

CENTRAL BANKER TO THE WORLD: FOREIGN RESERVE MANAGEMENT AND U.S. MONEY MARKET LIQUIDITY

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Yale Fighting a Financial Crisis Conference

July 28, 2023

CONTEXT

- Dollar has been the dominant currency, conferring it “exorbitant privilege”.
 - Easy funding: \$33T in 2021 (Du and Huber (2023)).
- This paper: there could also be a cost.
 - Foreign central banks hold dollar reserves.
 - Foreign shocks that change foreign central banks’ demand for dollar liquidity could reduce U.S. money market (MM) liquidity.
- Sobering implications:
 - A potential source of U.S. (liquidity) crisis?
 - A potential cap to how dominant a currency can be?
 - Properties of dominant currency: safety, stability, lender of last resort, and *liquidity*.

MECHANISM

- Set-up:
 - US and foreign (FN) countries, each with rep household and central bank (CB).
 - FN currency pegged to USD.
 - Intermediaries care about intraday liquidity — key friction.
- Negative FN (net export) shock \Rightarrow FN CB manages FX by selling Treasury
 \Rightarrow U.S. reserve $\downarrow \Rightarrow$ U.S. MM liquidity \downarrow

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- Why FN CB?
 - Sales of Treasury by *anyone* can affect *Treasury* liquidity.
 - Only *FN CB* can affect *MM* liquidity because it can deposit proceeds at the Fed.
 - If private agent sells, the proceeds will be back in the reserve system as bank deposit.
- Discussion: are FN CB truly special to US MM liquidity?

DRIVER OF LOW LIQUIDITY

- Key friction is intraday liquidity.
 - Low liquidity \Leftrightarrow intermediaries' need for reserve $>$ available reserve
- FN CB's sale generates low liquidity only with two assumptions:
 - Deposit demand is fixed.
 - \Rightarrow FN CB's sale doesn't alter intermediaries' demand for reserve.
 - Fed's balance sheet size is fixed.
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- In reality:
 - FN CB sells to investor \Rightarrow deposit decreases
 \Rightarrow intermediaries' demand for US reserve \downarrow
 - FN CB deposits proceeds at Fed \Rightarrow Fed's assets \uparrow *and* liabilities \uparrow
 \Rightarrow reserve available to intermediaries \rightarrow
- What *would* decrease liquidity?
 - Intermediaries can't find buyers, tie up reserve in financing *anyone's* sale.

TESTING THE MECHANISM EMPIRICALLY

- Current set-up: oil shock \Rightarrow implied interest-rate differential $\uparrow \Rightarrow$ MM liquidity \downarrow
- Implied interest-rate differential (IR) = $x_{i,t,m} = \frac{F_{i,t,m}}{e_{i,t}} - 1$.
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 - Intended to measure pressure for FN CB to sell Treasury to manage FX.
- Isn't x (IR) the deviation from covered interest-rate parity (CIP)?
 - Du, Tepper, and Verdelhan (2018): $x \neq 0$ even if $r_{i,t,m} = r_{USD,t,m}$.
 - Du, Hébert, and Huber (2022): x measures intermediary constraint that's priced across various financial markets.
 - Intermediary constraint could jointly explain why (1) option volatility is a strong instrument for x (F -stat > 200), and (2) x correlates with repo spreads (proxy of MM liquidity).
- Everything still works without FN CB?

CONCLUSION

- USD is the dominant currency, US financial market can thus affect and be affected by many factors.
- Clever to note that shocks abroad can affect US MM liquidity.
- Astute to think about what affects intermediaries' need for, and the availability of reserves.
- Yet the mechanism may not need FN CB managing FX.
- Good luck!

- Du, W., B. Hébert, and A. W. Huber. 2022. Are intermediary constraints priced? Review of Financial Studies .
- Du, W., and A. Huber. 2023. Dollar asset holding and hedging around the g. Working Paper.
- Du, W., A. Tepper, and A. Verdelhan. 2018. Deviations from covered interest rate parity. Journal of Finance 73:915–57.