Open Banking: Credit Market Competition When Borrowers Own the Data

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Open Banking

Open bank data upon customer’s consent

Data sharing in banking industry today

With the open banking environment

Currently, a financial institution has some difficulties accessing the customer’s financial data kept by another financial institution in a secure fashion.

EU, UK, Brazil: government-led; mandate banks to enable data sharing with opt-in/opt-out feature

- Brazil to be completed by Sept 2022

This Paper: Welfare Implications

Credit market competition (Broecker 90; Hauswald and Marquez 03)
  ▶ Lenders with asymmetric screening abilities, that could be affected by borrowers’ data sharing

Welfare implications on borrowers
  ▶ “Voluntary” feature, opt-in/opt-out feature

But, all borrowers could be worse off despite voluntary sign-up
  ▶ Equilibrium credit quality inference; opt-out $\neq$ no open banking (Milgrom 81)
  ▶ Conditions for perverse effect; Robustness on fintech affinities, multiple fintechs, market-led approach
Model Scheme

Independent Screening Tests: $j \in \{b, f\}$

 Signals

- $S_j = H$
- $S_j = L$

Signals

- $r_b \sim F_b$
- $r_f \sim F_f$

Lenders

Borrowers

- $j \in \{b, f\}$

Before open banking: $x_f < x_b$

After open banking, on a borrower who signs up: $x'_f > x_b$
Winners’ curse. Mixed-strategy eqm.

- Weak lender (fintech) randomly withdraws upon good signal $H$. 
The Impact of Open Banking

Open banking

- When a borrower signs up, $x_f \uparrow x'_f > x_b$
The Impact of Open Banking

Open banking

▸ When a borrower signs up, \( x_f \uparrow x_f' > x_b \)

**Mandatory sign-up benchmark:** borrower surplus

▸ Informational effect: \( \text{Base min } \{x_b, x_f\} \uparrow \Rightarrow V_h \uparrow \text{ while } V_l \downarrow \)

▸ Strategic effect: \( \text{Gap } |x_b - x_f| \uparrow \), stronger winner’s curse & less competition \( \Rightarrow V_h \downarrow \text{ and } V_l \downarrow \)
The Impact of Open Banking

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Mandatory sign-up benchmark: borrower surplus

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Proposition: Mandatory sign-up, all borrowers hurt with sufficiently large $x'_f$
Voluntary Sign-up Equilibrium

Voluntary opt-in/opt-out does not solve the problem

Voluntary sign-up equilibrium

- Trivial equilibrium: nobody signs up
- **Proposition:** Unique non-trivial equilibrium. All non-privacy-consciousness $h$-type sign up
  - $h$-type have stronger incentive to sign up than $l$-type
  - Equilibrium credit quality inference

- All borrowers could become strictly worse off (vs. no open banking)
  - Opt-out $\neq$ no open-banking: unfavorable inference
  - Opt-in: softened competition
When does Perverse Effect Arise?

Parameters: $x_b = 0.4$, $x_f = 0.35$, $x_f' = 0.8$, $\bar{r} = 0.36$.

- **Perverse effect** may arise when equilibrium is semi-separating (some $l$-type opt in)
  - Small $\rho$ (privacy-cons.): SMB loans
  - $\theta$ (quality): II, fintech rejects a borrower who opts out
- Privacy-conscious borrowers always suffer
Discussions

**Fintech affinity**

- Fast service, precision marketing: “captured customers”
- Perverse effect is more likely: affinity complements enhanced screening
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Multiple fintechs?
- Number of lenders less relevant. Key: gap of active lenders.
  - One bank, two fintechs—Big-tech and fintech startup: perverse effect.
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Short-run vs Long-run
- Fintech lender’s leapfrog more likely in the short run
- Long run: banks catching up in technology
  - IT investment: Stulz (2022), He, Jiang, Xu and Yin (2021)
  - Acquisition: Carlini, Del Gaudio, Porzio and Previtali (2022)
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Laissez-Faire approach to open banking
▶ Bank “sells” customers’ data to fintech (take-it-or-leave-it) → competition
▶ Perverse effect is more likely: Data sale (OB) happens exactly when lender asymmetry widens
Conclusion and Future Work

- Voluntary data sharing of open banking is not a silver bullet for consumer protection
  - Fostered competition benefits Fintech typically, though borrowers can be all strictly worse off despite voluntary sign-up
  - Rich forms of information externality with profound welfare implications

- Leveling the play field. Policy design to fine tune data sharing

- Fintech in E-Commerce platforms and traditional banks
  - “Open platform” to level the playing field?