

Open Banking under Maturity Transformation

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- ▶ Model lending market competition in the spirit of Broecker (1990) and Hauswald and Marquez (2003)
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- ▶ **Main prediction:** Open banking improves borrower welfare but leads to inefficient resource allocation
- ▶ Important contribution. Results can guide the ongoing policy debate

Model Environment

- ▶ Two banks compete for borrowers in a sealed-bid first-price common-value auction
- ▶ Borrowers subject to common shocks
- ▶ Each bank uses borrowers' data and algorithm to generate a private signal about the common shock
- ▶ Winning bid is revealed to the bank's creditors who then update their belief about the borrower's credit risk and quote an interest rate

Main Results and Economic Mechanism

Under closed banking

- ▶ The uninformed bank never bids
 - ▶ If the uninformed bank bids and wins, its creditor infer that the informed bank must have received a bad signal
 - ▶ Since Bank 1 is informed, creditors believe that Bank 2's signal is over optimistic
 - ▶ High funding cost for Bank 2
- ▶ The informed bank becomes a monopolist
- ▶ The informed bank funds the project when it receives a good signal

Under open banking

- ▶ There is positive probability of neither bank bidding even after receiving a good signal
 - ▶ If Bank 2 bids and wins, creditors infer that bank 1 must have received a bad signal
 - ▶ Banks 2's good signal neutralizes bank 1's bad signal
 - ▶ Creditors don't update their posterior beyond 1/2
 - ▶ Funding cost high

Key channel driving this funding inefficiency: **winner's curse exacerbated by the endogenous response of bank creditors to its investment**

Comment 1: Sensitivity of banks' funding cost to banks' investment

- ▶ Funding efficiency depends on sensitivity of banks' funding cost to their investment
- ▶ Funding cost sensitivity depends on
 1. **Opacity of bank investments:** Chen et al. (2022) show that uninsured deposits are more responsive to performance shocks of more transparent banks
 - ▶ Banks are generally opaque: mean transparency measure low (0.22) for U.S. banks (Chen et. al, 2022)
 - ▶ Banks keep their assets secret because they produce liquidity in the form of deposits – money-like securities (Dang et al., 2017)
 2. **Diversification of bank portfolio:** Gelman et al. (2022) show that diversified banks' lending is more resilient to negative shocks
 - ▶ How would investment in multiple assets change the response of bank funding?
 - ▶ Is the model more relevant to think about systematic exposure of banks, which could lead to bank runs?

Comment 2: Difference in precision of private signal

- ▶ Under open banking, the model assumes that both banks have the same signal precision

$$Pr(s_1 = \theta|\theta) = Pr(s_2 = \theta|\theta) = \pi$$

- ▶ Do we expect the signal precision to be the same for all financial institutions under open banking?
- ▶ Difference in access to data may affect quality of data analytics
- ▶ Historical access to data may allow banks to train their machine learning algorithm better and generate a more precise private signal about the common shock
- ▶ If creditors know this, funding costs may not increase significantly

Other Comments

- ▶ **Dynamic tradeoffs:** If data can improve signal precision, banks may be willing to incur losses today and bid aggressively today so that they can potentially generate a more precise signal tomorrow
- ▶ **Informed vs informed creditors:** How would the results change if creditors do not know which banks have access to data?
- ▶ **Sharing signal with other banks:** Would welfare under open banking be higher if in addition to sharing consumer data, banks could also share their private signal with other banks?

Conclusion

- ▶ Important paper to think about the welfare effects of open banking
- ▶ Encourage everyone to read it
- ▶ Lots of avenues for future research