Unintended Consequences of Liquidity Regulation

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Background

In response to the 2007–2009 financial crisis, regulators introduced a new set of liquidity regulations such as the Liquidity Coverage Ratio (LCR) and money market reform. The goal of these regulations is to increase the banking system's liquidity buffers and to reduce its reliance on public liquidity. Unlike capital regulation, which has received extensive academic scrutiny, liquidity regulation has run ahead of research and many important questions remain unanswered.

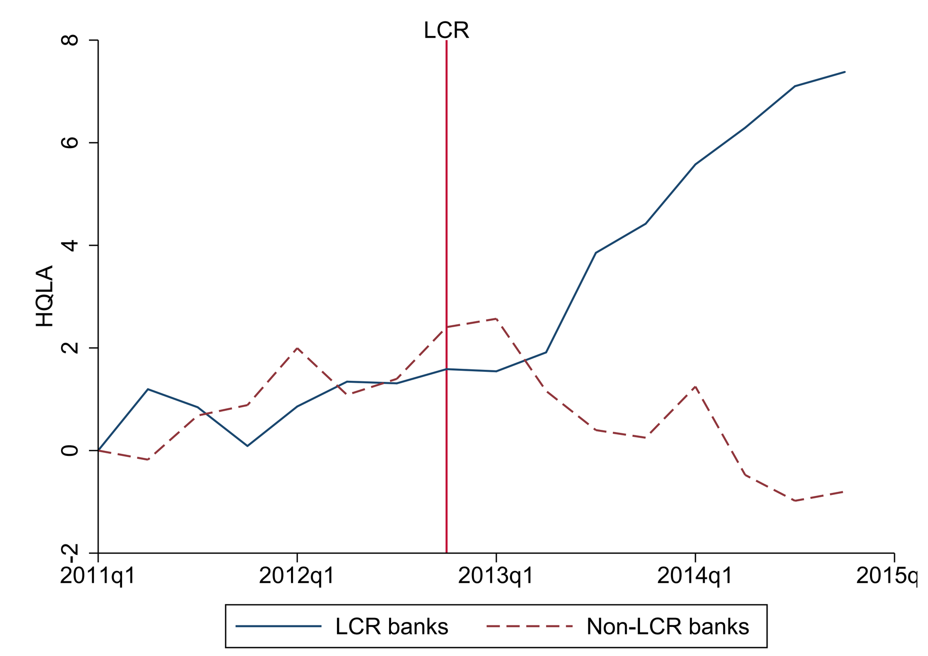
Research Questions

- A large part of banks' business model is to earn a return premium by holding illiquid assets. How do banks cope with the new liquidity requirements?
- Both liquidity regulations and public liquidity backstops could address liquidity risk. How should the two policy instruments should coordinate?

Main Findings

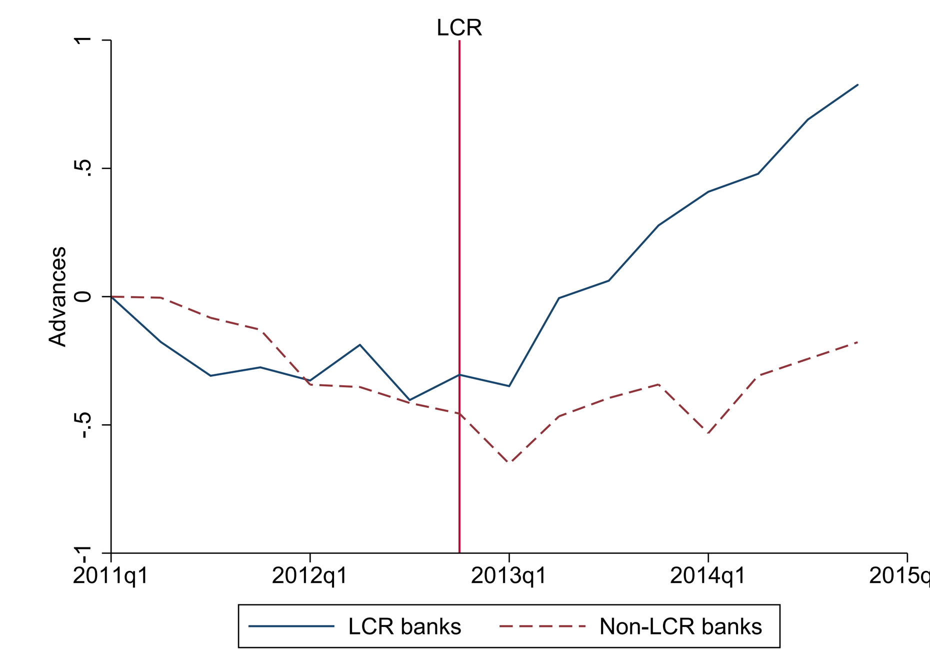
- A significant fraction of liquidity buffers required by post-crisis liquidity regulations has been created through "collateral transformation" facilitated by government-sponsored enterprises known as the Federal Home Loan Banks (FHLBs).
- Collateral transformation allows banks to meet liquidity requirements while continuing to earn high returns from illiquid assets.
- However, collateral transformation also compromises the goal of liquidity regulation because it increases banks' reliance on public liquidity and allows illiquidity to stay in the banking system.
- Using a theoretical model, we show that the cost of accessing public liquidity from the FHLBs must adjust in conjunction with liquidity regulations to prevent excessive liquidity transformation.

Banks' Holding of HQLAs



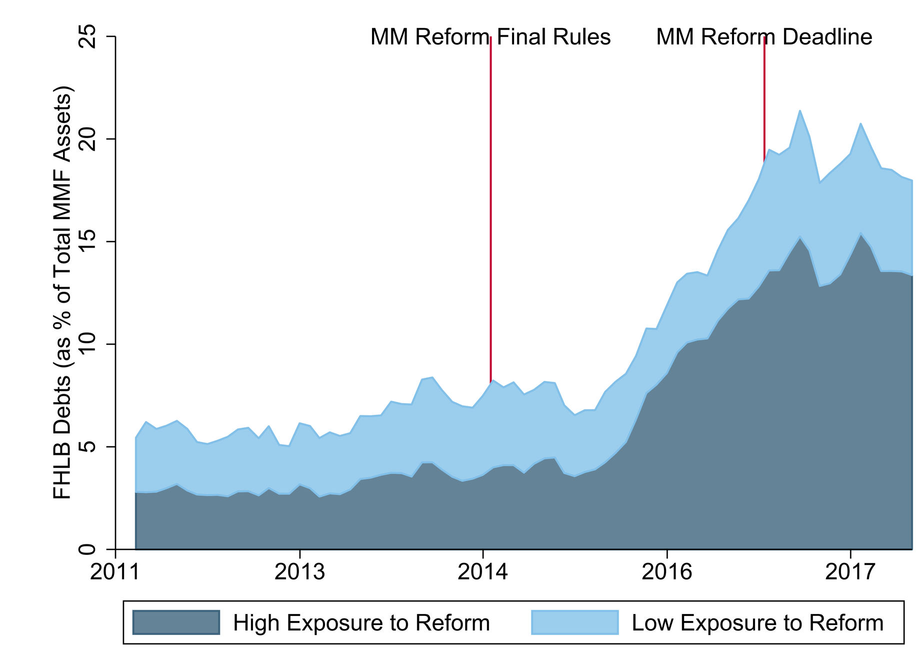
- LCR banks increase holding of HQLAs compared to non-LCR banks.

Banks' Borrowing from FHLBs



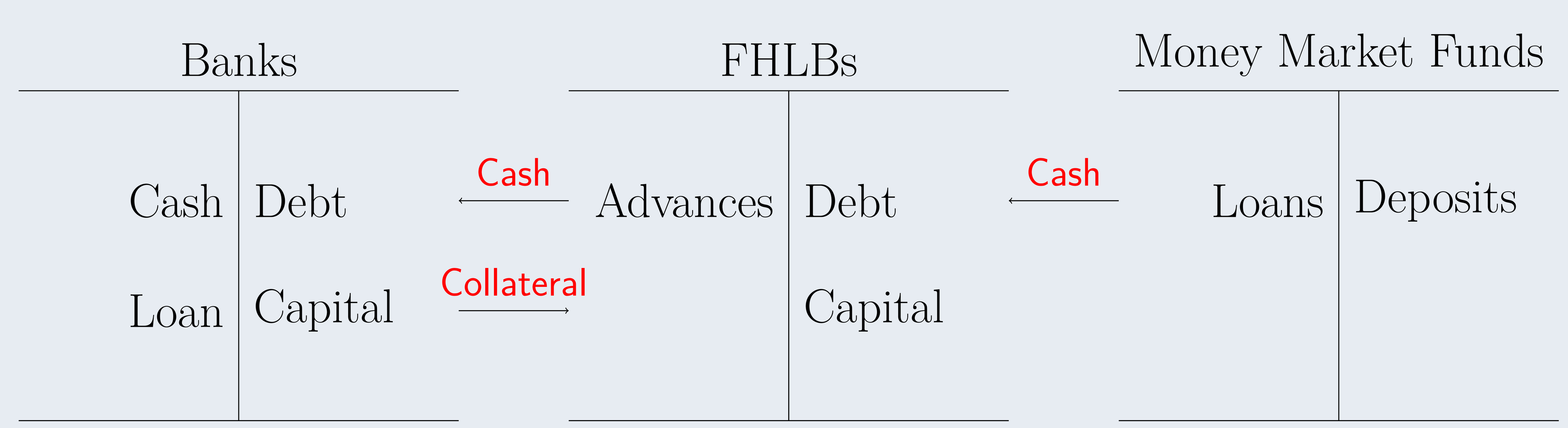
- LCR banks increase borrowing from the FHLBs compared to non-LCR banks.

MMFs' Lending to FHLBs



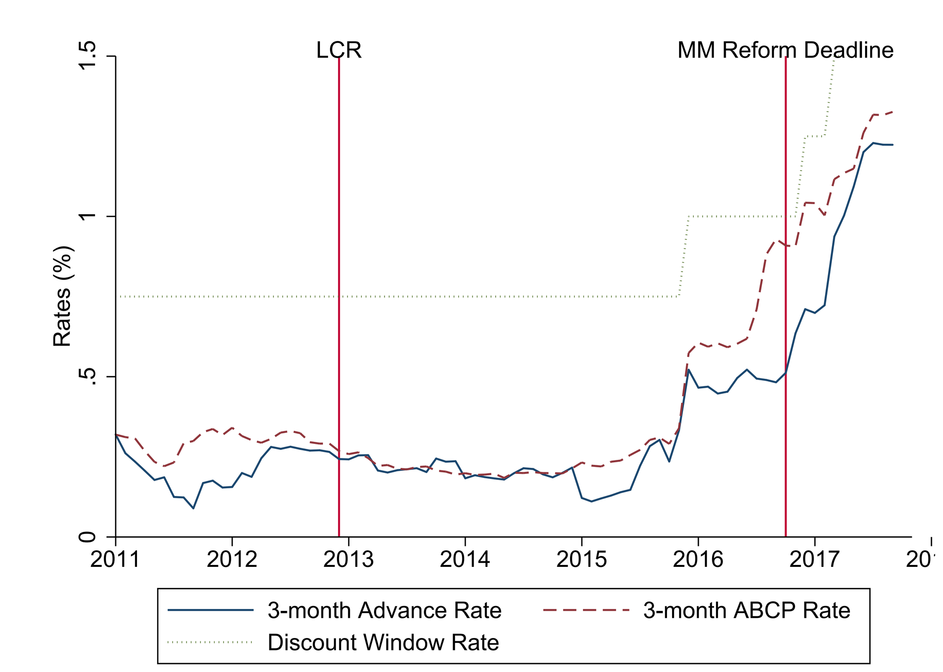
- MMF families which have high exposure increase their lending to FHLBs by more.

How U.S. Banking System Responds to Liquidity Regulations



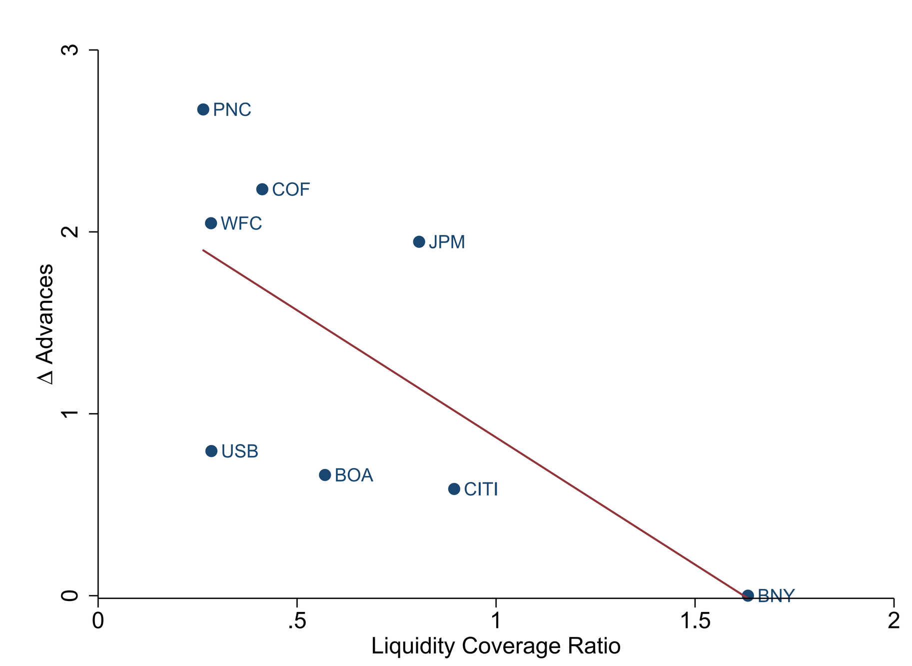
Banks first pledge illiquid assets to the FHLBs in exchange for liquid assets. Then the FHLBs borrow from MMFs to lend to banks.

Cost of Public Liquidity



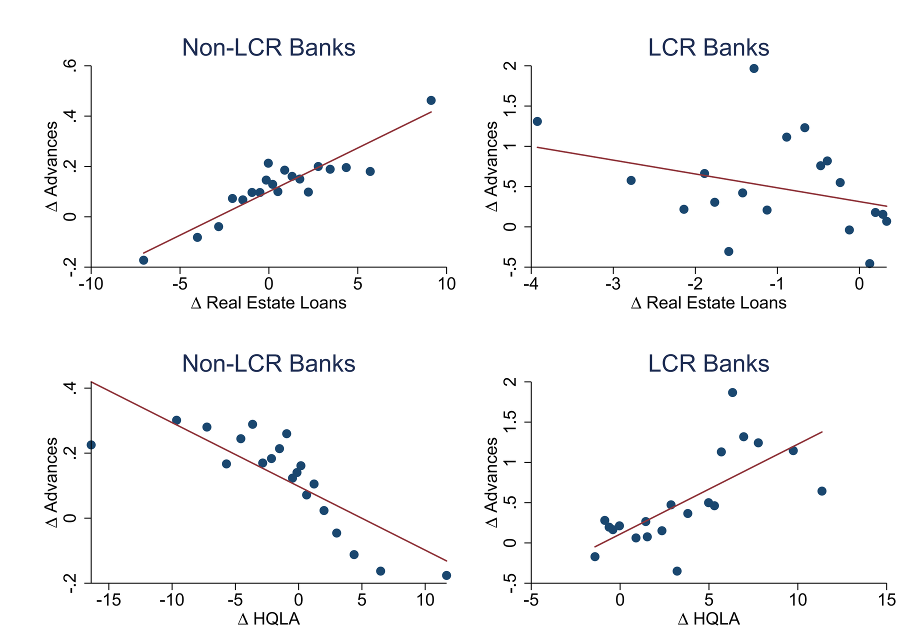
- The cost of public liquidity from the FHLBs failed adjust in conjunction with liquidity regulations.

Advances among LCR Banks



- Banks with lower liquidity coverage ratio borrow more from the FHLBs

Usage of FHLB Advances



- Non-LCR banks use advances for real estate loans, LCR banks use advances to acquire HQLA

Model

Key prediction: If public liquidity is underpriced, then tightening liquidity requirement increases banks' usage of public liquidity.

Terminology

- HQLA: high quality liquid assets
- LCR: liquidity coverage ratio
- FHLB: Federal Home Loan Banks
- Advances: loans from FHLBs to banks