Discussion of:

*Open Banking Under Maturity Transformation*

by Itay Goldstein, Chong Huang, and Liyan Yan
Open banking

- 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 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

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This paper

- 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 and 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
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Results

- 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
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An alternative starting point

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

- 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

- 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
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2) Banks are funded by long-term debt

- Now suppose banks have issued long-term debt at fixed rate
  - and have limited liability ⇒ risk shifting 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 → borrowers get some of the surplus

- Open banking:
  - banks bid more aggressively than when using own funds
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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

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  - ... 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
Models 1 and 3

- 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
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Aggregate vs. idiosyncratic risk

- 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.
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Other mechanisms

- 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 ⇒ 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?
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