The figure plots absolute values of FO flows and monthly log-returns of the trade-weighted U.S. Dollar in the left and right panels, respectively. The thick dashed vertical line is September 2008. The thin dot-dashed vertical lines are detected breaks in April 2003, May 2008, and May 2011 in the absolute FO flows series using the testing framework in Bai and Perron [2003]. For absolute FO flows (absolute Dollar returns), the pre September 2008 mean is 0.15 (0.009) and the post September 2008 mean is 0.18 (0.127).

- 3 tested breaks visible
- "High volatility" period seems short (May 08 - May 11)
- Followed by period with less FO volatility than pre-GFC?

# Identification by heteroskedasticity

- Bai & Perron (2003) multiple breaks test is for univariate series: discuss how you applied in VAR
- Clearly state which breakpoint date is used in the SVAR
- You test  $\lambda_i \neq \lambda_j$ , but your identification also requires  $\lambda_i > 1 \forall i$ . Report the estimated  $\lambda_i$ ,  $i = \{1 : 6\}$ 
  - The other conditions are 'necessary but not sufficient' for your story to hold

- Although you identify off a break in FO flows, over the sample these go from 20% to 30% of total flows (with a spike around GFC)
  - FP flows can have different drivers - but this is good for your identification of FO flows' impact
  - FP flows can have the same drivers - large financial institutions can dwarf some CBs
- FP flows should be in your benchmark both to avoid omitted variable critique, and to help identification
- It'd be illustrative to see responses to FP (as opposed to FO) shocks

# Meaningful cross section

- Use panel, or at least help identification using a few bilateral VARs to illustrate
  - Just like with FP flows, Panel gives you the country-level heterogeneity of *reasons* for FO flows
  - At least focus on large players, notably China, G7, etc.
  - Not about 'who' is selling but 'why' they're selling - reasons differ and this can affect your elasticity
- Your application of global SVAR estimates to China or Saudi Arabia is internally inconsistent: you note heterogeneous reasons yet assume homogeneity

# Defending the magnitude

- "Twice as big" a good sales pitch but invites scrutiny
- You argue this is because simultaneity bias / endogeneity, and OVB
- I think your estimation points to evolving FO flow drivers pre/post GFC, and that these translate to different supply elasticities (post-GFC, S relatively less elastic)
  - Swanson (2021) shocks help identify supply side changes - estimate your SVAR without them and see if magnitude is still double
- Estimate in split samples (pre- vs post- GFC, or within the break points you identify) to see how IRFs change?
- Presumably significant differences in IRFs, and hence: why? What is it about GFC that caused the FO volatility change

- Reasons for starting the sample in 1999?
- I'd welcome clearer links to international literature, e.g.:
  - GFC(ycle)
  - USD dominance
  - Safe assets
  - International capital flows more general



**Thank you**