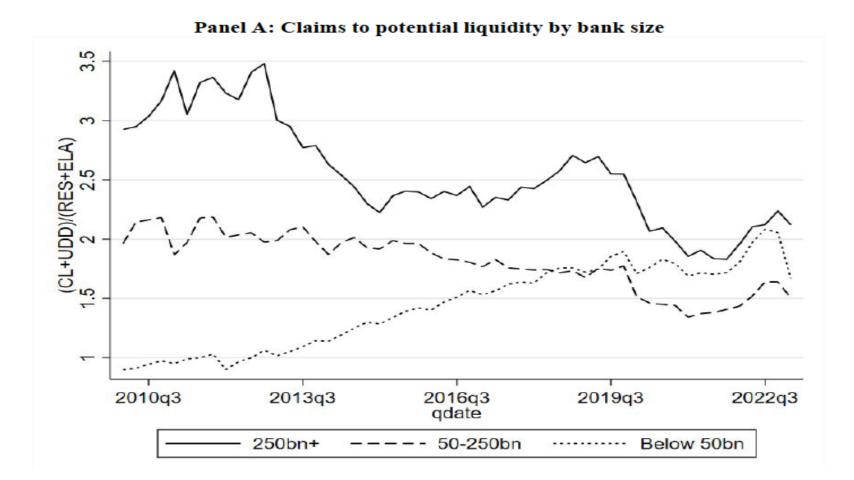
Discussion of: Liquidity dependence and the waxing and waning of central bank balance sheets

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- Monetary policy tools and their implications for financial stability
- Monetary policy can create linkages between banks and nonbanks which can have financial stability implications
- This has been broadly ignored in the literature when thinking about QE.
- This paper presents compelling evidence that sheds light on this question.

Key questions and Findings

• What happens to commercial bank balance sheets with the expansion and shrinkage of central bank balance sheets?



What is the channel?

- In QE—if central bank mainly does an asset swap
 - buy treasury held by banks and substitute it with reserves, no effect on banks' liability side.
- However, if central banks buys from other non-banks, this is associated with an increase in demandable debt (uninsured deposits) issued by banks.
- Banks also increase their provision of credit lines.
- This in turn, exposes banks to potential liquidity shortfall when the central bank contracts its balance sheet (QT)

Empirical tests:

- Aggregate time series evidence
- Instrument for change in reserves of bank.
- Cross-sectional evidence based on bank type.

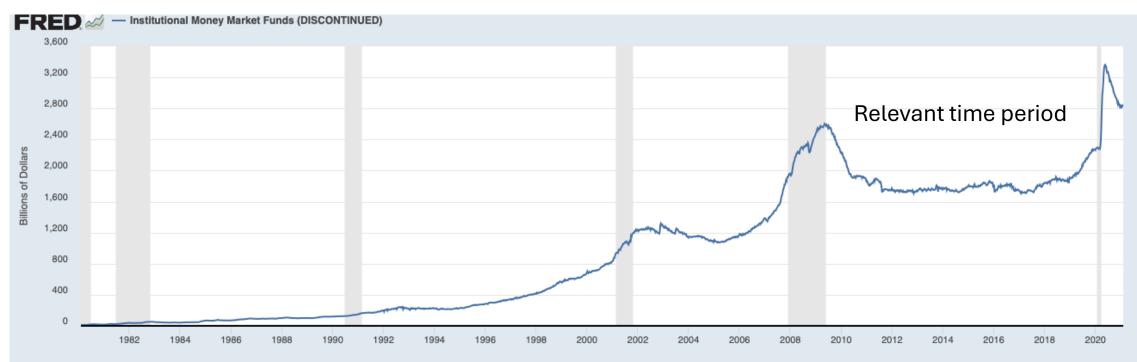
- Banks actively shorten the maturity of their liability side.
- Issue more credit lines.
- This exposes banks to liquidity risk when there is QT.

Strengths

- Research question very important, timely, and ambitious with great policy relevance
- Establishes a simple but important fact: When the central bank expands its balance sheet during QE, the commercial banking system expands its balance sheet too.
- Financial stability implications of unconventional monetary policy presented very intuitively

Comments

- Has this happened during other periods historically?
- rapid rise in uninsured deposits---could not find similar increases in uninsured such short period of time historically.
- Also do not find similar rise in the growth of institutional money market fund liabilities.



- QE lead to large increase in demandable uninsured deposits.
- Liquidity obtained from QE is parked mainly in the banking system.
- Is it something to do with the deposit rates offered by banks as against money market funds?
- Is there asymmetry in deposit rates offered on demandable uninsured claims by small/mid size banks as compared to large banks
 - LCR regulations made it costly for large banks to hold demandable deposits especially uninsured. Small banks exploited this to grow their deposit base?

- Paper provides evidence that banks actively seek shorter maturity claims—do not offer a premium on deposit rates for time deposits.
- It would be useful to understand more on the demand side of deposits
- If non-banks are parking funds in deposits, they cannot lock their funds in time deposits. Need demandable deposits for flexibility
- Non-banks have their own balance sheet
- Which kind of non-banks would park so much of liquidity in bank deposits vs investing in other higher yielding assets?
 - Objective of QE to stimulate investments in risky assets
 - Lack of investment opportunities?
 - Balance sheet increases in non-banks due to asset prices going up so proportionately non-banks also hold more deposits?

Moving forward

- Non-bank to bank linkages:
 - Allowing non-banks to access the Fed deposit facility?
 - CBDC?

• Holding assets purchased by the central bank to maturity?

Open questions

- What is the appropriate size and pace of central bank balance sheet adjustment?
- How do the effects of QE and the financial stability implications differ based on the types of investors holding the targeted assets?

- Great paper!
- Thought provoking.
- Thank you.