

Discussion of “Liquidity, liquidity everywhere, not a drop to use” by Acharya and Rajan.

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ECB Money Markets Conference
November 9-10, 2023

Summary

- Model of the impact of central bank reserve injections on financial stability.
- Econ 101: If crises are due to a liquidity shortage, injecting more liquid assets increases stability.
- Two added details in this paper can potentially make reserve injections bad for stability.
 - ▶ Banks supply more deposits after reserve injections which are hard to unwind later, increasing liquidity demand.
 - ▶ In a crisis when bank health is uncertain, reserves are “trapped” in healthy banks who fear bailing out banks in trouble.

Model setup

- Firms have a project at $t=0$ at that if successful pays $g_0(I_0)$ at time 2, where I_0 is initial investment.
- At time 1, if project fails, firm can invest I_1 for output $g_1(I_1)$. This generates a precautionary demand to hold deposits.
- Banks hold an exogenous supply S_0 of reserves, provide loans L_0 to firms with a quadratic cost, and finance this with deposits and costly equity.
- Unlike reserves, deposit quantities are endogenously chosen and increase with reserves S_0 .

Model setup: crises

- At $t=1$, either a "good" state occurs where all projects succeed, or a "bad" state where a fraction θ fail.
- Each firm only borrows from one bank, and each firm's bank may not have sufficient liquidity at time 1 to finance the optimal project investment.
- A fraction ζ of banks that lent to healthy firms will participate in an interbank market to fund more bank loans, with the remainder of banks staying out due to stigma concerns.
- Big picture: even if total liquidity is sufficient in a crisis, there is a mismatch between the banks that have it and those that need it. This can get worse as reserve/deposit quantities grow.

Comment 1: Dynamics of deposit demand

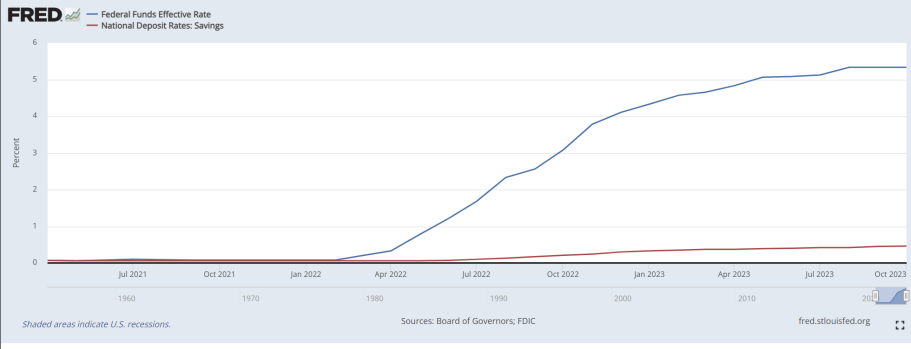
- This paper, among many others, relates crucially to how deposits build up during booms and are withdrawn during busts.
- As emphasized by Drescher/Savov/Schnabl, deposits flow into banks at low rates and out as rates rises, since saving account rates only partial respond to the fed funds rate.
- Recent tightening cycle- because rate rises so fast, we very low pass through to savings account rates and only modest adjustment of deposits to higher yielding assets.
- A difficult, important “to do ” for the literature: credibly estimate a model of deposit demand that explicitly accounts for dynamics and switching costs. Are booms and busts asymmetric?

Comment 1: Dynamics of deposit demand

- Viral has another paper showing in aggregate time series data deposit quantities grew during QE but stayed mostly flat during the reversal in QT- broadly consistent with model.
- Diamond-Jiang-Ma: We estimate supply/demand for deposits and loans and find that loans respond more to QE reserve injections since deposit demand is inelastic.
- Our approach uses “well identified” micro shocks- but the size of the shocks may be so small depositors are asleep at the wheel.
- In a setting with explicit attention/switching costs for deposits, quite plausible that this paper is consistent with severe crisis behaviour.

Recent tightening cycle

Adjustment of rates seems much slower than in previous cycles- evidence the speed of tightening matters as well as the current rate level.



Model extension: QE/QT Asymmetry

- Suppose now that the central bank removes τS_0 reserves from an existing quantity S_0 in the banking system.
- Assumption: an exogenous reduction $\tau^d S_0$ of deposits with $\tau^d < \tau$.
- Banks rebalance their portfolio to hold a quantity $(\tau - \tau^d)S_0$ of securities (which cannot be used in the interbank market or to meet a withdrawal).
- Implication: QE followed by QT leaves the financial system more vulnerable to crises than if reserves were never injected in the first place.

Comment 2: Dynamics ... again

- This result of path-dependence in the impact of QE/QT is to me a core idea in the paper. I find it plausible and thought provoking.
- That said, it relies on precisely the sort of dynamic state-dependence in deposit demand I mentioned above. To what extent do depositors keep their money in a bank due to adjustment costs?
- In a crisis, understanding these dynamics by type of liability is crucial.
 - ▶ Are retail deposits “slow to enter and slow to leave”?
 - ▶ Is wholesale funding “fast to enter and fast to leave”?
 - ▶ Do we need entry/exit speeds to be asymmetric, or just that banks have more than one type of liability?

Optimal policy and bank capital structure

- Paper considers the efficiency of private decisions when the share ζ of banks that lend in the interbank market is endogenous.
- Key externality: As more funds are lent, the return on interbank lending decreases.
- Lower return on interbank lending- more incentive to not pay the stigma cost of deciding to lend.
- Implication: banks ex ante finance with too much capital, since their lending of this capital causes other banks to stay out of the market.

Comment 3: interbank market shutdowns

- Paper takes a reduced-form approach to modeling frictions in interbank lending.
- Crucial detail to know: when depositors are scared, how do they choose which banks to run towards?
- Silicon valley crisis aftermath: Large reallocation of funds from small regional banks to large too big to fail banks.
- Could interbank market frictions be due to bailout guarantees for the safest banks together with constraints on their ability to lend?

Comment 4: Financial stability risks of covid checks?

- By far the largest recent increase in deposit quantities occurred in 2020, as covid stimulus checks were deposited in banks.
- Diamond-Landvoigt-Sanchez: Stimulus contributed to a surge in inflation and a housing boom.
- This paper: Such deposit flows are likely to increase the liquidity risk of the banking sector?
- Particular risk: Impatient check recipients gradually withdraw/consume their checks cause a “slow bank run” automatically.

Conclusion

- Paper presents a simple, transparent model of the downsides of reserve supply for financial stability.
- Model depends crucially on (reduced form) frictions in the reallocation of reserves in a crisis and on the dynamics of adjusting deposit quantities.
- Understanding empirically the dynamics of deposit demand and how stigma works in banking crises are crucial for a more sophisticated understanding of monetary transmission.
- As central bank policy grows in complexity, it is crucial that we develop accurate models of banking sector frictions previously ignored in macroeconomics.