

Discussion of “HBANK: Monetary Policy with Heterogeneous Banks”

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Banca d'Italia Annual Research Conference on Monetary Policy
Rome, June 2026

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Motivation

- How does monetary policy interact with heterogeneous bank balance sheets and financial stability?
- Does heterogeneity across banks matter for the aggregate effects of monetary policy and prudential policy?

→ First-order policy questions.

This paper

- Heterogeneous-bank New Keynesian model with endogenous default risk, costly insolvency, and nominal rigidities.
- Empirical side: 2009 FDIC special assessment is used to estimate bank-level MPLs → motivation + validation.
- Main message: contractionary monetary policy reduces bank net worth, raises default risk and default costs, and therefore creates a macro-financial stabilization trade-off.
- Automatic micro-prudential policy targeted at the largest banks can mitigate that trade-off.

General comments

- Very timely question and an ambitious attempt to connect New Keynesian tradition with heterogeneous-bank macro-finance models.
- Nice combination of reduced-form evidence, structural model and counterfactuals.
- The paper would benefit from showing the underlying mechanisms more explicitly, especially in the cross-section.
- My comments are mainly about the interpretation of mechanisms and policy implications.

Bank size and default risk: inspecting the mechanism

A bank with state (n, ξ) defaults if

$$n' = \left[\xi' R^k - R^b(1 - 1/\gamma) \right] \gamma n - \zeta_1(\gamma n)^{\zeta_2} < 0$$

- The paper's interpretation is that smaller banks are closer to the zero-net-worth threshold.
- Can be right if larger banks have higher expected n' , but with convex costs this is local.
- At the same ξ , leverage and funding cost, net interest grows linearly in n while costs grow convexly in n .
- So the question is whether some banks grow past their privately optimal scale.

A diagnostic for the binding leverage assumption

The paper states that banks always maximize leverage due to risk neutrality:

$$\lambda(n, \xi) QI = V(n, \xi).$$

- With convex operating costs, risk neutrality alone should not imply a corner solution.
- The unconstrained desired scale can be interior:

$$\mathbb{E} \Omega' \left[(R^k \xi' - R^b) Q - \zeta_1 \zeta_2 I^{\zeta_2 - 1} \right] = 0.$$

- The leverage constraint should only bind if desired lending exceeds the constraint-implied upper bound.
- This is a quantitative property of the solved model that should be verified numerically.

Bank size and default risk: an alternative interpretation

- What drives default costs in the model?
 - Lower exogenous productivity ξ raises default risk and lowers franchise value.
 - But large banks that became large after good ξ realizations can later receive bad shocks.
- Could large default costs be coming from banks that are large and low- ξ , for which maximum leverage may no longer be optimal?

Bank size and default risk: diagnostic exercises

To fully disentangle the mechanisms, it would be useful to plot:

1. The joint distribution of size and productivity (n, ξ) .
2. Leverage and default risk as a function of n , holding ξ constant.
3. Individual bank's leverage and default risk responses to shocks.
4. Slack in the leverage constraint under optimal desired lending l^*

$$V(n, \xi) - \lambda(n, \xi)Ql^*(n, \xi).$$

Why is this important?

- From the perspective of the model's internal logic, would it make sense to make regulation contingent on exogenous productivity too?
- More generally, the banking literature has identified many other factors that may interact with size and default risk:
 - Diversification, market power, economies of scale, TBTF guarantees and moral hazard...
- Getting right the relationship between size and risk is key: regulation may alter that relationship, e.g., once risk-taking is endogenous.

Concluding remarks

- Very timely and carefully executed paper.
- Bringing heterogeneous banks into a New Keynesian framework is a major contribution.
- A few additional exercises could help tease out the mechanisms and sharpen the contribution.