THE EVOLUTION OF BANKING IN THE 21ST CENTURY:
EVIDENCE AND REGULATORY IMPLICATIONS

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Motivation

- 2023 crisis proved bank runs are not a thing of the past:
  - Worries about increased vulnerability to run risk due to:
    - Growth in uninsured deposits
    - Technology and social media → Bank runs more rapid than ever

- How to adapt regulation to address heightened run risk?
  1. Expand deposit insurance?
  2. Tighten liquidity and/or other regulations?
    - E.g., require flighty deposits to be backed with more liquid assets?

- This paper:
  1. Examine broad trends in banking industry over past 25 years
  2. Assess regulatory options in light of these trends
Trends

- Two fundamental pillars of banks’ business model:
  1. Lending: Making information-intensive loans to opaque borrowers
  2. Deposit-taking: Offering safe savings products + transaction services

- Key trends in banking in recent decades:
  - Steady growth of securities markets + lending by non-bank institutions
    → Declining importance of information-intensive lending by banks
  - Deposit-taking seems as important as ever
    - Deposits rising relative to GDP, though stable relative to wealth
    - Growing share of bank deposits are uninsured
  - So, banks increasingly take deposits and invest in securities (e.g., long-term USTs and MBS) where they have no special edge
    - Banks becoming more like uninsured-deposit-financed bond funds
Regulatory implications

- How to address vulnerability to uninsured depositor runs?
  - Two broad categories of options, with different costs
    1. Expand deposit insurance coverage:
       - Might worsen moral hazard distortions and expose taxpayers to losses
    2. Tighten liquidity regulations:
       - Forcing banks to hold more liquid assets might crowd out information-intensive lending.
       - Banks’ declining role in lending inclines us towards option #2.

- Implementation: modify Liquidity Coverage Ratio rule
  - Require large banks to pre-position enough collateral at Fed discount window to withstand an uninsured depositor run
  - Collateral should largely be short-term government securities
Growth in Bank Deposits

- **Bank deposits**: 49% of GDP in 1995 to 75% today
Growth in Bank Deposits

Uninsured share of deposits: 20% in 1995 to 39% today
Bank Lending to Corporations

- In 2000, bank loans represent 57% of total corporate loans and 23% of total credit to nonfinancial corporations.
- In 2023, represent 35% of total loans and 13% of total credit.
Bank Lending to Corporations

- Trend reflects increasing competition from non-bank lenders
  - Since 2000, rise of leveraged loan market in which non-banks lend to firms
  - Over past decade, rapid growth of BDCs and private credit funds
By contrast, banks are still the dominant lenders to smaller noncorporate firms. So smaller banks are less affected.
Increasingly, banks take deposits and invest in securities where they have no special edge

- Trend driven by larger banks (assets > $100 billion)
- By contrast, balance sheet shares of smaller banks have been stable

In cross-section of large banks, faster deposit growth is correlated with slower loan growth and faster growth of cash and securities.
Regulatory Implications

- How to adapt regulation to address heightened run risk?
  1. Expand deposit insurance?
  2. Tighten liquidity regulation?
     - Require flighty deposits to be backed with more liquid assets

- Develop a simple model to clarify the key issues
Representative bank with the following initial balance sheet:

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>LIABILITIES + EQUITY</th>
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<tbody>
<tr>
<td>$L$ Information-intensive loans (risky and illiquid)</td>
<td>$D_R$ Retail deposits (insured)</td>
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<td>$S$ Long-term securities (somewhat risky, but liquid)</td>
<td>$D_W$ Wholesale deposits (uninsured)</td>
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<td>$B$ Short-term, very low-risk securities (liquid “T-bills”)</td>
<td>$E$ Equity</td>
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- Information-intensive loans $L$ are positive NPV and create social surplus
- Liquid securities, $S + B$, are zero NPV and create no surplus
  - Can be easily intermediated outside of the banking system
- Size of balance sheet $(D_R + D_W + E)$ and capital structure are fixed
  - Implicitly, savers want deposits, so deposits create social surplus
  - And, costly to require bank to use more equity financing
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If there is bad news about bank solvency:
- There is a run by uninsured wholesale depositors
- Bank repays withdrawing deposits ($D_W$) in full by liquidating assets
- If value of banks’ liquid securities are insufficient to meet withdrawals:
  - Bank must sell some of its illiquid loans at a fire-sale price
  - Fire-sales have negative externalities on financial system and economy
Regulatory Implications

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- If banks are left to their own devices:
  - Will hold a buffer of liquid securities against their run-prone uninsured deposits due to fire-sale discount on illiquid loans
  - However, buffer is too small since banks don’t internalize financial stability externalities that arise when they sell illiquid assets
How to respond if vulnerability to uninsured depositor runs rises?

- Contrast two simple policies
- Both will eliminate financial stability threat posed by bank runs;
- So same benefits but different costs

1. Expand deposit insurance—e.g., insure all deposits
   - Costly due to additional moral hazard distortions and fiscal costs.
   - E.g., with all insured deposits and regulatory forbearance, get zombie banks.

2. Tighten liquidity regulation—e.g., require uninsured deposits to be more fully backed by liquid assets.
   - Costly because this larger liquidity buffer crowds out some valuable information-intensive lending

- Banks’ declining role in lending suggests that costs of 2. are relatively small, inclining us towards tighter liquidity regulation
  - In more general model, would make sense to adjust along multiple margins
Regulatory Implications

- Implement by modifying Liquidity Coverage Ratio which currently requires large banks to have:
  - High Quality Liquid Assets ≥ Cash outflows over 30-day stress period

- Relative to current LCR, argue that modified LCR should:
  - Assume much higher cash outflows for uninsured deposits
  - Because their prices may fall in run state (SVB), long-term securities should not count as much towards HQLA as short-term securities.
  - Require banks to pre-position collateral at Fed’s discount window
  - With sufficiently conservative haircuts, could allow some loans that are pre-positioned at discount window to count towards HQLA.
Conclusion

- Key trends in banking:
  - Banks are playing a less vital role in lending to opaque firms
  - Deposit-taking important as ever + Rising share of uninsured deposits
  - Banks becoming more like uninsured-deposit-financed bond funds
  - True for larger banks, not so much for smaller community banks.

- How to adapt regulation to address heightened run risk?
  - Tighten liquidity regulations on large banks by modifying current Liquidity Coverage Ratio rules.

- Other policy ideas:
  - Capital: remove AOCI filter and consider ex ante capital charge for interest-rate risk.
  - Mergers: business model of regional banks is under significant stress: need to be open to mergers to consolidate and remove excess capacity.