Discussion of *Interest Rate Risk and Cross-Sectional Effects of Micro-Prudential Regulation*

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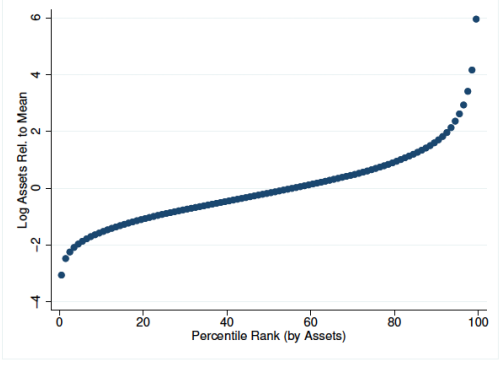
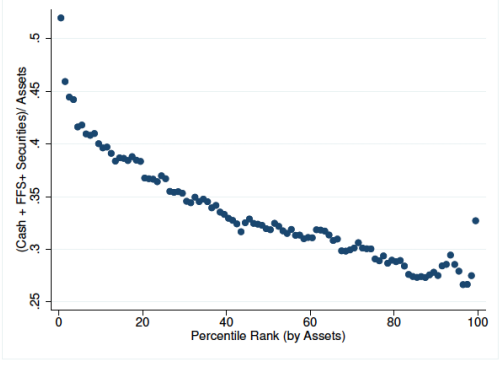
Where the Paper Lands

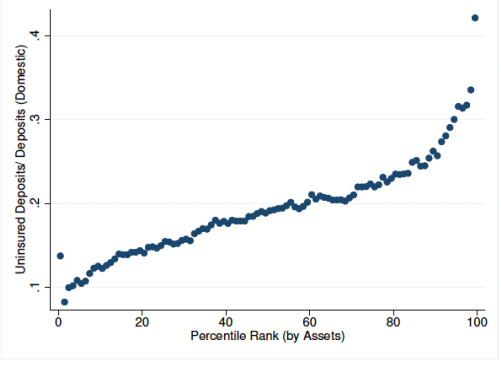
- Post-SVB regulatory debate:
  - Potentially explosive mix of uninsured deposits and interest rate sensitive assets
  - Should regulation target this issue?
- This paper's angle: structural approach jointly endogenizing:
  - Bank sizes
  - Funding mix (leverage, insured vs. uninsured deposits)
  - Asset mix (loans vs. securities)
- Policy lab: uniform vs. size-dependent capital ratios etc.

Challenge: Stylized Facts to Match

1. Concentration of bank assets
2. Security share U-shape in size
3. Uninsured deposits share rises with size: from ∼10% (small) to ∼40% (largest)







Sketch of Model: Banks

Banks $i \in [0, 1]$ heterogeneous in productivity (deposit raising + lending).

Bank choices:

- **Liabilities**: Raise insured deposits D_i^I, uninsured D_i^U (run-prone)
- **Assets**: Loans K_i; bonds B_i

Shocks realized at time 2 (aggregate and idiosyncratic):

- Sunspot run on uninsured deposits can happen:
  - If run happens, sell securities then loans if needed (at fire-sale price)
- Bank defaults if insolvent (pure waste cost of bankruptcy)

Households: Liquidity Services with Bank Heterogeneity A_i^D

Preferences:

$$U = \log C_0 + \psi \log H\big(\{D_i^I\}, \{D_i^U\}\big) + \beta \log\Big(\mathbb{E}[C_1^{1-\phi}]^{1/(1-\phi)}\Big)$$

Liquidity utility aggregator:

$$H\big(\{D_i^I\}, \{D_i^U\}\big) = \Big[\alpha \underbrace{\Big(\int_0^1 (A_i^D D_i^I)^{\rho_I}\, di\Big)^{\eta/\rho_I}}_{\text{insured}} + (1-\alpha) \underbrace{\Big(\int_0^1 (A_i^D D_i^U)^{\rho_U}\, di\Big)^{\eta/\rho_U}}_{\text{uninsured}}\Big]^{1/\eta}$$

A_i^D = bank-specific deposit productivity; representative HH puts a bit of deposits in all banks, more in productive banks.

Regulator: Capital and Liquidity Constraints

Prudential constraints:

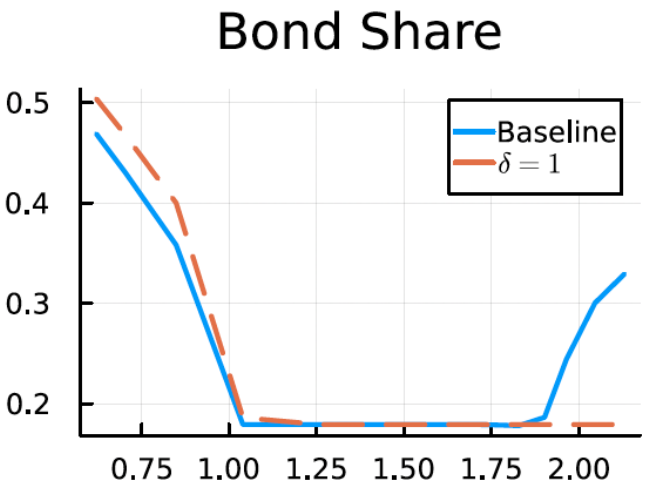
$$\underbrace{D_i^I + D_i^U \;\leq\; \theta_K K_i + \theta_B B_i}_{\textbf{Leverage / capital}}, \qquad \underbrace{\theta_D \left(D_i^I + D_i^U\right) \;\leq\; B_i}_{\textbf{Liquidity Coverage Ratio}}$$

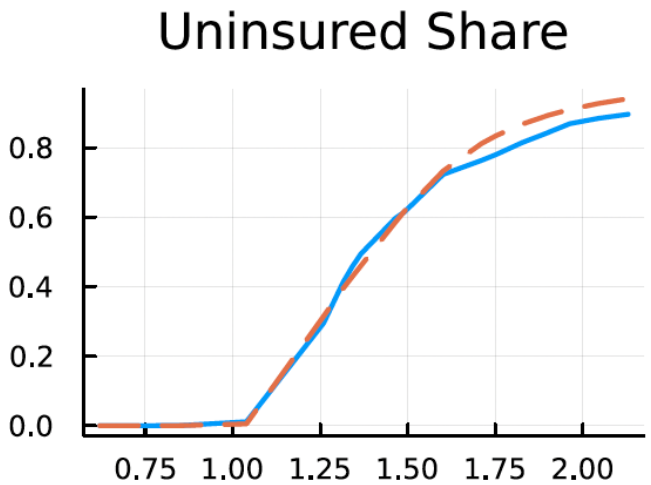
Sources of inefficiency:

- *Insurance externality:* Banks do not internalize the fiscal cost of insuring D_i^I
- *Fire-sale & default losses:* Runs/insolvency force loan liquidation at discount $\delta < 1$; bankruptcy costs $\xi > 0$ destroy value. (In a run, bonds are liquidated without waste; if shortfall remains, loans need to be sold at discount.)
- *Deposit misallocation* vis-à-vis first best allocation of deposits across banks (reflecting both liquidity preferences and lending comparative advantages)

Equilibrium

- **Small banks**: Scale driven by **insured deposit franchise**. They hold bonds to back that business (low productivity on loans) $\rightarrow$ high bond shares
- **Large banks**: High loan productivity, insured market saturates $\rightarrow$ issue uninsured to fund profitable lending; hold *additional* bonds as run insurance
- **Model replicates**: (1) skewed size distribution + (2) bond share U-shape + (3) rising uninsured share with size





Policy 1: Size-Dependent Capital (Targeted θ)

- Make θ (max leverage on loans) steeper in size:
  - Achieves **run-risk reduction** at the top
  - With only little liquidity loss and near *welfare-neutral* impact
- Interpretation:
  - Target the externality (run-risk concentration) quite directly
  - Avoid sector-wide liquidity costs (small banks don't shrink)

Policy 2: Liquidity Add-on on Uninsured Deposits (θ_U)

Run-risk-targeted Liquidity Coverage Ratio:

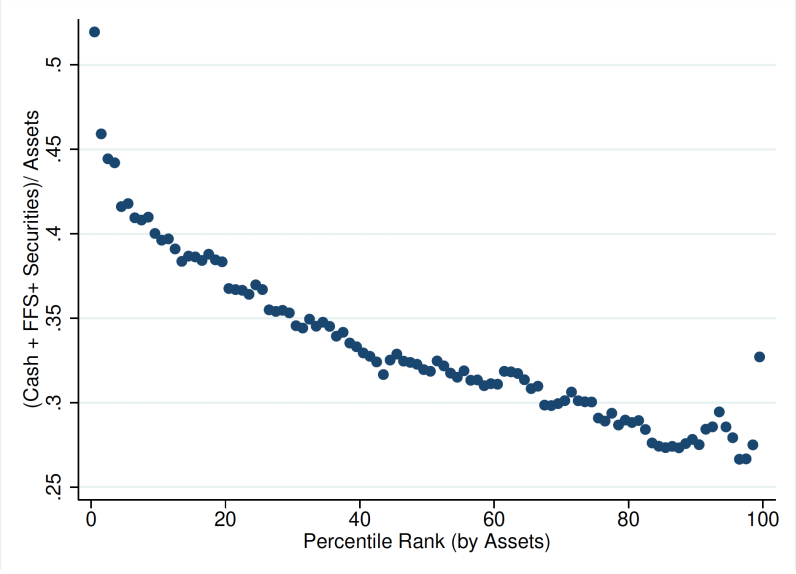
$$\theta_D D_i^I + (\theta_D + \theta_U) D_i^U \leq B_i$$

Economic intuition:

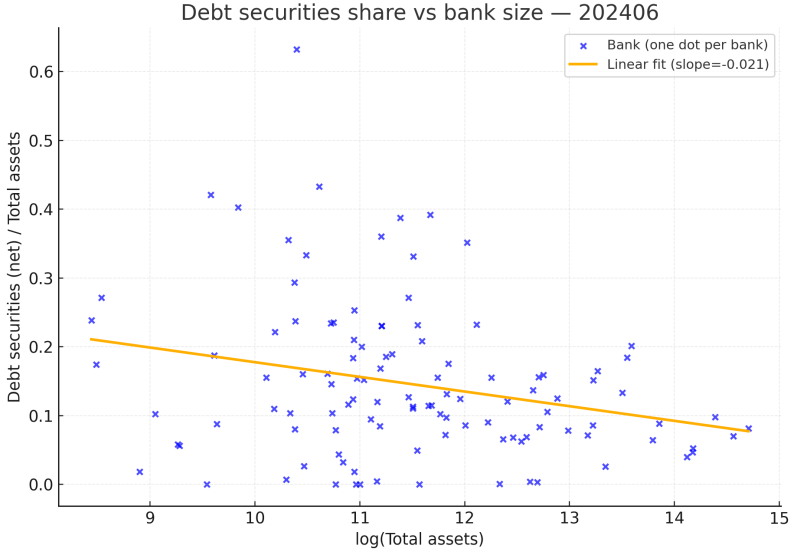
- *Mechanism:* Large banks (heavy in D^U) are pushed into **more bonds / less leverage** $\Rightarrow$ smaller run region
- *Moderate add-on works:* $\theta_U \approx 2\%$ cuts top-bank run defaults by $\sim$20% (bond buffer effect dominates)
- *Too much backfires:* Higher θ_U tilts portfolios from loans to bonds $\Rightarrow \uparrow$ misallocation and **duration risk**

COMMENTS

Remark: Is Security Share within Assets Really U-Shaped?



USA

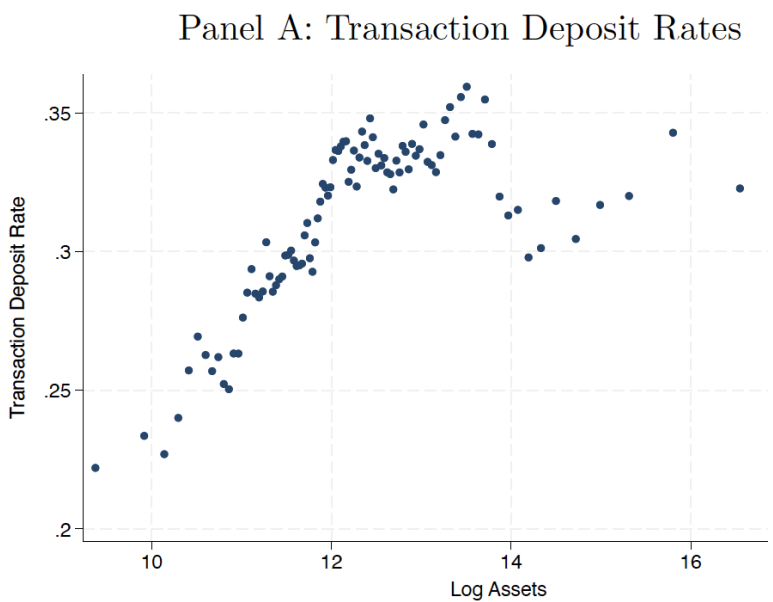


Europe

ECB supervision data

Welfare (1): interpreting low rates on deposits

- Analyze in detail the first-best (useful baseline)
- In the calibration, **low rates on deposits** (small banks) are reflecting high quality in liquidity services...
  - Makes it important to preserve smaller banks (avoiding misallocation)
  - Do we actually believe this?
  - Could it rather be exploitation of unsophisticated customers?



Welfare (2): economic impact of loans

- Real side of the economy is absent: How does it affect analysis?
  - Profits on loans are only a fraction of social value created by lending
- Loan fire-sales affect welfare as a pure-waste cost. But is it? Doesn't someone profit?

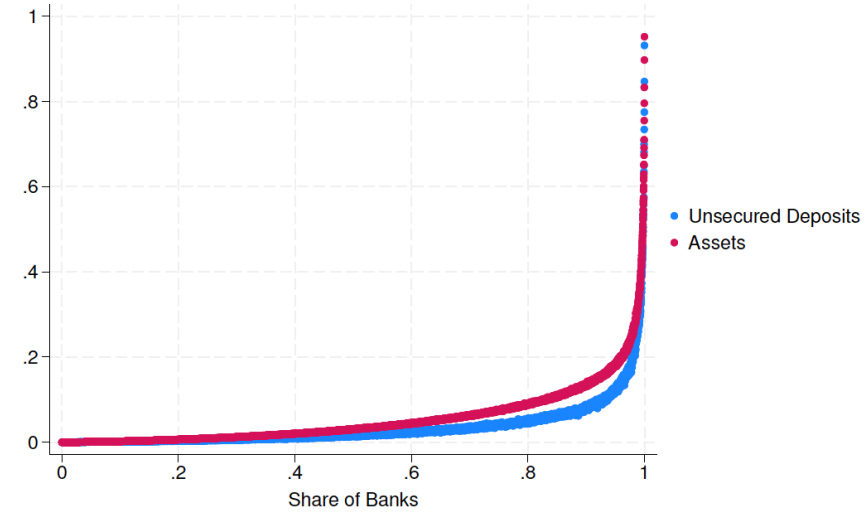
Other Natural Policy Experiments

- Penalize assets' interest rate sensitivity?
  - Model's θ_D ignores bond duration risk (exogenous parameter ω)
  - Proposal: $\theta_D(D^I + D^U) \leq \sum_m w(m)\, B^{(m)}$ with $w'(m) \downarrow$ to penalize long duration
- Pigou tax on uninsured deposits (potentially increasing in size)?
- Extending scope of insured deposits?
- Merging small firms? (but need to model productivity impact)

"Epistemology": excess focus on small banks?

- Role of small banks: Don't they play too big a role in banking literature?
  - Analogy: entrepreneurship and growth
  - (In the paper is $SD[MPK]$ asset-weighted?)

Panel A: Concentration of Uninsured Deposits and Assets



Small Comment

- Do you need to hardwire the perfect correlation between deposit productivity and lending productivity (why not more flexibility?)

Conclusion

- Sophisticated and original model; delivers compelling economic insights
- Useful framework to stage interplay of opposite forces (self-insurance vs. risk-shifting etc.)
- Equilibrium analysis reveals subtle regulatory trade-offs
- Might need additional pieces to get the complete macro/welfare picture