Reintermediation in FinTech: Evidence from Online Lending

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The agenda – FinTech lending

- Designed to bring together borrowers and lenders without intermediaries
  - Often thought of as consumer loan "crowdfunding"
  - "Disruptive outsiders", "an industry that was meant to be the antithesis of Wall Street" ...

Research question:
- "...disruptive outsider to traditional financier..."
- Is FinTech likely to disintermediate markets?
  - Study evolution of online peer-to-peer (P2P) loan market
P2P market design

- Two-sided market design (e.g., Uber, Airbnb, eBay)

  Borrowers
  - On-line loan request
  - ‘Hard’ borrower data

  Platform
  - Screening (pricing, adjudication)
  - Loan origination and servicing

  Investors
  - Screening
  - Funding

Important: information asymmetry and adverse selection

P2P platform can be a trading venue or an intermediary
  - Platform’s functions? Platform–investor interaction? Incentives?
Key results

- Stylized facts: P2P platform is a new intermediary
  1. P2P loan investors are *sophisticated, passive, and algorithmic*
  2. Investors rely on platform’s pricing and fraud detection algorithms
  3. Screening by lending platform replaced investor screening over time

- P2P platform processes hard information *efficiently*
  - Platform produces useful info overcoming borrower adverse selection
  - Investors earn respectable net returns, which decrease over time

- Market structure vulnerable to *moral hazard*
  - Platform’s moral hazard mitigated by threat of investor withdrawal

**Reintermediation**: Platform's growing technological expertise crowds out loan screening by investors
Disintermediated market – akin to bond market

- **Borrowers**
  - Passive: Facilitate transactions

- **Platform**
  - Trading venue

- **Investors**
  - Active: Screening & funding

**Condition:** Investors better at screening than platform
- Investors develop screening models
- Platform stays passive whereas investors choose active strategies
- Only skilled investors participate → average returns are high

- Intermediated market – akin to securitization

**Borrowers**
- Listing Summary

**Platform**
- Intermediary
  - **Active**: Loan screening

**Investors**
- **Passive**: Loan funding

**Condition**: Platform better at screening than investors
- Loan volume maximization incentivizes screening by platform
- Investors respond by becoming passive
- Platform attracts even unskilled investors → average returns are low
This paper

- Builds on predictions from Vallee & Zeng model
  - Vallee and Zeng (2018):
    - Different equilibria for different levels of platform’s expertise
    - Empirical tests of platform’s choice between screening and information provision (Lending Robot data)
  - This paper:
    - Focus on *transitions* between equilibria
    - Stylized facts about P2P loan market
    - Use data from Prosper’s P2P platform to test for reintermediation
    - Methodology for computing P2P loan returns
    - Platform’s moral hazard (*not* in Vallee and Zeng (2018))

**Contribution:** Evidence of reintermediation in FinTech and crowding-out effect in screening
Hypotheses

- **Disintermediation vs. reintermediation**

- Differentiating between alternative hypotheses:
  - Evolution of investment strategies
    - Investors choose *active* strategies $\rightarrow$ Disintermediation
    - Investors increasingly become *passive* $\rightarrow$ Reintermediation
  - Evolution of platform’s screening quality
    - Platform chooses to stay passive $\rightarrow$ Disintermediation
    - Platform’s screening improves over time $\rightarrow$ Reintermediation
  - Evolution of loan returns
    - Loan returns go *up* over time $\rightarrow$ Disintermediation
    - Loan returns go *down* over time $\rightarrow$ Reintermediation
- 91% of P2P loans provided by institutional investors
- 82% of institutional loans automatically funded in full
Investors rely on platform’s pricing

![Bar chart showing ratings distribution](chart.png)

- **Rating AA**
- **Rating A**
- **Rating B**
- **Rating C**
- **Rating D**
- **Rating E**
- **Rating HR**

- **Institutional**
- **Original Retail**

**← Safe**

**Prosper Rating**

**→ Risky**
... and “outsource” loan rejection

- Lending platform verifies loan applications it deems suspicious
  - Risky/potentially fraudulent loans canceled after receiving funding (or not)
- Investors don’t try to avoid these loans
  - Canceled loans no less likely to receive funding

Proportion of canceled loans

![Bar chart showing the proportion of canceled loans funded and unfunded.](chart.png)

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<th>Funded</th>
<th>Unfunded</th>
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<td>All</td>
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<td>25%</td>
<td>16%</td>
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<tr>
<td>HR</td>
<td>22%</td>
<td>5%</td>
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Proportion of canceled loans

November 13–14, 2018
Screening by platform dominates

Evolution of loan rejection rates

- SCOREX score
- Canceled by platform
- Unfunded by investors
**Default rates: Rating vs FICO**

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<th>C</th>
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<td>2.52%</td>
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- Prosper rating *much* more informative than FICO
  - It incorporates FICO, but also Prosper’s analysis of historical P2P loan defaults
Default prediction ability

- 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 after April 2013
Credit adjudication effectiveness

- Are loans cancelled by platform higher risks?
  - Counterfactual unobservable as these loans do not originate

- **Experiment**: examine loan applications cancelled by platform but subsequently resubmitted

- Borrowers screened out by platform appear riskier
  - Loan resubmission results in 0.31 points lower Prosper rating, 1.3% higher interest rate, and 11.5% smaller loan size
  - Cancelled and resubmitted loans have higher default rates

- Fewer loan cancellations when platform’s pricing improves
- Net returns above returns on high yield bond benchmark
- Loan returns decrease over time
Platform’s moral hazard

- Platform dominance raises moral hazard concerns
  - Little “skin in the game”
  - Investors not only overwhelmingly passive but also securitise
    - Who monitors the monitor?

![Monthly P2P loan securitizations](image)
Case study: Moody’s downgrade warning

Evidence of lax screening in 2015 originations
- At the same time, loan origination volume was growing exponentially
Case study: Moody’s downgrade warning

- 83% drop in new originations due to investor withdrawal and recovery
Summary

- P2P lending is dominated by institutional investors
  - NOT *peer to peer* anymore!

- Sophisticated investors are becoming **passive**
  - Passive strategy is dominant and its share has grown over time
  - Investors rely on platform's screening algos in funding decisions

- P2P platform resembles a traditional **intermediary**

- But the market structure is vulnerable to **moral hazard**
  - Platform’s moral hazard mitigated by threat of investor withdrawal

**Bottom line:** Findings consistent with **reintermediation**: P2P platform’s credit expertise crowds out investor screening in online lending