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 Advantages

• 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 Advantages

• 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 Advantages

• 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