

Discussion of:

*Open Banking Under Maturity Transformation*

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# Open banking

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- ▶ At first glance, open banking sounds very appealing
  - ▶ borrowers develop a history that shows their creditworthiness
  - ▶ but only one bank sees this history → monopoly pricing
  - ▶ letting more banks see the history → competition
    - ▶ removes monopoly rents, more efficient outcomes      What's not to like?
- ▶ What are the possible downsides or concerns?
- ▶ One possibility: idiosyncratic interpretation of the data
  - ▶ if banks' algorithms give different scores to a borrower ⇒ winner's curse
  - ▶ implication: more competitors may not lead to better outcomes
    - ▶ most optimistic bank is more likely to be wrong
    - ▶ leads banks to be more cautious (when seeing a good signal)
    - ▶ winner's curse offsets some (all?) benefits of competition

# This paper

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- ▶ Investigates the effects/desirability of open banking ...
- ▶ ... taking seriously the idea that the lenders are *banks*
  - ▶ offering loans of some maturity, while issuing debt of shorter maturity
  - ▶ funding cost is sensitive to the risk the bank is taking

## Brief recap of the model

- ▶ Borrowers have a project that will succeed or fail
- ▶ Banks issue deposits, can lend or hold a risk-free asset
- ▶ Bertrand-like competition
  - ▶ each bank announces an interest rate (or “no offer”)
  - ▶ borrowers pick the lowest rate      (⇒ first-price, common value auction)

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- ▶ Key feature: bank creditors observe outcome of the auction
    - ▶ interest rate on deposits resets accordingly

## Compare two regimes

- ▶ Closed banking: incumbent bank has informative signal
  - ▶ entrant bank has no signal (uninformed)
  - ▶ assume  $E[PV]$  of lending is  $<0$  if no signal
- ▶ Open banking: both banks receive (independent) signals
  - ▶ that is, they have different algorithms for predicting repayment
  - ▶ give idiosyncratic interpretations of the same data

# Results

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- ▶ Moving to open banking has mixed effects
- ▶ Closed banking:
  - ▶ uninformed bank never lends
  - ▶ informed bank lends if signal is good; takes all of the surplus
- ▶ Open banking:
  - ▶ borrowers are better off, but total expected output is lower
    - ▶ banks become more cautious in bidding; may make “no offer” even if they receive a good signal
    - ▶ because of the winner’s curse ...
    - ▶ ... which is “exacerbated by banks’ maturity transformation”
- ▶ Interesting!



want to focus on understanding this last point

# An alternative starting point

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Consider three different versions of the model

1. Bankers lend their own funds
  2. Banks are funded with long-term debt
  3. Banks are funded with short-term debt
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- ▶ In each case, what are the effects of moving to open banking?
  - ▶ What is the relationship between cases 1 and 3?

# 1) Bankers lend their own funds

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- ▶ Suppose bankers have deep pockets
  - ▶ divide their funds between lending and the risk-free asset
- ▶ Closed banking:
  - ▶ uninformed bank will never bid (expected payoff is always  $< 0$ )  
⇒ informed bank is a monopolist
    - ▶ lends following good signal, takes all of the surplus
- ▶ Open banking:
  - ▶ mixed results because the winner's curse appears
  - ▶ banks with a good signal may not bid with positive probability
    - ▶ resulting allocation may be less efficient (maybe?)  
⇒ winner's curse offsets the benefits of competition

## 2) Banks are funded by long-term debt

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- ▶ Now suppose banks have issued long-term debt at fixed rate
  - ▶ and have limited liability  $\Rightarrow$  risk shifting motive (sounds bad)
  - ▶ but risk-shifting can have *positive* effects here
- ▶ Closed banking:
  - ▶ the uninformed bank may now be willing to bid with some probability
    - ▶ because part of the loss in the bad state falls on creditors
  - ▶ which disciplines the informed bank  $\rightarrow$  borrowers get some of the surplus
- ▶ Open banking:
  - ▶ banks bid more aggressively than when using own funds
  - ▶ each bank bids if (and only if) it sees the good signal
    - $\Rightarrow$  risk-shifting mitigates the winner's curse, promotes competition



### 3) Banks are funded by short-term debt

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- ▶ Interest rate on debt is reset after results of auction are known
  - ▶ so that creditors are indifferent between the debt and outside option
  - ▶ undercuts bank's ability to shift risk onto creditors
- ▶ Results are similar to the first case
- ▶ Closed banking: exactly the same
  - ▶ informed bank bids if signal is good; takes all of the surplus
- ▶ Open banking:
  - ▶ banks bid less aggressively (i.e., may not bid following good signal)
- ▶ If risk-shifting mitigates the winner's curse ...
  - ▶ ... then short-term debt that disciplines banks brings the curse back
  - ▶ another way to see the main message of the paper (I think)

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Three questions

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# Models 1 and 3

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- ▶ How similar/different are models 1 and 3?
  - ▶ for closed banking in this setting, results are identical (I think)
  - ▶ for open banking, they are ... similar?

## Put differently:

- ▶ Is the ability to shift risk the only reason the maturity of debt matters for this issue?
  - ▶ do other mechanisms that limit risk sharing lead to same outcome?
    - ▶ can we just study model 1?
- ▶ Or does the maturity of debt matter in other ways?
  - ▶ i.e., ways that my simple narrative above misses

# Aggregate vs. idiosyncratic risk

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- ▶ Bank lends to many borrowers in the model
  - ▶ but their returns are perfectly correlated
    - ⇒ bank is looking at borrower data to forecast macro variables
- ▶ I would expect borrower data to be most informative about individual creditworthiness
  - ▶ what I did in the past tells you a lot about me ...
- ▶ Is there a version of this model with heterogeneous borrowers?
  - ▶ winner's curse involves getting a bad pool of borrowers
  - ▶ which would increase the probability of bank failure (as here)
- ▶ Seems more complicated ...
  - ▶ would it matter for the results? Perhaps not.

# Other mechanisms

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- ▶ Open banking has two potential benefits in this model
  - ▶ competition may reallocate surplus toward borrowers
  - ▶ generating a second signal provides more information
- ▶ What type of institution(s) would best harness these benefits?
- ▶ A mechanism design problem
  - ▶ have both banks report their signal  $\Rightarrow$  assign an allocation
  - ▶ if both report  $H \rightarrow$  randomly assign loan to one bank (at some  $R$ )
  - ▶ if either reports  $L \rightarrow$  no loan is made
- ▶ I think this mechanism uniquely implements the efficient allocation
- ▶ How could it be decentralized?
  - ▶ what type(s) of regulation might be helpful?