On Fintech and Financial Inclusion

by

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Discussion by

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Motivation

- Lending is evolving with the growth of Fintech
- This paper focuses on 2 issues
  - Access to finance
  - Discrimination
- Important issues from policy and other perspectives

What is Fintech?

- What do we mean by Fintech?
- Paper suggests “ Fintech covers digital innovations and technology-enabled business model innovations – includes cryptocurrencies, blockchain, digital advisory and trading systems, AI and machine learning, P2P lending, equity crowdfunding, mobile payment systems.”
- Very broad, do we need to start thinking of different Fintech categories as the field advances?

How is Fintech different? Access to Finance

- Difference in fixed costs.
  - Fixed cost to set up a business
  - Fixed cost per relationship with a client
- Key idea – Fintech needs higher upfront investment but lower cost per relationship.
- Insight: by lowering fixed cost more HHs benefit from advisory services. Rich subsidize the poor – hence more access to finance
- This seems reasonable for some FinTechs e.g., roboadvising.
- But could vary by kind of Fintech and the way they are set up.

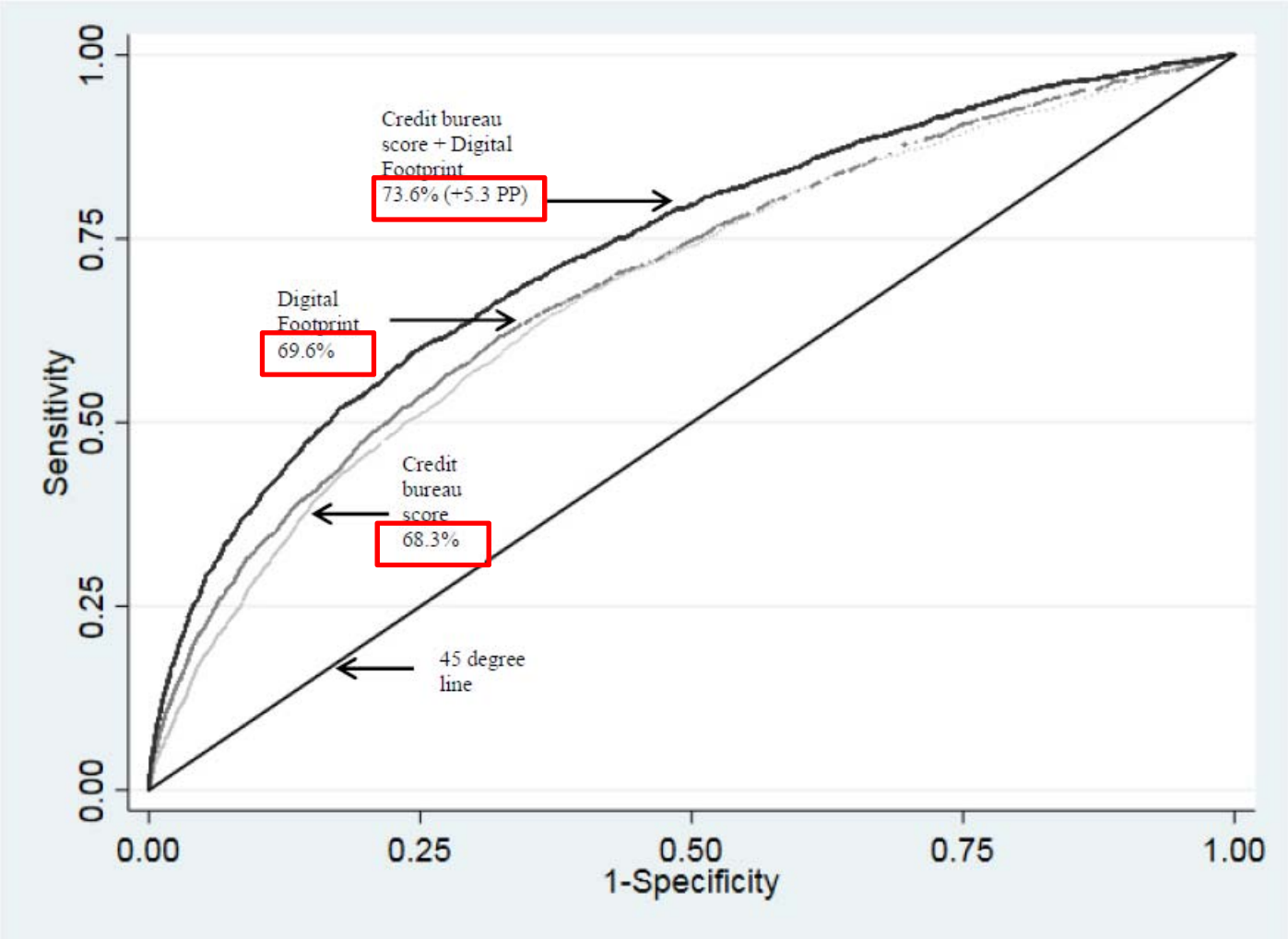
How is Fintech different? Access to Finance

- Consider a typical Fintech vs. a bank.
- A bank needs to invest to acquire information (hard and soft) from a firm. Once 1 loan has been made less effort for subsequent loans
- In early days of P2P lending, auction based, so no effort by the intermediary assumption of low fixed cost per client relationship would be true.
- Morphing of P2P lending: Now reintermediation, largely institutional based lending. The intermediary gives the credit rating and pricing so similar to a bond/loan; the credit evaluation could involve similar effort to a bank.

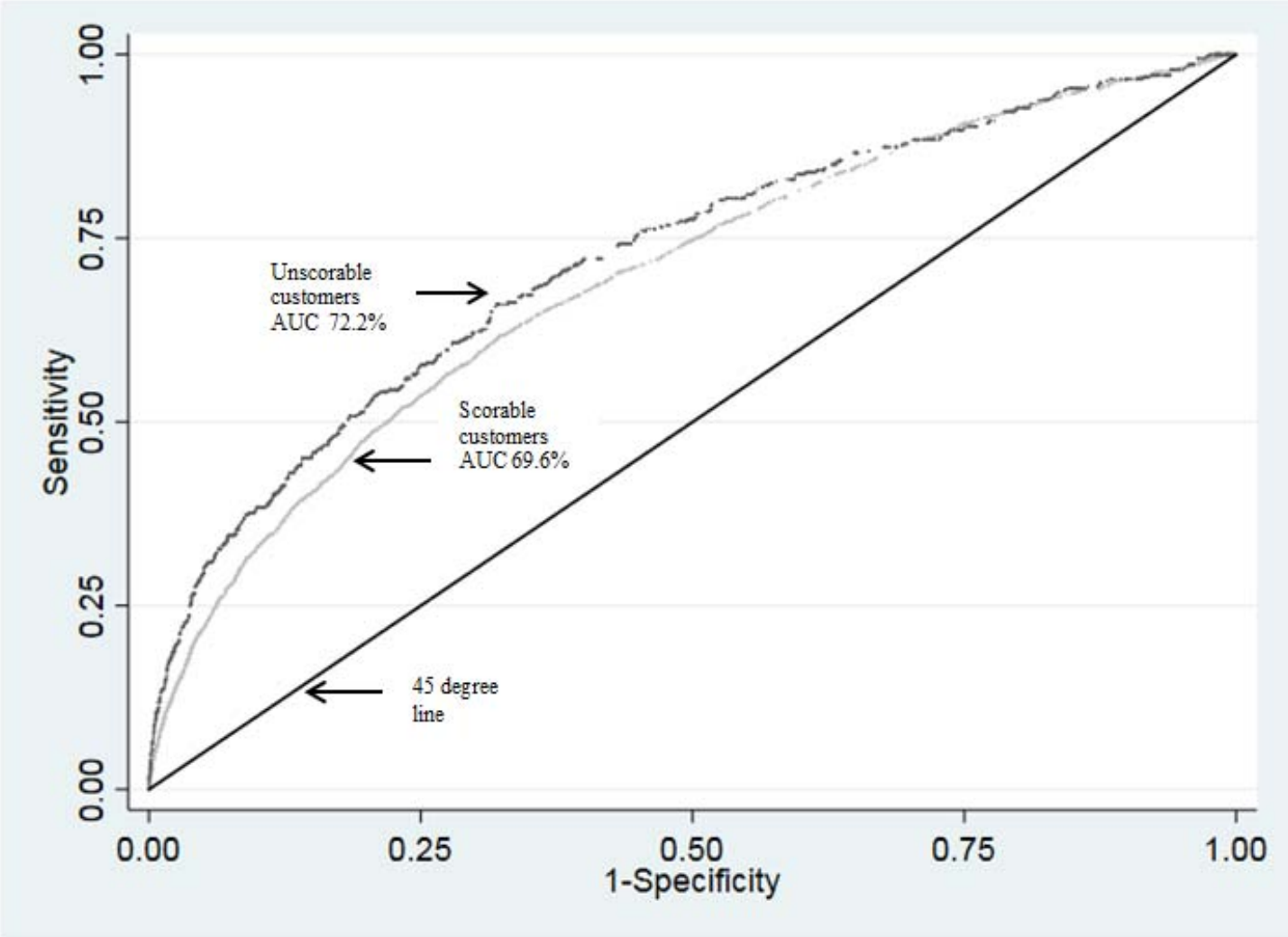
Other ways to increase access to Finance: Alternative credit scoring

- Fintech can increase access to finance in other ways.
- 2 billion working age adults lack access to financial services
- FDIC US estimates: 6.5% unbanked, 19% underbanked
- Can they get access to credit through Fintech?
- Berg, Burg, Gombovic, Puri (2019) find evidence use of unconventional data to credit score or even shallow “digital footprint” can be effective, as good as credit bureau score
  - Even works for people without credit bureau scores.

Area-under-Curve: Credit bureau score versus digital footprint Berg et. al (2019)



Unscorable vs. scorable customers: Digital footprint does equally well for both groups



Discrimination

- Does FinTech increase discrimination?
- Idea modelled here: FinTech have access to 2 kinds of data
  - Standard data similar to that used by banks
  - Additional data from social media etc.
- Under these assumptions Fintech will have more data and so can discriminate more
- Evidence mixed
  - Fuster et. al. (2018) find loan automation less likely to benefit minorities.
  - Barlett et al (2018) find minorities charged more.

Discrimination

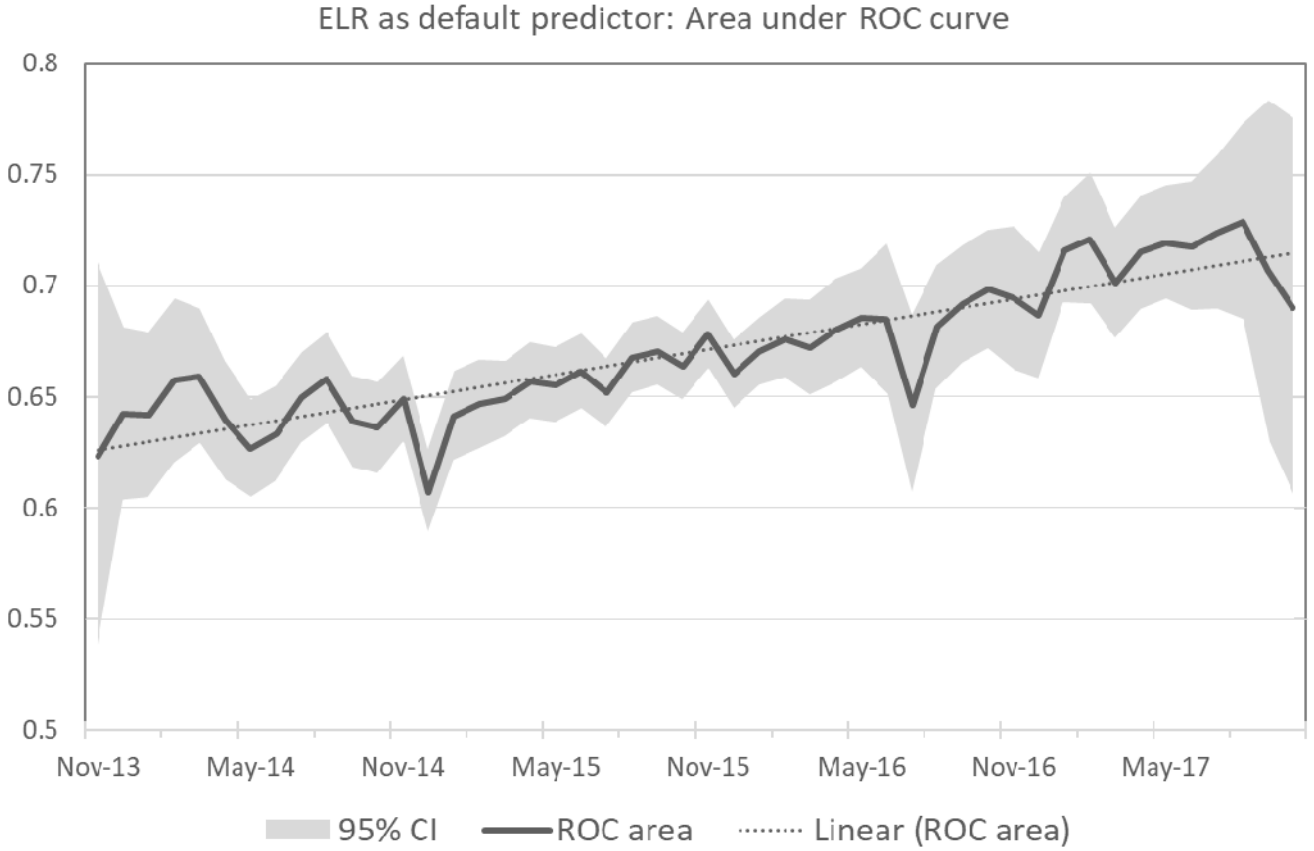
Can occur in various forms from direct, face to face interaction, often subtle

- Hamermesh (1994), Beauty premium
- Graham, et. al., (2017), Competence premium
- Not just subjective, e.g., babyfaced vs. mature (more trustworthy) can be measured and algorithmically determined (Berry and McArthur (1985)
- But a traditional lender is likely to see a person and make judgements from appearance. This may not be in the data available to Fintechs, could increase discrimination in face-to-face lending.
- Much of this is prohibited by law but differences across countries e.g, in US cannot use minority or address to discriminate but can in Germany. Consequently German credit bureau score more informative than US credit bureau score (67% vs. 60%)

Discrimination

- Issue arises of statistical discrimination in Fintech. What kind of data is allowed to be used by Fintechs?
- “Legitimate business decision’
- Allows scoring on credit risk macro-fundamental variables
- Allows scoring on Big Data variables that correlates with ethnicity through hidden fundamentals
- Does not allow Big Data variables that have residual correlation after orthogonalizing to hidden fundamentals
  - E.g., high school may correlate to minorities after orthogonalizing on income.

Default prediction ability in peer-to-peer lending platforms growing over time



- ROC = measure of cross-sectional accuracy in credit risk assessment
- Platform able to discern between borrowers of different credit quality
- Sorting quality has increased over time

Source: Tetyana Balyuk and Sergei Davydenko (2018)

Pricing

- Consider time of day that you shop.
- Berg et. al. (2019) on Digital Footprints: People shopping between midnight and 6 am have highest default rate.
- “Legitimate business purpose’?
- But what if minorities working night shifts are the ones shopping at 12-6 am? If so => residual correlation after orthogonalizing on income.

Pricing

- “Does not allow Big Data variables that have residual correlation after orthogonalizing to hidden fundamentals”
    - But who observes this correlation?
    - Regulators can’t observe this?
    - Firms may not know this, OR
    - Firms may choose not to know this.

- What is the right policy response? Should more controls be imposed? E.g., make correlations after orthogonalizing explicit? Or allow playing around to determine right model, "sandbox” approach?

Overall

- Fascinating area
- Impact of Fintech on access to finance and discrimination of first order importance
- Many different aspects to think about.