

A Discussion of “**Treasury Debt and the Pricing of Short-Term Assets**”

by Quentin Vandeweyer

Wenhao Li

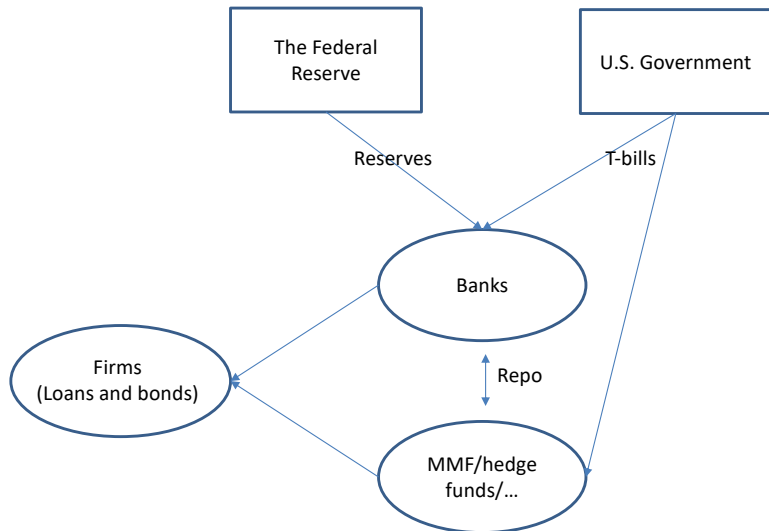
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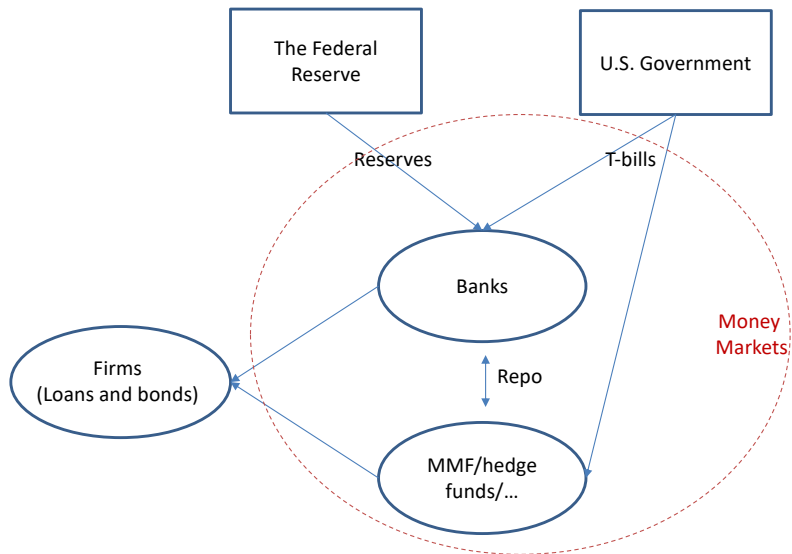
Overview

- Classical view of monetary policy (Baumol, 1952; Tobin, 1956; Friedman 1989): monetary policy controls the opportunity costs (liquidity premium) of monetary assets and thus influences the broader economy.
- Recent literature expands this argument: Nagel (2016), Drechsler, Savov, Schnabl (2017; 2018), Piazzesi, Rogers, Schneider (2019), Krishnamurthy and Li (2021)
- However, after 2008 crisis, it seems that **T-bill supply**, instead of monetary policy rate, better explains the liquidity premium of near-money assets.
- This paper: a useful framework to understand the post-2008 functioning of money markets and monetary policy passthroughs.

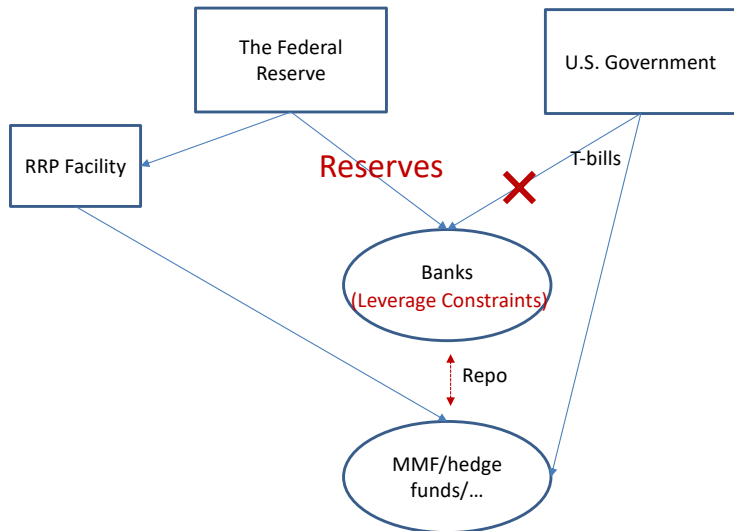
Structure of the Monetary System



Structure of the Monetary System – Money Markets



Structure of the Monetary System – Post-Crisis Changes



Overview of the Model

- A nice description of modern monetary system with all necessary ingredients.
 - ▶ Traditional banks, shadow banks, households, government, and the central bank.
 - ▶ Traditional banks and shadow banks have liquidity management problems that can be alleviated by holding liquid assets (bank reserves, T-bills, and reverse repos)
 - ▶ An exogenous risky asset (“Lucas tree”) that represents productive capital.
- Set in continuous time. Tractable via the following simplifications:
 - ▶ No investment. Consumption=output (exogenous)
 - ▶ Log utility: capital price/output ratio is constant.
 - ▶ Government rebalances the aggregate wealth of different sectors to keep states variables constant.

Quantitative Fit

- The model implies the following relationship:

$$r_t^f - r_t^m = \begin{cases} -\alpha^f + \beta^f b_t & r_t^f \geq \tilde{r}_t^f \\ \tilde{r}_t^f - r_t^m & r_t^f < \tilde{r}_t^f \end{cases}$$

- Repo - IOER spread is positively related to b_t (T-bill supply) and bounded below by \tilde{r}_t^f , the maximum of reverse repo facility rate and bank's repo rate.

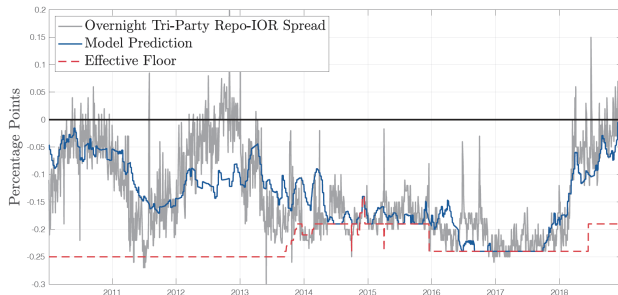


Figure: Panel (a) of Figure 11 in Vandeweyer (2019)

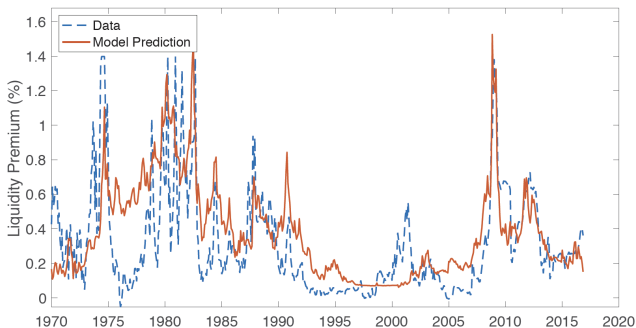
How to Measure the Balance Sheet Cost?

- In the previous quantitative analysis, the author assumes a fixed balance sheet cost, so the bound \tilde{r}_t^f doesn't have rich time variations.
- Suggestions: use other proxies of balance sheet costs.
 - ▶ GCF–Tri-party spread (Correa, Du, and Liao 2021)
 - ▶ CIP basis (Du, Tepper, and Verdelhan 2018). Figure below.



Reintroducing Bank Equity Dynamics?

- Currently the paper shuts off the dynamics of bank equity, which typically generates time-varying risk premium in intermediary asset pricing.
- Alternative: build the connection between risk premium (driven by bank equity dynamics) and liquidity premium. (Figure below, from Li (2019))



Does Monetary Policy Lose Power after 2008?

- I implement a robustness check at monthly frequency. I used effective FFR (not FFR target) and data go back to 1950s for the Tbill-IOER and FFR-IOER spread.

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Dependent variable:						
	100 * Tbill_IOER	100 * FFR_IOER	100 * Repo_IOER			
	(1)	(2)	(3)	(4)	(5)	(6)

TbillToGDP	-34.81 (303.26)	263.78*** (39.00)	0.00*** (0.00)	139.35 (119.52)	-529.10 (855.45)	69.32 (110.49)
FFR	84.92*** (1.67)	3.89** (1.59)	100.00*** (0.00)	5.06 (10.27)	96.35*** (7.78)	2.57 (3.98)
VIX	-2.38*** (0.75)	-0.09 (0.09)	-0.00 (0.00)	0.001 (0.19)	-2.66*** (0.69)	0.16 (0.28)
Constant	75.66** (32.12)	-42.75*** (3.62)	-0.00*** (0.00)	-26.81** (11.95)	89.62 (91.37)	-20.09* (11.33)

Observations	739	96	739	96	43	96
R2	0.98	0.51	1.00	0.44	0.99	0.04
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Summary

- Monetary policy regime shifted significantly after the 2008 crisis. This paper provides an elegant framework with two important contributions:
 - ▶ Provide a “limited segmentation view of money market”.
 - ▶ Show convincing quantitative analysis to support this view.
- Suggestions: new measures of balance sheet costs, or allowing for banking dynamics.

References

- Baumol, W. J. (1952). The transactions demand for cash: An inventory theoretic approach. *The Quarterly journal of economics*, 545-556.
- Tobin, J. (1956). The interest-elasticity of transactions demand for cash. *The review of Economics and Statistics*, 241-247.
- Friedman, M. (1989). Quantity theory of money. In *Money* (pp. 1-40). Palgrave Macmillan, London.
- Nagel, S. (2016). The liquidity premium of near-money assets. *The Quarterly Journal of Economics*, 131(4), 1927-1971.
- Drechsler, I., Savov, A., Schnabl, P. (2017). The deposits channel of monetary policy. *The Quarterly Journal of Economics*, 132(4), 1819-1876.
- Piazzesi, M., Rogers, C., Schneider, M. (2019). Money and banking in a New Keynesian model. Working Paper, Stanford.
- Krishnamurthy, A., Li, W. (2021). The Demand for Money, Near-Money, and Treasury Bonds. USC Marshall School of Business Research Paper.
- Li, W. (2019). Public liquidity and financial crises. USC Marshall School of Business Research Paper.