The Benefits and Perils of FinTech

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22nd Annual Bank Research Confrence

Federal Deposit Insurance Corporation

What is FinTech Research?

Is FinTech about *Any* Technology in Finance?

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First ever example of fiat money: *jiaoqao*, Yuan dynasty (1300s)

Although current currency name is renminbi, still colloquial: yuan.

Is FinTech About Any Technology in Finance?

First ever ATM: US, 1969

What is FinTech?

- D'Acunto and Oh (2021, *in preparation*):
  FinTech as Big and Open Data in Finance: A Survey

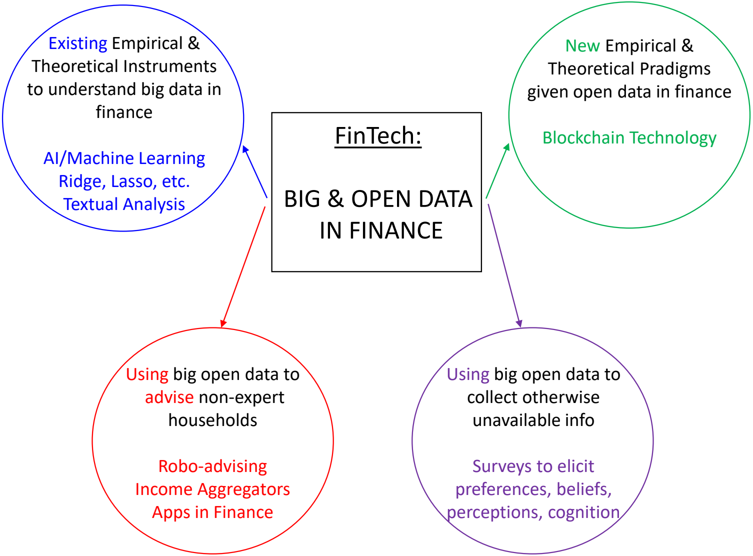
- FinTech as an area of research (and practice) is not about *any* technology in the financial domain

- Defining feature and why FinTech is recent:

  Big and Open Data

- The Four Rings of FinTech

FinTech as Big & Open Data in Finance

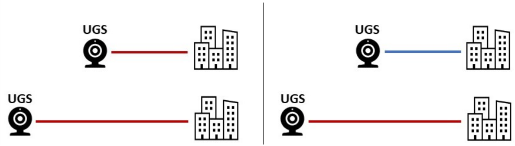


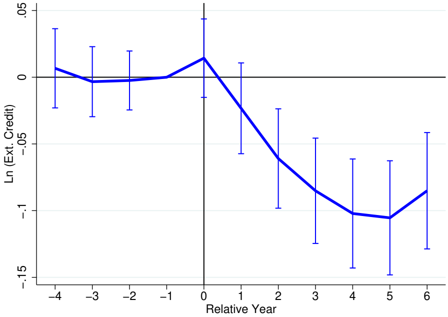
Source: D'Acunto (2020)—FinTech as Big and Open Data in Finance

When Broadband Comes to Banks: Credit Supply, Market Structure, and Information Acquisition

A. D'Andrea, M. Pelosi, E. Sette

The Paper in One Picture



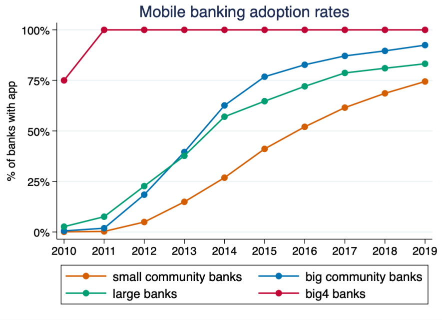


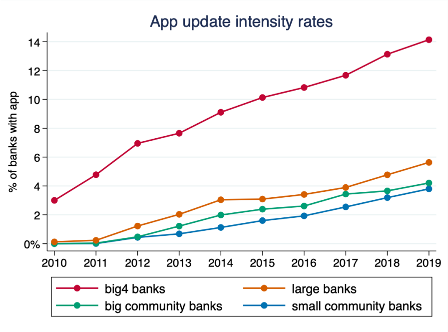
- Less lending if farther away from UGS after ADSL internet diffuses
- Banks with ADSL expand to other geographic markets

Benefits vs. Perils

- BENEFITS
  - More, cheaper, and more efficient local lending
- PERILS
  - If a few banks expand geographically at the expense of local banks, what effects on local market concentration?
  - How should we think about relevant geographic markets?
  - Should anti-trust regulation modify the relevant definition of local lending markets?

From Broadband to Mobile Banking Services



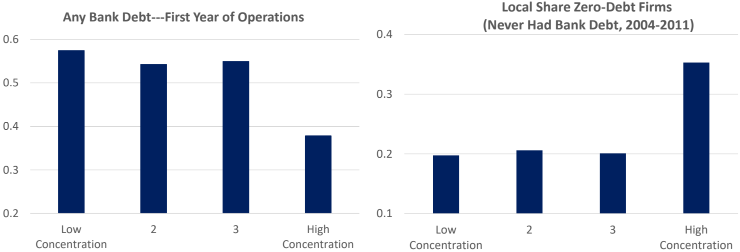


Haendler (2023)
How Mobile Technology is Reshaping the Banking Sector

- Large banks (esp. Big 4):
  - Adopt mobile technology faster
  - Invest more in improving mobile technology
  - Obtain larger market shares at the expense of small, local banks

The Perils of Local Lending Market Concentration

Figure 2: **Local Lending Market Concentration and Access to Finance**



Bustamante and D'Acunto (2022)

Banks' Market Power, Access to Finance, and Leverage

In both panels, KFS firms are sorted into four groups based on the concentration of the local lending market, which we proxy as in Chen et al. (2017) as the sum of the market share of the top 4 US lenders in each Metropolitan Statistical Area (MSA). The left panel reports the average share of KFS firms that have any bank debt on their balance sheets in the first year of operations. The right panel reports the share of firms who have never issued any bank debt throughout the first 8 years of operations, which Strebulaev and Yang (2013) label *zero-leverage firms.*

- New firms in highly concentrated local markets:
  - Less initial debt, leverage at start operations
  - Less debt over first 10 years of operation
  - More likely to become a zero-leverage firm

except for the most concentrated lending markets, for which the share of zero-leverage firms is 36%, or about 80% higher than in other lending markets.

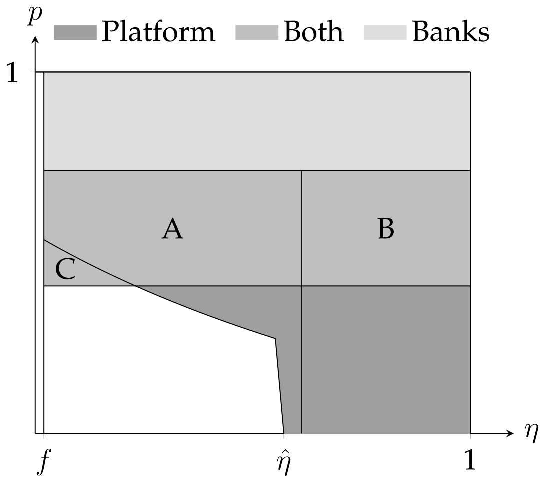
These facts pair up with the result that the average yearly likelihood of accessing bank debt throughout the sample period (*firm-year-level sample*) also declines with local lending-market concentration, as illustrated in Figure 1 in the introduction.

Moving on to the intensive margin of financing – firms' leverage – in the left panel of Figure

Borrowing from a BigTech Platform

J. Li, S. Pegoraro

The Paper in One Picture



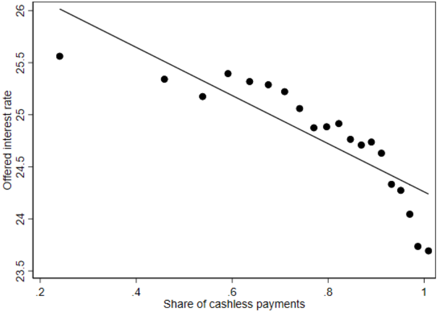
- Low-quality lenders, more credit: stronger repayment enforcement BigTech platforms
- Ambiguous welfare effects in the middle of the distribution

Benefits vs. Perils

- BENEFITS
  - Low-quality borrowers access credit because repayment enforcement easier on BigTech platform (fraction revenues on platform)

- PERILS
  - What happens to the welfare of the middle of the pack?
  - Higher repayment enforcement: Advantage vs. Disadvantage for BigTech

More Benefits of BigTech Lending: Information

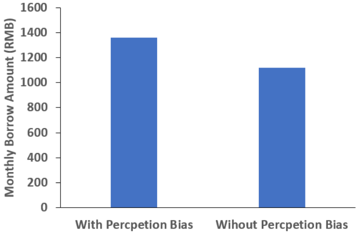


Ghosh, Vallée, Zeng (2022)
FinTech Lending and Cashless Payments

- BigTech observes higher share transactions:
  - Charges lower interest rates
  - Provides higher quantity debt

More Perils of BigTech Lending: Information

Figure 5: Effect of Perception Bias on Real-life Borrowing Amount



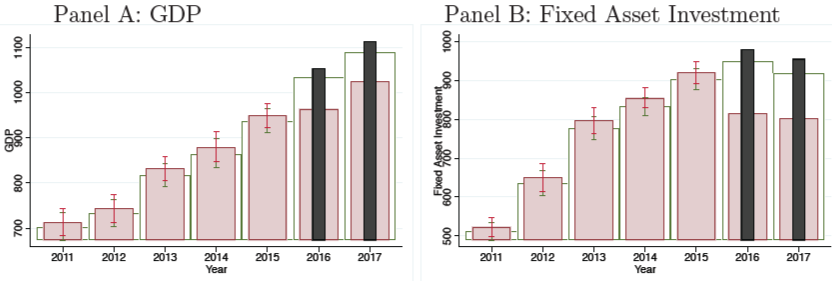
Li et al. (2021)
What Drives Excessive Borrowing or Under-Borrowing?
A Field Experiment

- BigTech observes who misunderstands transactions & finance:
  - More aggressive borrowing ads...
  - ...knowing that they will be more likely to:
    - accumulate debt AND
    - be able to repay

When Cryptomining Come to Town: High Electicity-Use Spillovers to the Local Economy

M. Benetton, G. Compiani, A. Morse

The Paper in One Picture



- If cryptomining, after 2015: lower GDP, investment, wages
- Use Bitcoin price to insturment supply-driven local electricity Δprice

Benefits vs. Perils

- BENEFITS
  - Efficient functioning crypto transactions
  - Positive transfer to cryptominers
- PERILS
  - Neglected cost that transmits to local economic outcomes: energy prices
  - Potential redistributive effects?

The Perils of Cryptomining and Policy

- Carbon emissions produced by intensive energy consumption
  - Same externality as other industries. Treat in the same way policy-wise?
- Neglected cost that transmits to local economic outcomes: energy prices
  - How different from traditional energy-absorbing industries?
  - Potential redistributive effects? Who wins vs. loses
    - How do we quantify the benefits to compare to the costs?
    - Do we worry costs bore by firms/workers that transmit the shock more directly to aggregate outcomes?
  - Policy?
    Should we target cryptomining or peculiar energy pricing strategies?

Wrapping Up

- The Benefits and Perils of FinTech
- Papers emphasize and open questions about both
- Policy/regulatory challenges yet to be understood...