Discussion: Keeping up in the Digital Era

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The Question

- What is FinTech?
  - technological innovations in finance industry, such as blockchain, AI, machine learning, peer-to-peer lending, mobile payment systems, etc.

- What's the impact of FinTech?
  - Common view: new technology is beneficial to the economy
    - New entrants, increase the competition, reduce costs
    - The unit cost of financial intermediation remains as high as 2% for the past 130 years, but has declined over the past decade (Phillipon, 2019)
  - However, will FinTech democratize access to financial services, or increase the inequality?
    - New tech is also associated with side effects.
    - e.g., benefit to young generation but discriminate against old generation (Jiang et al, 2022)
    - This paper: benefit to large banks but disrupt small banks

- This paper: How do FinTech reshape the financial industry?

Summary of the Paper: Main Results

- Mobile technology reshapes the competition within traditional banking sectors
  1. Small banks have low rate of adopting mobile technology
  2. Mobile technology $\uparrow \Rightarrow$ small banks deposits $\downarrow \Rightarrow$ deposit rates $\downarrow$ and fees $\uparrow$
  3. Small banks lose their competitive advantage in information
     - deposits $\downarrow \Rightarrow$ small business lending (loans<1million) $\downarrow$
     - Small banks close more and open less
  4. Economic growth is slower for counties that have higher shares of small banks

Summary of the Paper: Methodology

- Three categories:
  1. small banks (deposit=0.1bill)
  2. big banks (deposit=1.12bill)
  3. non-community banks (deposit=22bill)
- Use county-level mobile spectrum expansion as a measure of mobile technology improvement: Mtech

Result 1: Small Banks Deposit Outflows

$$(1)\ deposit = -\underset{(0.014)}{0.027}\,Mtech + \underset{(0.014)}{0.025}\,big \times Mtech + \underset{(0.011)}{0.12}\,non \times Mtech + Others$$

- Small banks lose deposits following an improvement in local mobile technology, while big banks attract more deposits.

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- Small banks lose deposits following an improvement in local mobile technology, while big banks attract more deposits.

$$(2)\ interest = -\underset{(0.027)}{0.038} Mtech + \underset{(0.0018)}{0.024}\ big \times Mtech + \underset{(0.0012)}{0.077}\ non \times Mtech + Others$$

- Small banks decrease deposit rates after mobile technology improvement, while big banks increase.

$$(3)\ interest - fees = -\underset{(0.009)}{0.099} Mtech + \underset{(0.006)}{0.022} big \times Mtech + \underset{(0.004)}{0.14}\ non \times Mtech + Ot$$

- Small banks increase fees, while big banks lower fees

Comment 1: Persistence

- Comment: Is the negative effect persistent?
    - In the long run, small banks should regain deposits and catch up with the large banks once they develop mobile technology.

Comment 2: Types of Deposits

- Comment: Small banks lose what types of deposits?
    - banks have limitations on mobile check deposit

Online bank	Mobile deposit limit(s)
Capital One 360	$5,000 or 20 checks per day or $10,000 per month
Ally Bank	$50,000 per day or $250,000 in a 30-day period
Bank of Internet	$10,000 per day or $50,000 per 30-day period
TIAA Direct	$30,000 per day or up to 6 checks per day
PayPal	$5,000 per day or $10,000 per month

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    - large/illiquid deposits via branches or internet banking
- Reallocation effect?
    - Drechsler et al (2017QJE): higher interest rate is associated with outflows of deposit, and shifts from liquid to illiquid deposits.

Result 2: Small Business Lending

$$(4)\ lending\ type = \alpha + \beta Mtech + Others$$

- Small business lending dropped around 15% since 2015 following the decrease in their deposits.
- Not substitute by big banks, partially by FinTech

$$(5)\ small\ bank\ close = -\underset{(0.011)}{0.06}\ Mtech + Others$$

- Small banks branches close more and open less

Question: Are small banks acquired by big banks? What about other banks, e.g., shadow banks, international banks, etc.

Result 3: Real Economic Effects

$$(6)\ GDP\ growth = \underset{(0.0018)}{0.002}\, Mtech \underset{(0.0017)}{-0.0059} share\ of\ small \times Mtech + Others$$

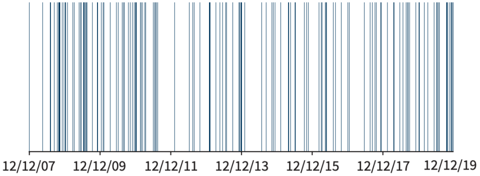
- New tech increases GDP growth, but slower in counties that have higher share of small banks

Comment 3: Identification

- Confounding effect:
  - higher GDP growth rates $\Rightarrow$ people are rich $\Rightarrow$ switch from small banks to big banks
  - Changes in state regulation on small banks
    - FDIC Community Banking Study 2020

Chart 5.1

Selected Federal Regulatory Actions Applicable to Community Banks



Source: Agency websites.
Note: Bars mark the announcement dates of 157 substantive final rules or federal programs affecting community banks that were issued by the FDIC, Federal Reserve, OCC, CFPB, Treasury, or FinCen. Rule changes depicted include burden reducing rules and federal financial support programs benefitting banks. The chronology starts with the creation of the Federal Reserve's Term Auction Facility in December 2007 and ends at year-end 2019.