

Corporate Debt Composition, Access to Credit, and Monetary Policy

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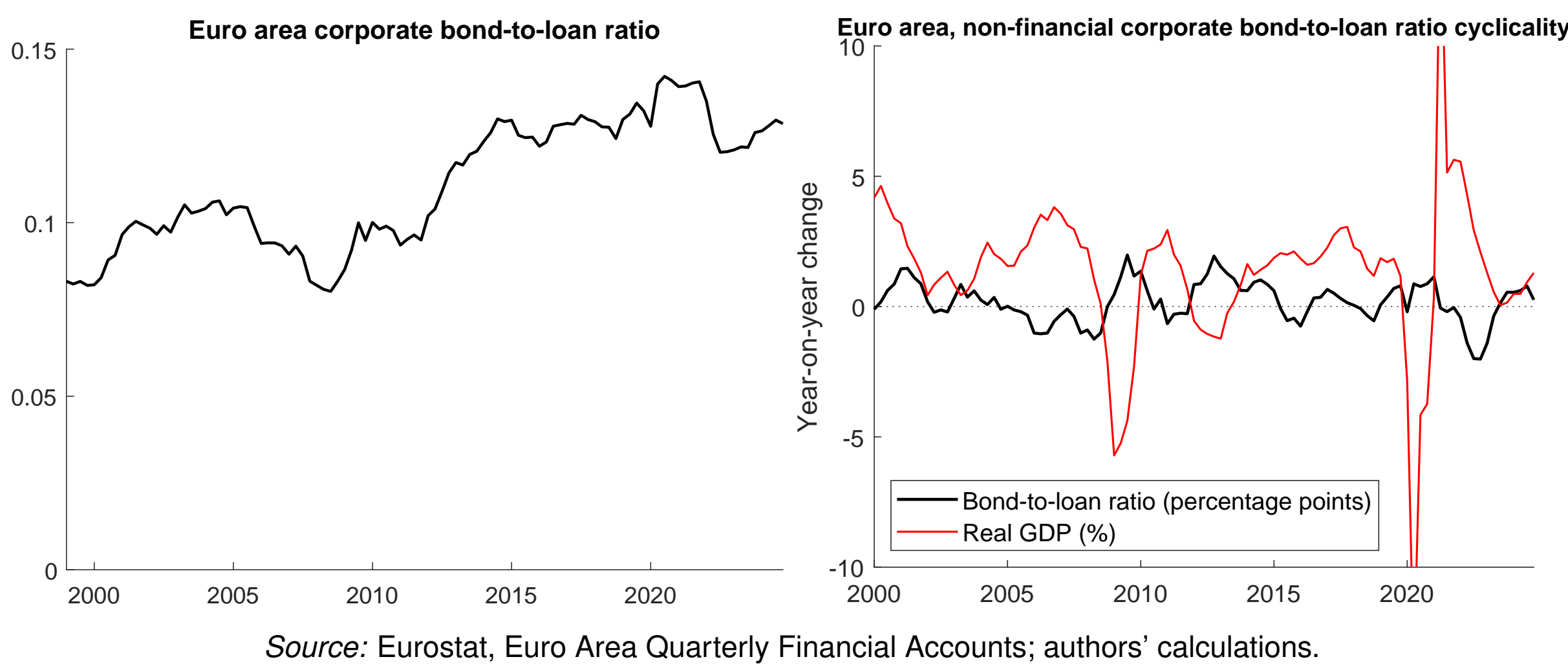
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Abstract

To study the implications of the corporate debt structure for the conduct of monetary policy, we develop a New Keynesian DSGE model where firms are heterogeneous in terms of productivity and optimally choose different modes of external finance. Our setup makes both the corporate debt composition and firms' credit access endogenous and dependent on aggregate economic conditions. We find that following a monetary policy contraction, credit access tightens. There is substitution from bank loans toward bond finance, as loan supply contracts due to a squeeze in bank equity. The model replicates empirical impulse responses to monetary policy shocks in the euro area. Our results support the relevance of the bank lending channel and highlight that monetary policy transmission is sensitive to the aggregate corporate debt structure.

Motivation and research questions



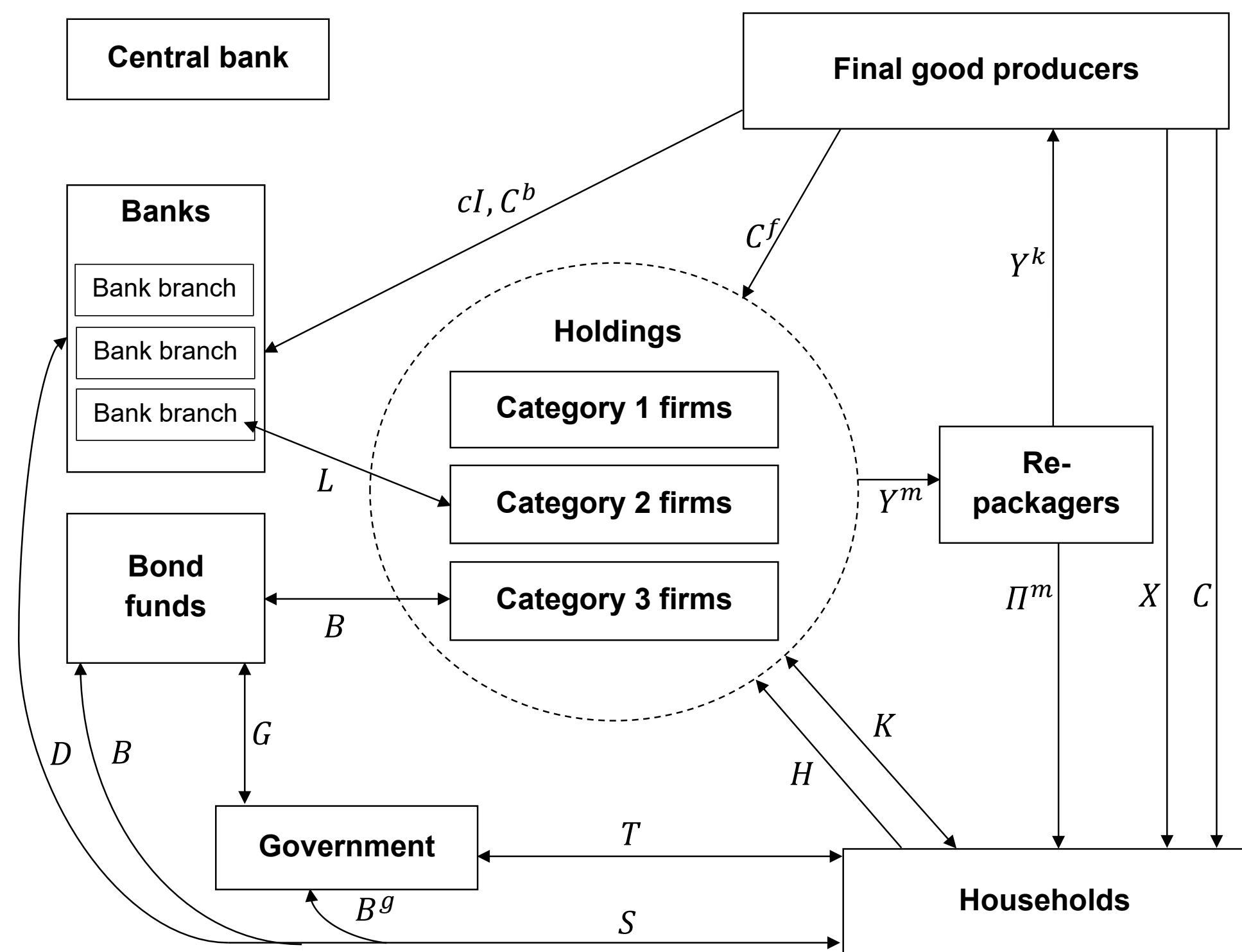
1. How does the corporate debt structure affect MP transmission and its strength?
2. What is the role of substitution between modes of external finance (intensive margin) and the access to external finance (extensive margin) in MP transmission?

Our contribution

1. We formulate a New Keynesian model with **endogenous and optimal determination of corporate debt composition and credit access**, in which:
 - bank equity matters and is not a substitute for deposits or debt (**bank lending channel**)
 - banks face aggregate risk and cover for depositors, making bank leverage operational
2. Our model **rationalizes key empirical facts about aggregate corporate debt cyclicality**:
 - Rebalancing from bank loans towards bond finance following a contractionary MP shock
 - Bank equity contracts, loans become more expensive relative to bonds
3. We show that **MP transmission is sensitive to the aggregate corporate debt structure**

Model

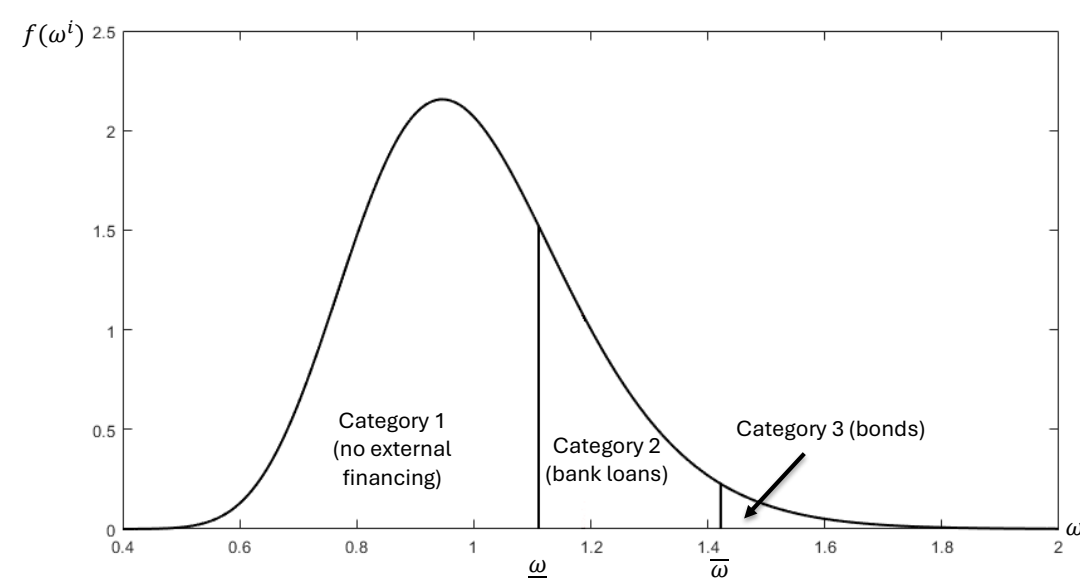
- New Keynesian DSGE model with financial frictions in the corporate credit market, calibrated to quarterly Euro Area data
- Intermediate good firms are **heterogeneous** in their productivity and **financially constrained**



L : bank loans; B : corporate bonds; D : deposits; B^g : government bonds; S : household savings; T, G : lump-sum taxes/transfers; Y^m, Y^k : intermediate goods; X : investment; C, C^f, C^b : consumption; H : hours worked; K : capital; Π^m monopolistic profits; c^f bank's monitoring costs.

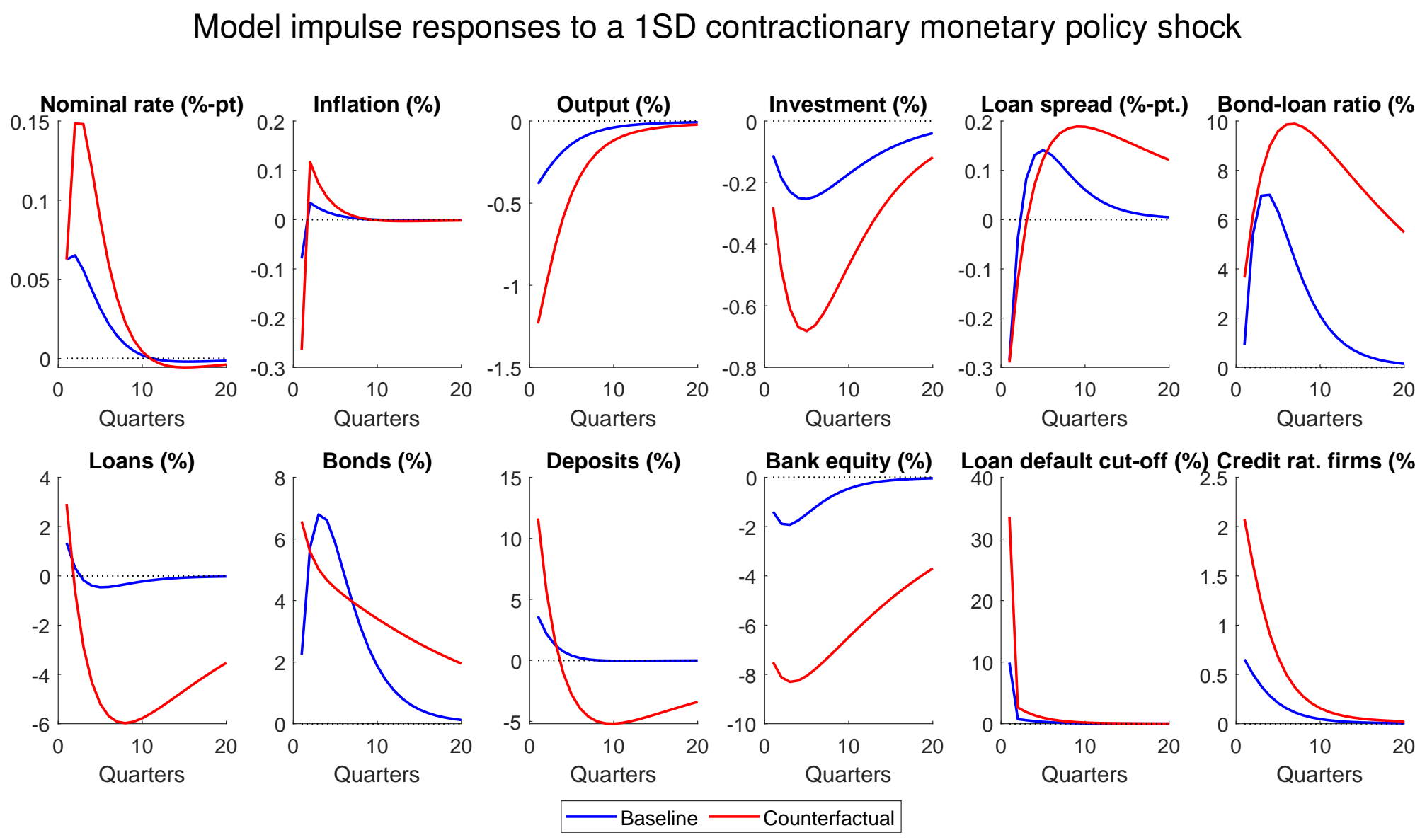
Key ingredients in the financial market

1. Intermediate good firms face a **cash-in-advance constraint** to fund their production
2. **Imperfectly observable idiosyncratic productivity** of borrowers *ex ante* creates default risk *ex post*, the cost of which is borne by banks
3. Ability to raise external funding is limited by a **double moral hazard problem** following Holmström and Tirole (1997); banks act as monitors, allowing to credit access to lower quality firms



Cut-off equilibrium in corporate credit market: distribution of external finance depends on firms' productivity signals ω ; cut-offs ω and $\bar{\omega}$ endogenous and dependent on aggregate conditions ($i_t, E_t \pi_{t+1}$, firm and bank equity)

Results



Baseline mechanism:

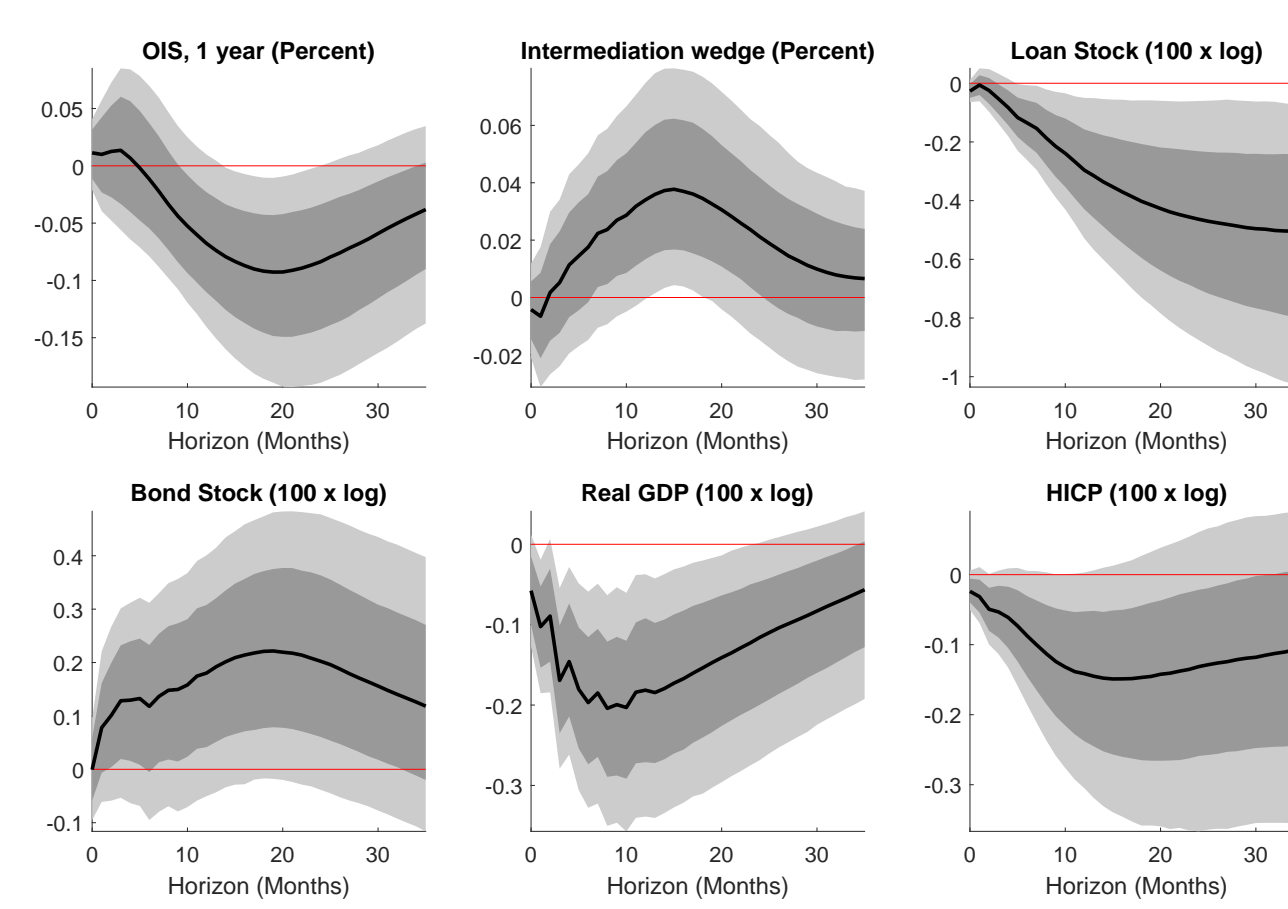
- Higher nominal rate i_t leads to more defaults on existing debt, loss of bank capital and firm equity, worse incentives for both firms and banks, and higher funding costs for banks
- Credit access tightens, loan supply contracts, loan spreads increase relative to bonds
- Rebalancing from loans towards bonds: tightening in financing conditions hurts good credit quality firms relatively less, as their incentives and equity not as sensitive to changes in interest rates

Counterfactual experiment: higher steady-state bond-loan ratio

- Calibrate model to higher bond-loan ratio in steady state, matching the average US ratio; obtained by reducing degree of moral hazard of firms in bond market
- Access to bond finance **expands**, making average creditworthiness of the borrower pool worse in both bond and loan market through the pecking-order mechanism
- This **amplifies** MP transmission: bank equity suffers *more*, as MP contraction causes more borrower defaults and worse incentives, given worse average borrower quality
- Design of the counterfactual experiment matters for the amplification result!

Empirical findings

- Bayesian SVAR model estimated on aggregate euro area data on the sample 2002M1–2025M4 (omitting the initial COVID period 2020M3–2020M5)
- High-frequency identification of MP shocks following Jarociński and Karadi (2020)
- Similar rebalancing following MP shocks: Becker and Ivashina (2014), Holm-Hadulla and Thürewächter (2021), Lhuissier and Szczerbowicz (2022).



References

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