TechFin in China:
Credit Market Completion and its Growth Effect

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TechFin in China

- Online Loans (to business): 4 billion (2013) to 156 billion (2016)
  - Reduce the credit market segmentation
  - Extend the credit frontier to borrowers which are not served by traditional banks
  - Stimulate business growth
- Ant Financial
  - Alibaba: 3 trillion trading volume, 4% GDP
  - Taobao: aggregate credit originated of 87 billion in 2016
- Great paper!

Cool New Facts

- Rapid growth in online credit offered to small businesses
  - Number of businesses offered credit: close to 100K in 2012 to 880K+ in 2016
  - Amount of credit offered: 5 billion in 2012 to 87 billion in 2016
  - Fast expansion but small relative to total credit offered to micro and small businesses

- More interestingly, online credit use patterns suggest credit demand unmet by traditional banking channels
  - Areas with low banking credit supply
  - Areas with higher presence of SOE
  - Areas with low banking access

In Comparison

- Taobao's online credit shares a lot of similarities with credit through credit cards
  - Individual borrower
  - Unsecured
  - Extended credit in the same order of magnitude
  - Similar contract terms

- Money is fungible… so can even consider they are substitutes

- How is the credit card industry growth in China?
  - 588 million credit cards by 2017, close to 30 trillion RMB transaction volume which is equivalent to 40% China's GDP

In Comparison

- Based on a leading commercial bank in China (with ~10% market share):
  - # of credit cards issued increased from 440K in 2005 to 4.48 mil in 2009, a 10-fold increase
  - $ of new credit limit extended increased from 4.9 billion in 2005 to 58.6 billion in 2009, a 10-fold increase
- Taobao's online credit:
  - # of owners extended credit increased from 96K in 2012 to 883K in 2016, a 9-fold increase
  - $ of total credit volume extended from 47 billion in 2012 to 517 billion in 2016, a 11-fold increase
- Importantly,
  - Credit card's utilization rate: 21% vs. Taobao's online credit utilization rate: 15%
  - Credit card's delinquency rate: 4% vs. Taobao's default rate: 2%

Who Uses (Benefits from) Online Credit?

- Claim: Ant Financial's online credit expends the credit frontier by catering to previously excluded low quality borrowers
  - Online credit use decreases in Taobao's (internal) credit score
  - Insensitive to banking access
- Natural question: if low quality, why lending to them?
- "Low quality" borrowers?
  - Excluded from traditional banking credit
  - Lower score within the eligible borrowers on Taobao
    - They have passed the two-stage screen

TechFin's Advanatages

- Advantage over traditional banks:
  - Information advantage
  - Cheap distribution channel
- The ability to identify good borrowers
  - Geography
  - Taobao's trading platform allows information gathering that is infeasible at banks
  - Big data: not only own sales history, but also the business conditions along the supply chain, other indicators of credit quality including service reliability and track record of business network partners
  - Real-time data (as opposed to stale information)

TechFin's Advanatages

- Banks have no way to evaluate along these dimensions
  - Information asymmetry leads to credit exclusion for some small business owners
- Not sure TechFin are in a better position to manage credit risk *ex post*
  - True that they potentially lose the trading platforms after default
  - But default does not impact their official credit score and will not hurt their access to other consumer credit (mortgage, car, credit card)
- Better information to identify good borrowers
  - Consistent with the overall 2% default rate in data

TechFin's Advanatages

- Who are those excluded from the banking channel because of information asymmetry?
  - Small
  - Young (without sufficiently long track record)
  - Areas where banks have limited information about borrower quality
  - New business products/industry where banks have not enough data to assess potential

- These are likely the businesses that need financing the most and have the highest growth potential

- Do we see these patterns in the data? That is, credit availability and credit use are stronger for
  - Younger businesses (age < 1 year)?
  - Especially when the aggregate demand in the similar line of goods is strong?

Does it Promote Business Growth?

- Fuzzy regression discontinuity design
  - Internal credit score
  - 480 threshold
- Complications:
  - Credit score evolve monthly and credit availability also changes on a monthly basis
- Current solutions:
  - Exclude the switchers
  - Focus on the short term growth

Switchers

- Switchers may have selection concerns
- Why do we need to throw them out?
  - Firms below the threshold may become eligible for credit
  - Firms above the threshold may lose access
  - Attenuation bias
- To enhance identification, how other variables are continuous around the threshold
  - Owner characteristics
  - Recent shop performance

More Indicators of Business Growth

- Question: is the documented sales growth transitory or permanent?
- Challenge: confounding treatment in the following months
- Suggestions:
  - Effect on survival probability (in the subsequent 12 months)
  - Mechanism on how higher sales growth is achieved and sustained
    - Launch new products
    - More visibility (e.g., more shop visits) through advertising
    - Customer retention: loyal customer indicators; higher visit-order conversion ratio

More Cross Sectional Heterogeneity

- As mentioned earlier, some businesses should benefit more from Taobao's online credit
- Using RDD identification, do we see a stronger growth effect for
  - Younger businesses
  - Businesses in areas with lower banking access
  - Businesses selling newer products
- Also helps identification of true growth effect