

Payment Risk and Bank Lending

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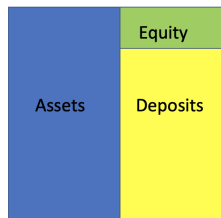
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May 24, 2022

Motivation

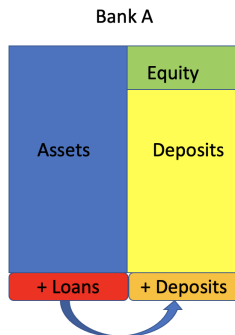
- This paper is about payment risk - an understudied and often overlooked source of risk for banks
- What is payment risk?
- Different from an aggregate deposit shock
 - Depositors withdraw, bank may need to sell assets or borrow at a cost

Bank A



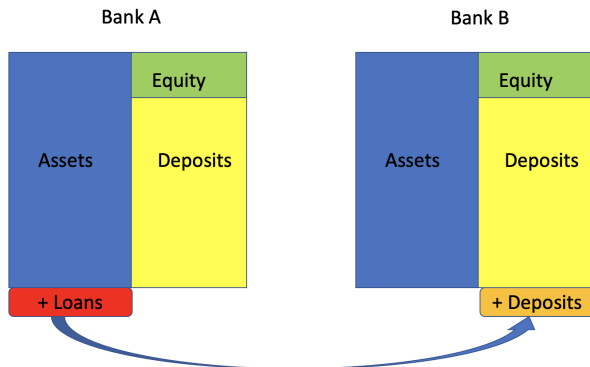
Motivation

- Payment risk can materialize even in the absence of an aggregate deposit shock
- Suppose Bank A makes a new loan, the borrower uses the money to pay for goods, and the receipts are redeposited in bank A
 - → no deposit shortfall



Motivation

- Suppose Bank A makes a new loan, the borrower uses the money to pay for goods, and the receipts are redeposited in **bank B**



- Negative deposit shortfall for bank A → payment risk

This Paper

- Payment risk is the risk that loans given out by one bank are deposited at another bank, leading to a deposit shortfall at the lending bank.
- Deposit shortfall in turn constrains lending

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Main Results (model + empirics)

- One IQR larger payment risk \rightarrow 0.5% drop in loan growth
- Exacerbated by funding distress
- Banks with higher payment risk raise deposit rates to expand depositor base and internalize payment flows
- Robust across banks of different sizes

Overall thoughts:

- An important and understudied type of risk in banking
- Intuitive model + detailed granular payments data
- Interesting and thought-provoking findings

You should all read it!

- ① Payments Risk in the Model versus Empirics
- ② Partial Equilibrium versus General Equilibrium Implications
- ③ Ways to Reduce Payment Risk

Inflow versus Outflow Payments Risk

- Model follows Diamond and Dybvig 1983
- Payment risk: Variance of g , σ^2 , where g is the fraction of payees outside of the bank \rightarrow deposit outflow risk

Inflow versus Outflow Payments Risk

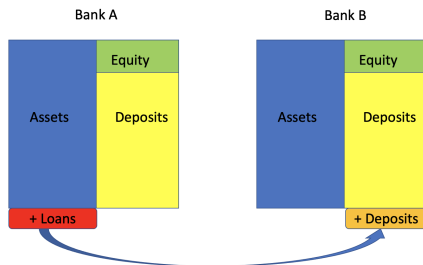
- In the empirics,

$$\text{Flow volatility} = S.D. \left(\frac{\text{amount received} - \text{amount sent}}{\text{amount received} + \text{amount sent}} \right) \quad (1)$$

- E.g., Bank A,
 - 50% of the time: amount received = amount sent
 - 50% of the time: amount received = 0, amount sent=k
- E.g., Bank B,
 - 50% of the time: amount received = amount sent
 - 50% of the time: amount received = k, amount sent=0
- Bank A and Bank B have the same flow volatility, but Bank A has outflow risk and Bank B has inflow risk!
- Should these really be the same? Especially for loan growth?
- Suggest: split up inflow and outflow

Partial Equilibrium versus General Equilibrium Implications

- Splitting inflow and outflow risk also matters for thinking about the aggregate effect. Recall:



- Do Bank A and Bank B have the same payment risk?
- Current focus: “Bank A”, but there is always a “Bank B” in equilibrium
- What is the aggregate effect? Relationship with Allen and Gale (2000)?

Partial Equilibrium versus General Equilibrium Implications

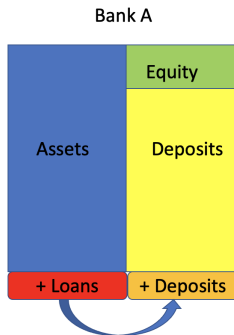
- Relatedly, current prediction: banks want to increase deposit rates to grow their deposit base and internalize payment shocks
- This holds in partial equilibrium. What if OTHER banks compete by raising deposit rates?
- Effect on market share and depositor base are less certain.
- Suggest: consider to extend beyond the one-bank model

Ways to Reduce Payment Risk

- Taking a step back, what are the implications? How could payment risk be alleviated?
- Suggest to discuss in the paper
 - ① Reduce frictions in interbank markets
 - ② Provide more abundant central bank reserves (QE)
 - ③ Less fragmentation???

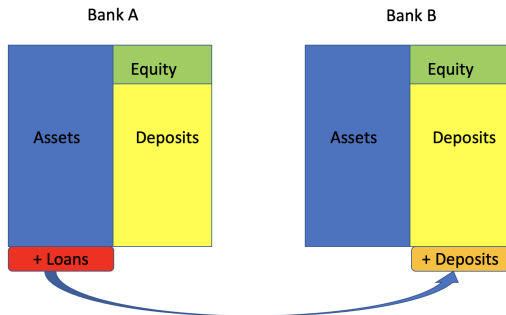
Ways to Reduce Payment Risk

If there is one bank only, there would be no payment risk!



Ways to Reduce Payment Risk

Fragmentation arises from a fragmented banking sector



Banking sector consolidation is beneficial? How about CBDC?

- Interesting and important perspective: payment risk constrains bank lending!
- Suggest to think more about aggregate implications
 - One bank's outflow risk is another bank's inflow risk
 - Deposit competition
- Suggest to discuss implications
 - Ways to reduce frictions of interbank reallocation
 - Ways to reduce payment imbalance risk