"The Heterogeneous Bank Lending Channel of Monetary Policy"

Jorge Abad, Saki Bigio, Salomon Garcia-Villegas, Joel Marbet and Galo Nuño

Discussion by Federico Puglisi

Bank of Italy

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- Banks across EA are widely heterogeneous in:

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- **Key Question:** How do differences in bank leverage and loan pricing policies shape **jointly** the transmission of monetary policy?

- **Approach:** GE model of ex-ante identical banks with **ex-post heterogeneity in leverage** calibrated to euro area data in 2 versions: **fixed** and **floating** loan pricing.

Bank balance sheet:

$$\underbrace{N_t}_{\text{New Loans}} + \underbrace{L_t}_{\text{Legacy Loans}=N_{t-1}} + \underbrace{B_t}_{\textit{Reserves}} = \underbrace{D_t}_{\textit{Deposits}} + \underbrace{E_t}_{\textit{Equity}}$$

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$$\text{Floating Rate System: } \Pi_{t+1} = r_t^N N_t + r_t^N L_t + r_t^B B_t - r_t^D D_t - \underbrace{f\left(\frac{N_t}{E_t}\right) E_t}_{\text{convex origination cost}}$$

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Key channel:

Fixed Rate: Policy tightening $r_t^B \Uparrow \rightarrow$ Interest Expense

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Key Take-Away and Supporting Evidence

Paper's model: much richer structure (i.e. loan defaults, deposit shocks and endogenous bank default)

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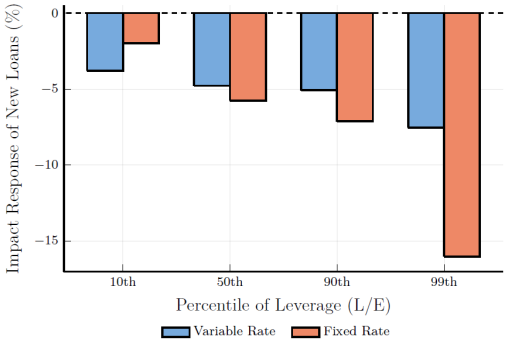
Figure 8: Individual Response of New Loans



- With banks **heterogeneous in leverage**, the **adopted loan pricing rule** might give rise to quantitatively **significantly different lending outcomes** for monetary policy!

Comments Overview

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4. More for the authors:
   a. **State-Dependence:** mortgage refinancing channel and government policies to ease refinancing, ZLB.

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4. More for the authors:
   a. **State-Dependence:** mortgage refinancing channel and government policies to ease refinancing, ZLB.
   b. **Minor comments** on supporting evidence, other model features, notation.

1 **Wang et al. (JF 2022):**

- Structural dynamic banking to study effects of market power and regulatory constraints on monetary policy transmission.
- They quantify the importance of (a) reserve requirements (9%) (b) capital regulation (24% (c) deposit market power (31%) (d) loan market power (-18%).

1 **Wang et al. (JF 2022):**

2 **Corbae and D'Erasmo (ECMA 2021):**

- Quantitative Banking Model with **idiosyncratic funding shocks** in addition to **aggregate shocks** to fraction of **performing loans**.
- Bank lending channel of monetary policy at play.

Contribution wrt to other models with heterogeneous banks

1. **Wang et al. (JF 2022):**
2. **Corbae and D'Erasmo (ECMA 2021):**
3. **Bellifemmine et al. (2022, CEPR DP):**
   - GE Dynamic Macro model with (i) matched distribution of bank size, (ii) endogenous bank-specific insolvency risk, (iii) costly default, and (iv) nominal rigidities.
   - MP tightening $\rightarrow$ Bank Defaults & Tighter Constraints $\rightarrow$ Lending $\downarrow$.

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4. **Mendicino et al. (JF 2024):**
   - Ex-post heterogeneity in risk exposure and default outcomes.
   - Non-linearity in the relation between borrower and bank default.

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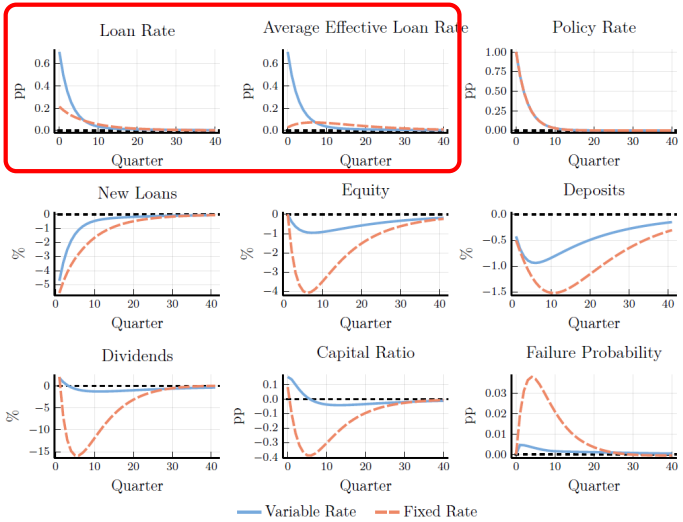
- **This paper:** introduces **legacy loans** into bank balance sheets as source of **stickiness** in the **effective loan rate pass-through**.
  a. would be nice more **guidance on the novelties**
  b. need more discussion of **role and purpose of the model features** (possibly through counterfactual exercises)
  c. is it safe to abstract interactions with **market power**?

Deposit Stickyness: is it an issue?

Figure 7: Impulse Response Functions



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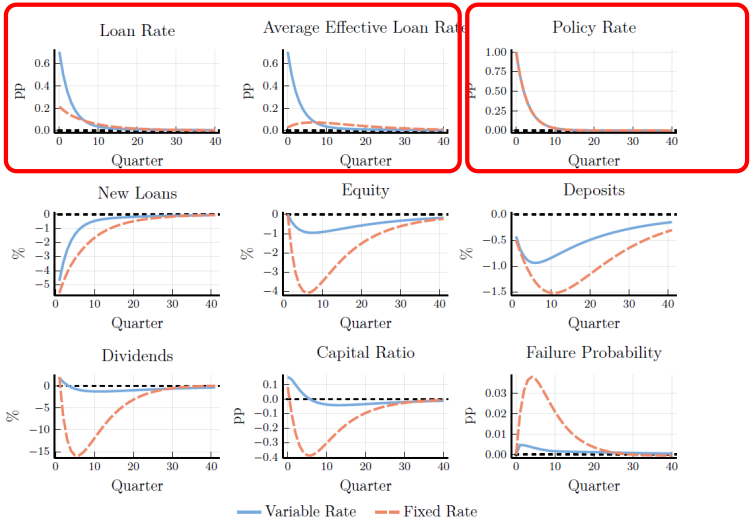

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- Might be useful to show yet **two additional environments**: **low** deposit betas and **high** deposit betas.

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▸ Mortgage refinancing channel and government refinancing policies, ZLB ▸ Other comments

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- Could adjust the Vasicek module to account for heterogeneous default risk in the two different versions of the model (fixed vs floating).

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⇒ Very interesting paper! Unveils and studies the interaction of loan pricing policies with bank leverage heterogeneity

⇒ Non-trivial important effects on the bank lending channel of monetary policy

⇒ Look forward to the next developments!

THANKS

APPENDIX

Many potential avenues unexplored

- Few countries are drifting toward a very **concentrated banking sector** with a few very large banks, how would a higher concentration change the results?
- **Easing of refinancing barriers**: many countries are actively trying to make fixed rate mortgage refinancing costless, will this make your model state-dependent?

  Eichenbaum, Rebelo & Wong (AER 2022), Berger et al. (2024).

- What happens at the **Zero Lower Bound**?

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Supporting Evidence:

- There is ample literature on pass-through heterogeneity: need to control for potentially competing factors.

$\Rightarrow$ Potential solution: add interaction terms (ex. high vs low leverage, core vs periphery dummy or government spread, high vs low market concentration).

- Figure 9: the sum of base loan rate response and interaction term seem negative at peak, why is that?
- Figure 10, the interaction term, although significant, appears quantitatively little relevant.

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Other Minor:

- Legacy loans are very realistic but also complex, what do we gain wrt simpler forms of sticky interest rate pricing?
- The effort to include heterogeneity is high, should discuss more:
  a Why is there a non-linearity at the top in figure 8?
  b Which parameters are responsible for that?
  c Is the mass of near-zero asset banks an artifact of the model (Figure 6, b and c)? Doesn't seem to be the case in data (Appendix Figure A.8)

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- K_t in eq 7 is not introduced in the text and could probably be simplified.

back

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