Reintermediation in FinTech: Evidence from Online Lending

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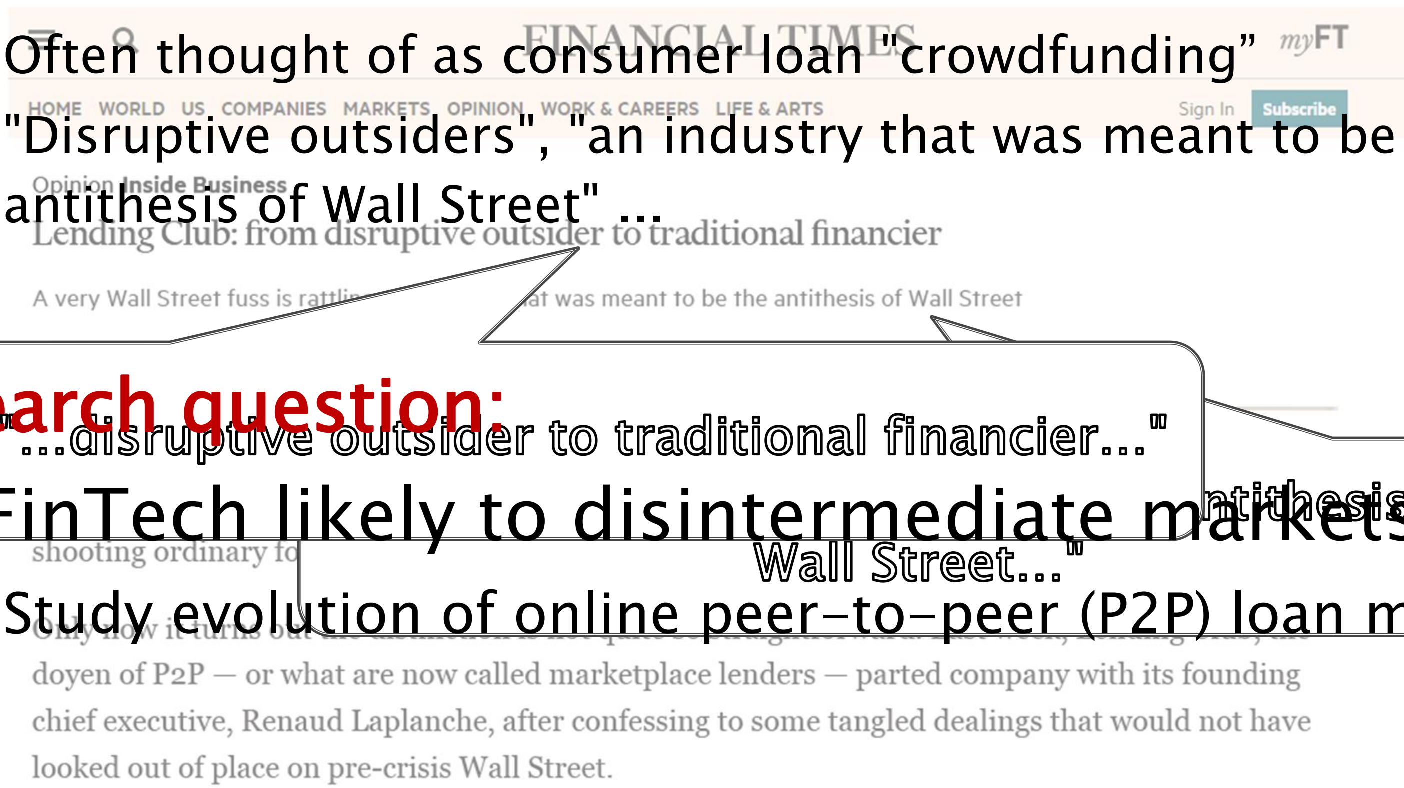
The agenda – FinTech lending

- 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" ...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doyen of P2P — or what are now called marketplace lenders — parted company with its founding chief executive, Renaud Laplanche, after confessing to some tangled dealings that would not have looked out of place on pre-crisis Wall Street.

Research question:

- 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 | Platform | Investors

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

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

- 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

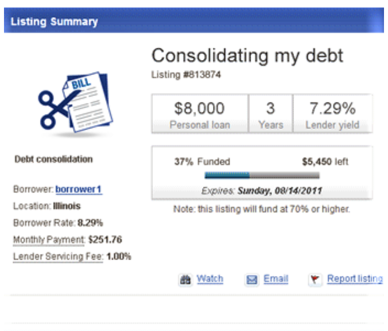
- Stylized facts: P2P platform is a new intermediary
  1. P2P loan investors are *sophisticated*, *passive*, and *algorithmic*
  2. Investors rely on platform's pricing and fraud detection algorithms
  3. Screening by lending platform replaced investor screening over time
- P2P platform processes hard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

Vallee & Zeng (2018) – Equilibrium II

- **Disintermediated market – akin to bond market**

Borrowers



Platform

Trading venue

- Passive: Facilitate transactions

Investors

- Active: Screening & funding

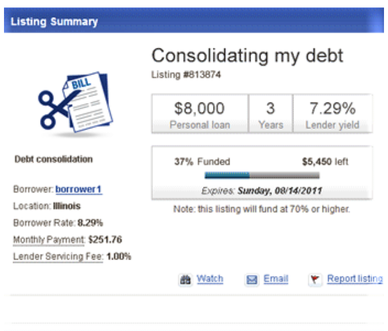
Condition: Investors better at screening than platform

- Investors develop screening models
- Platform stays passive whereas investors choose active strategies
- Only skilled investors participate -> average returns are high

Vallee & Zeng (2018) – Equilibrium IV

- **Intermediated market – akin to securitization**

Borrowers



Platform

Inter-
mediary

- 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

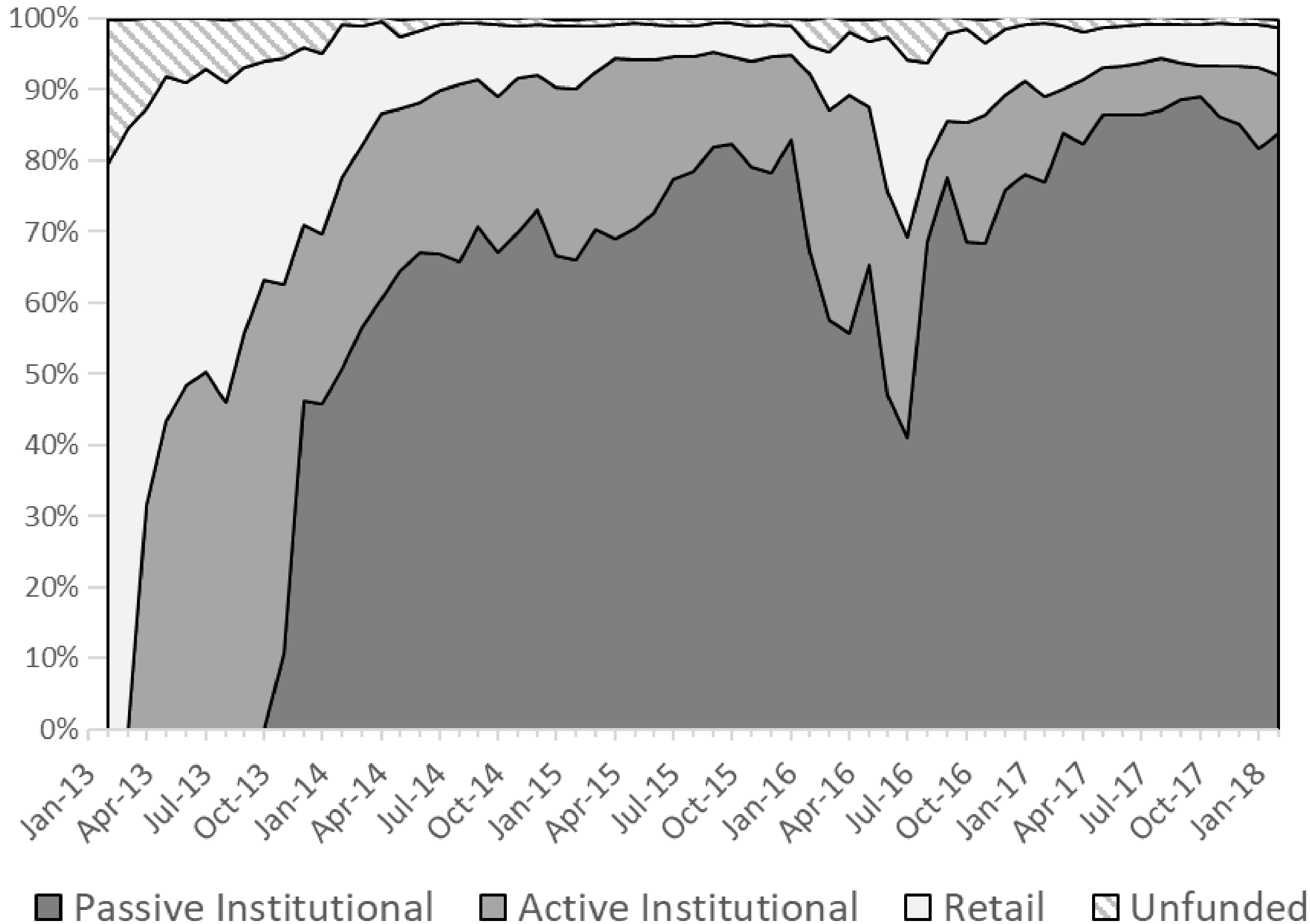
- Builds on predictions from Vallee & Zeng model
  - Vallee and Zeng (2018):
    - Different equilibria for different levels of platform's expertise
    - Empirical tests of platform's choice between screening and information provision (Lending Robot data)
  - This paper:
    - Focus on *transitions* 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

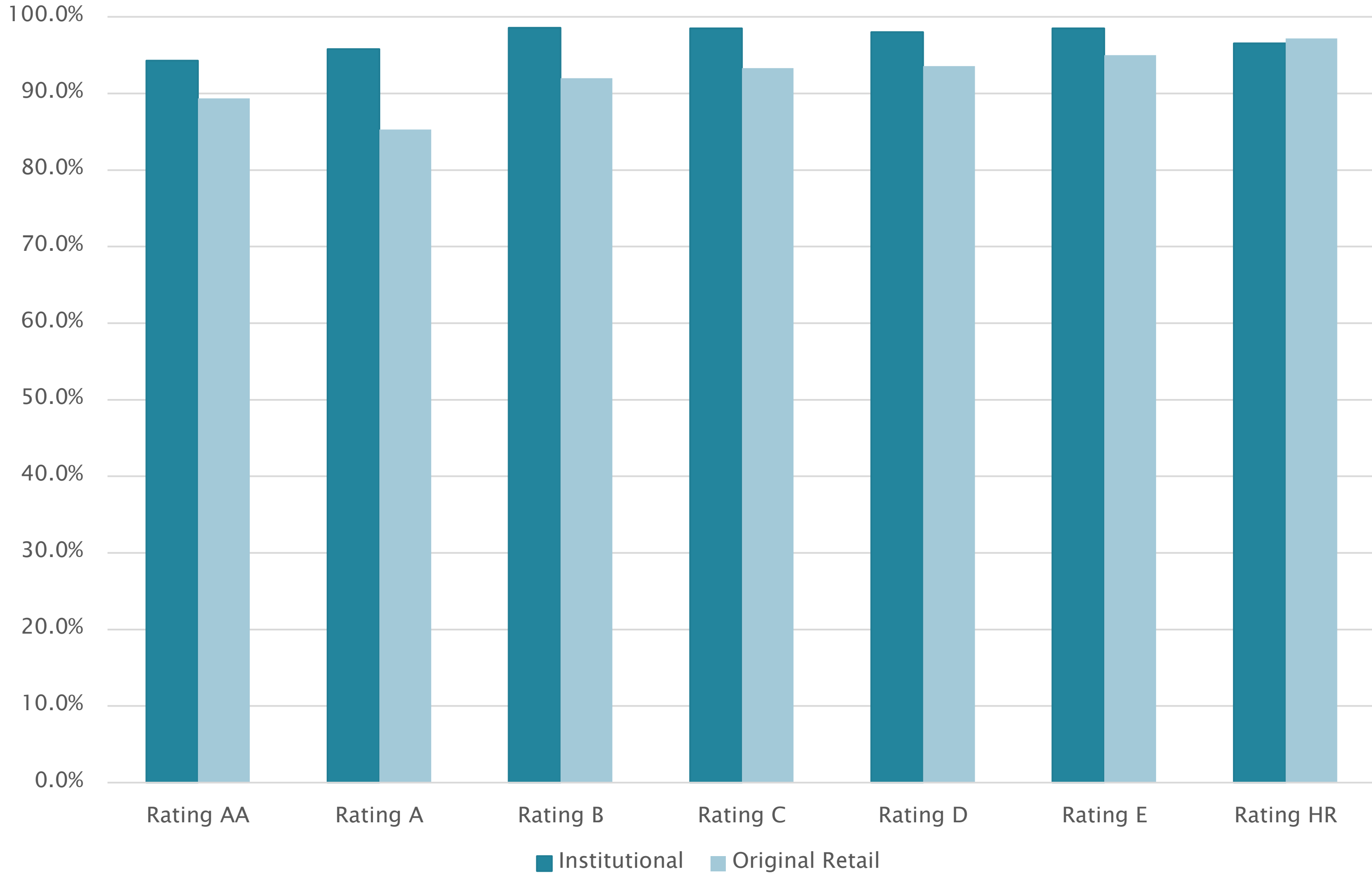
- Disintermediation vs. reintermediation
- Differentiating between alternative hypotheses:
  - Evolution of investment strategies
    - Investors choose *active* strategies -> Disintermediation
    - Investors increasingly become *passive* -> Reintermediation
  - Evolution of platform's screening quality
    - Platform chooses to stay passive -> Disintermediation
    - Platform's screening improves over time -> Reintermediation
  - Evolution of loan returns
    - Loan returns go *up* over time -> Disintermediation
    - Loan returns go *down* over time -> Reintermediation

P2P investor pools



- 91% of P2P loans provided by institutional investors
- 82% of institutional loans automatically funded in full

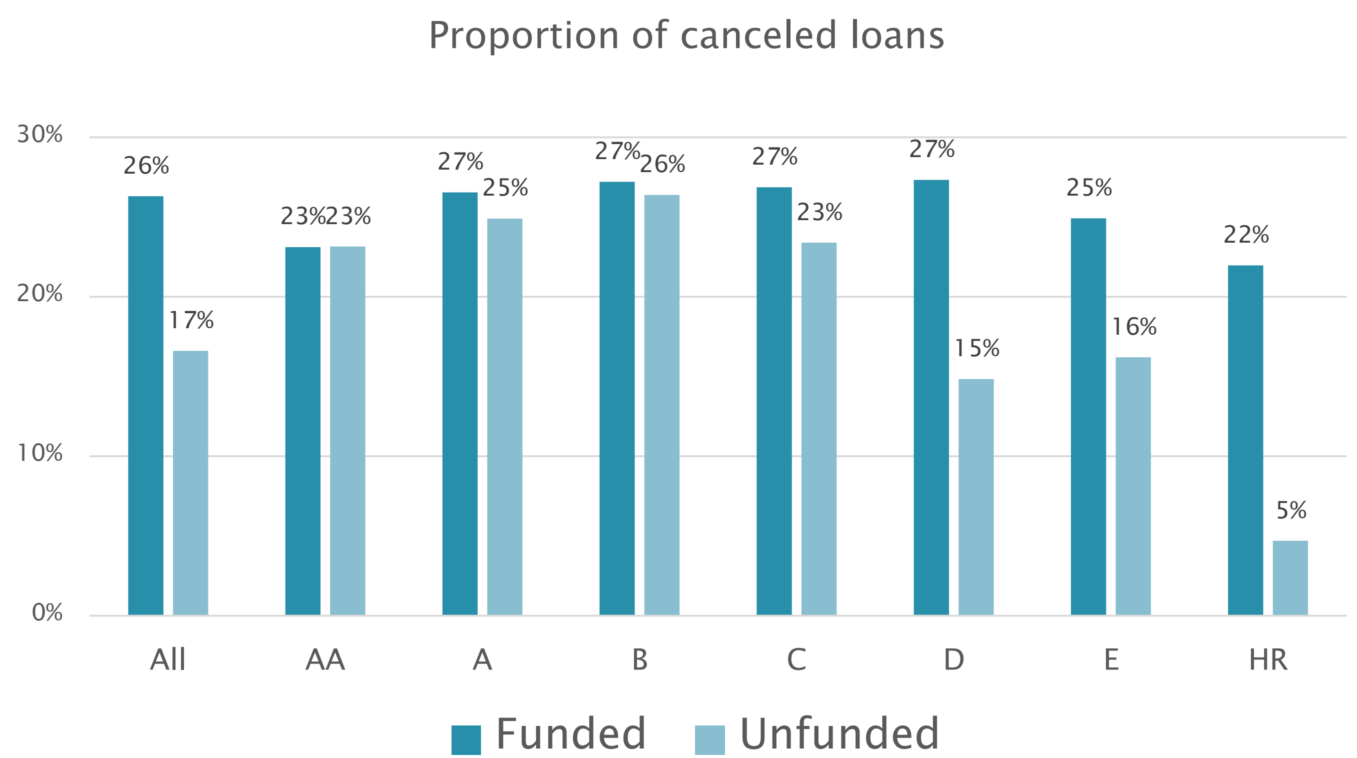
Investors rely on platform's pricing



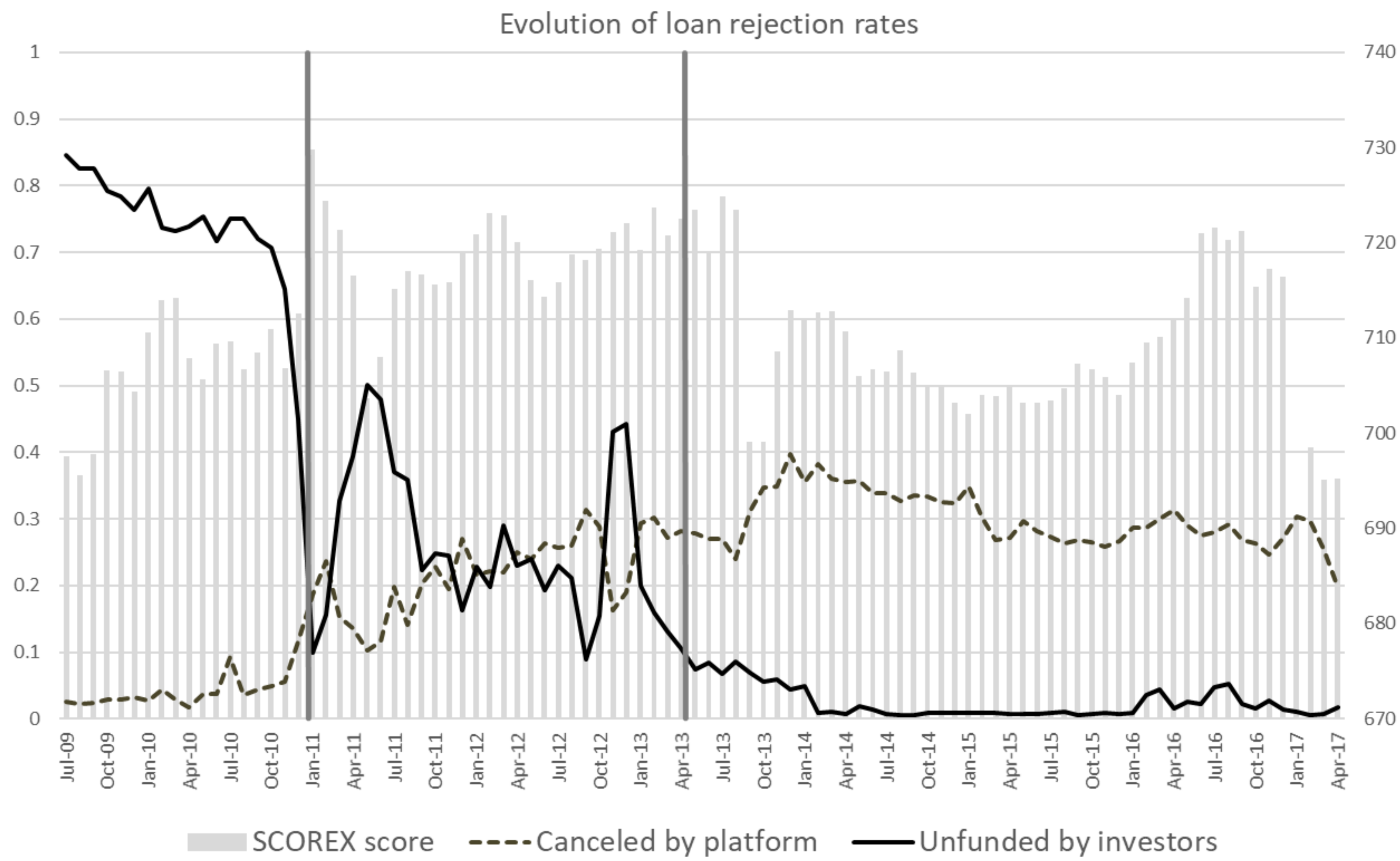
← *Safe* **Prosper Rating** *Risky* →

… 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



Screening by platform dominates



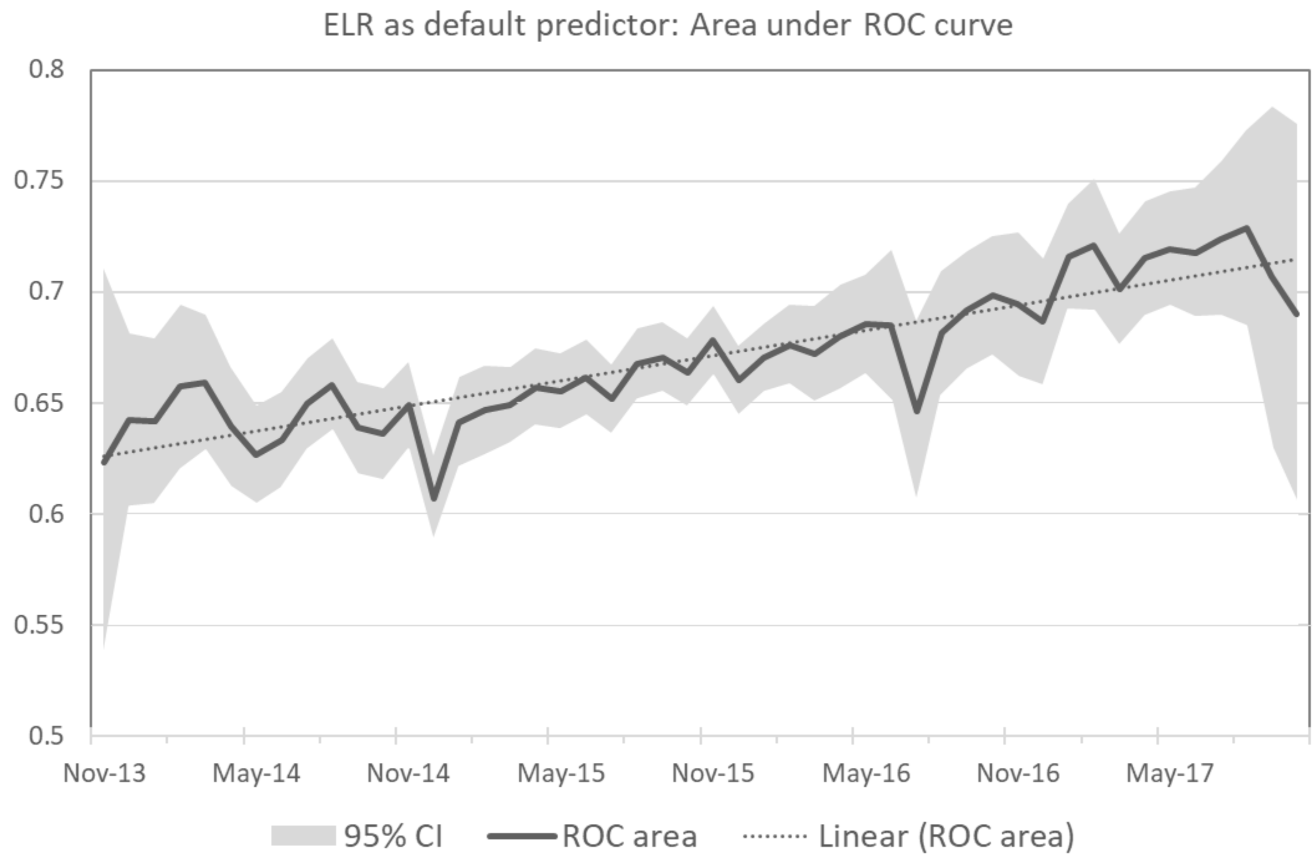
Default rates: Rating vs FICO

← *Safe* **Prosper Rating** *Risky* →

FICO	AA	A	B	C	D	E	HR
780+	0.95%	2.52%	4.30%	8.13%	15.02%	9.26%	
760-779	1.49%	2.65%	4.38%	6.84%	10.14%	13.68%	
700-739	2.02%	3.48%	5.19%	7.80%	10.22%	11.75%	12.94%
680-699	2.19%	3.93%	5.86%	8.54%	10.85%	12.38%	13.12%
660-679	2.68%	3.53%	5.42%	7.99%	10.49%	12.58%	13.89%
<660		3.27%	4.51%	7.08%	9.59%	11.22%	14.22%

- Prosper rating *much* more informative than FICO
  - It incorporates FICO, but also Prosper's analysis of historical P2P loan defaults

Default prediction ability



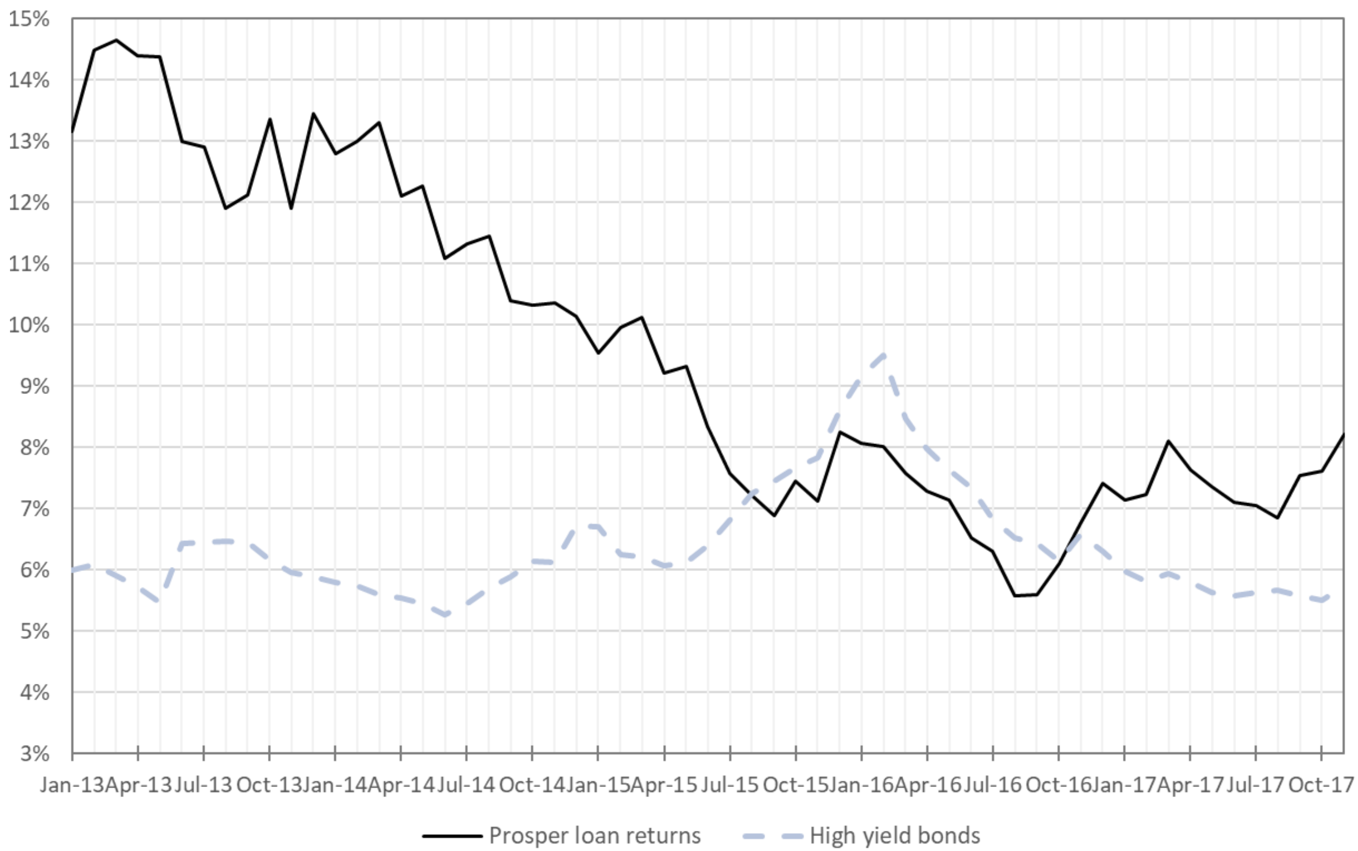
- ROC = measure of cross-sectional accuracy in credit risk assessment
- Platform able to discern between borrowers of different credit quality
- Sorting quality has increased over time after April 2013

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

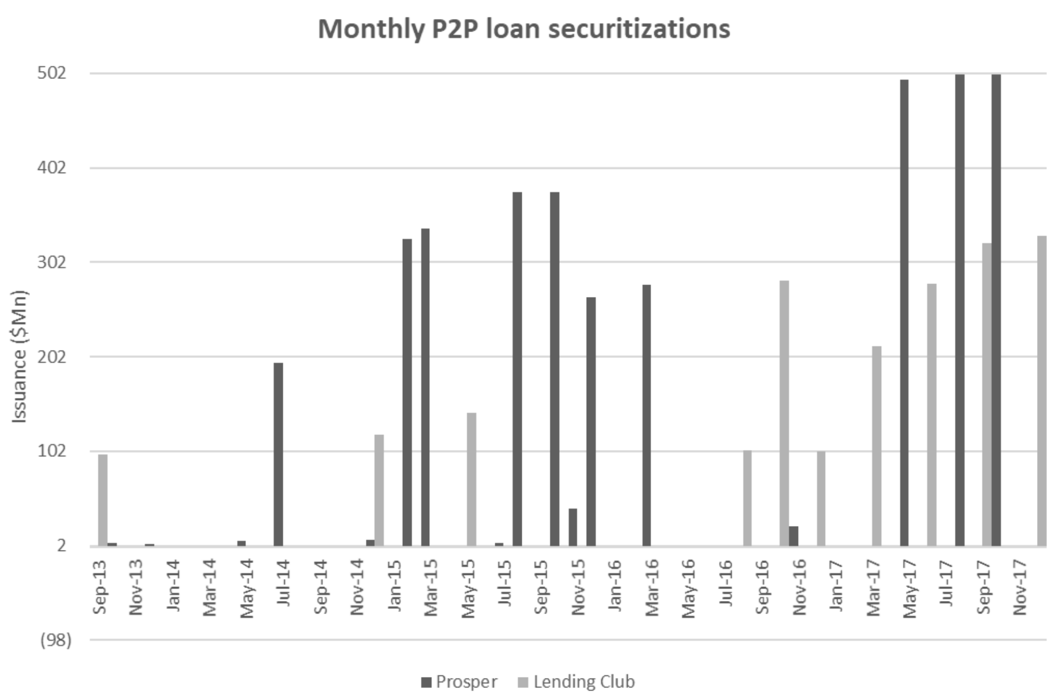
P2P loan returns over time



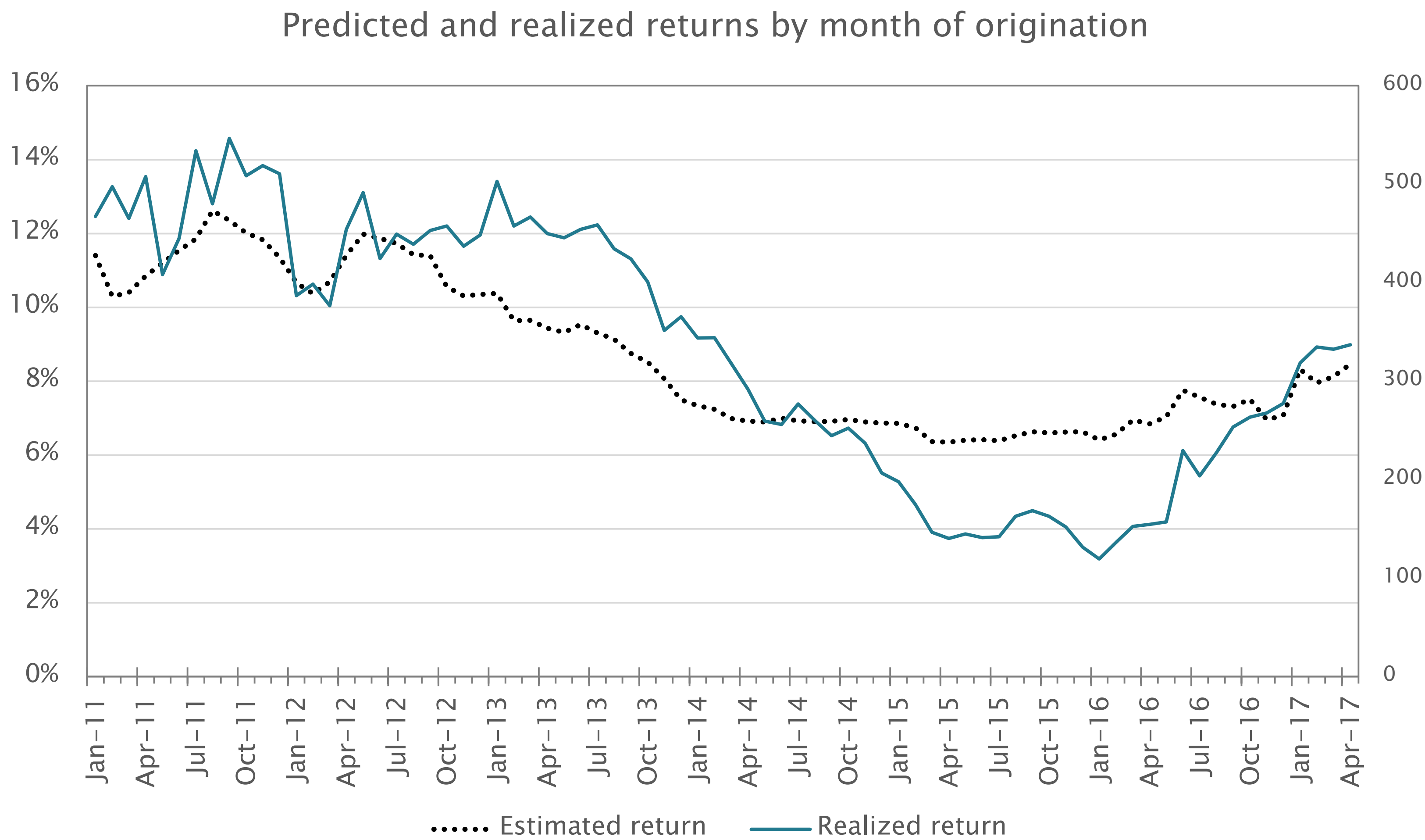
- Net returns above returns on high yield bond benchmark
- Loan returns decrease over time

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?

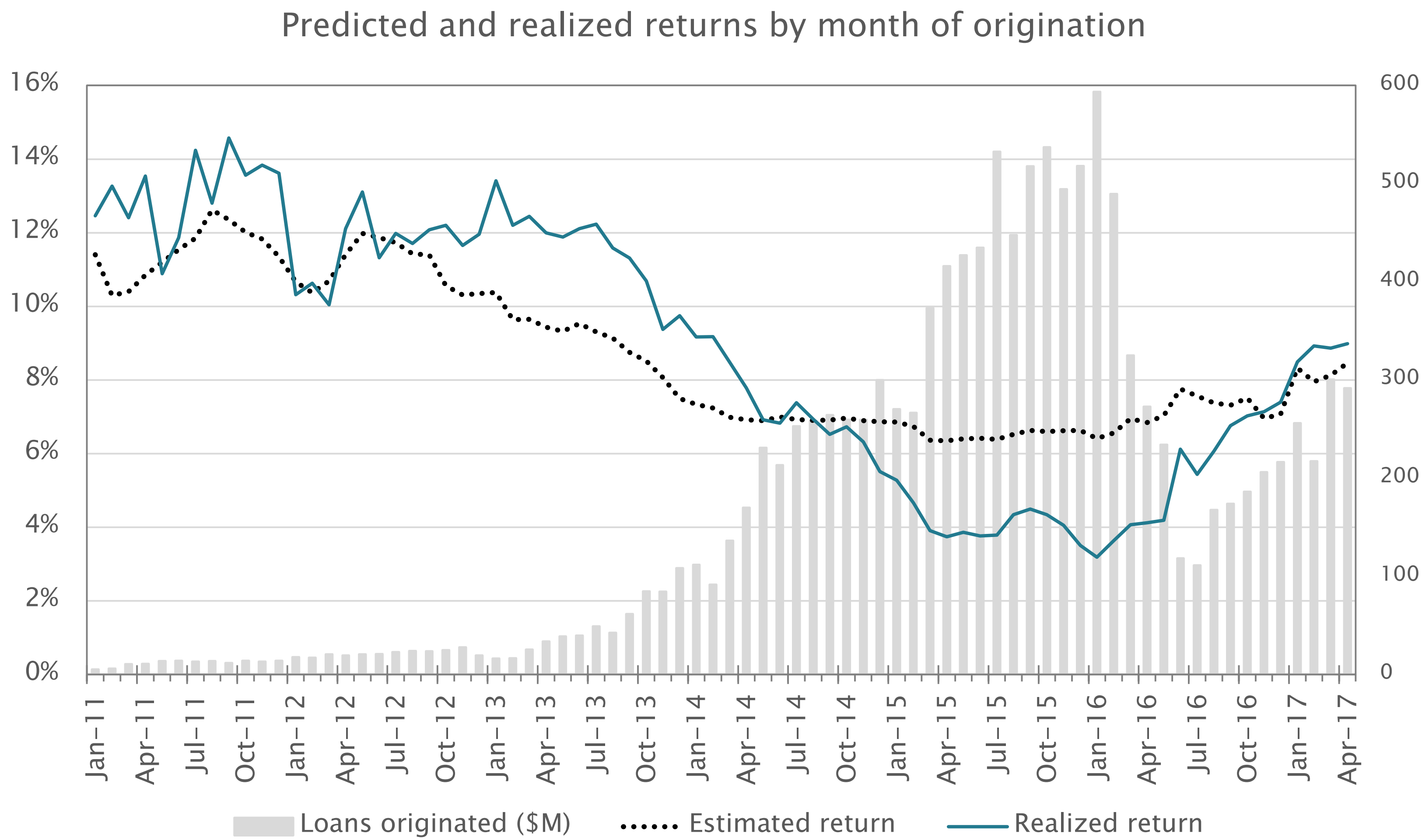


Case study: Moody's downgrade warning



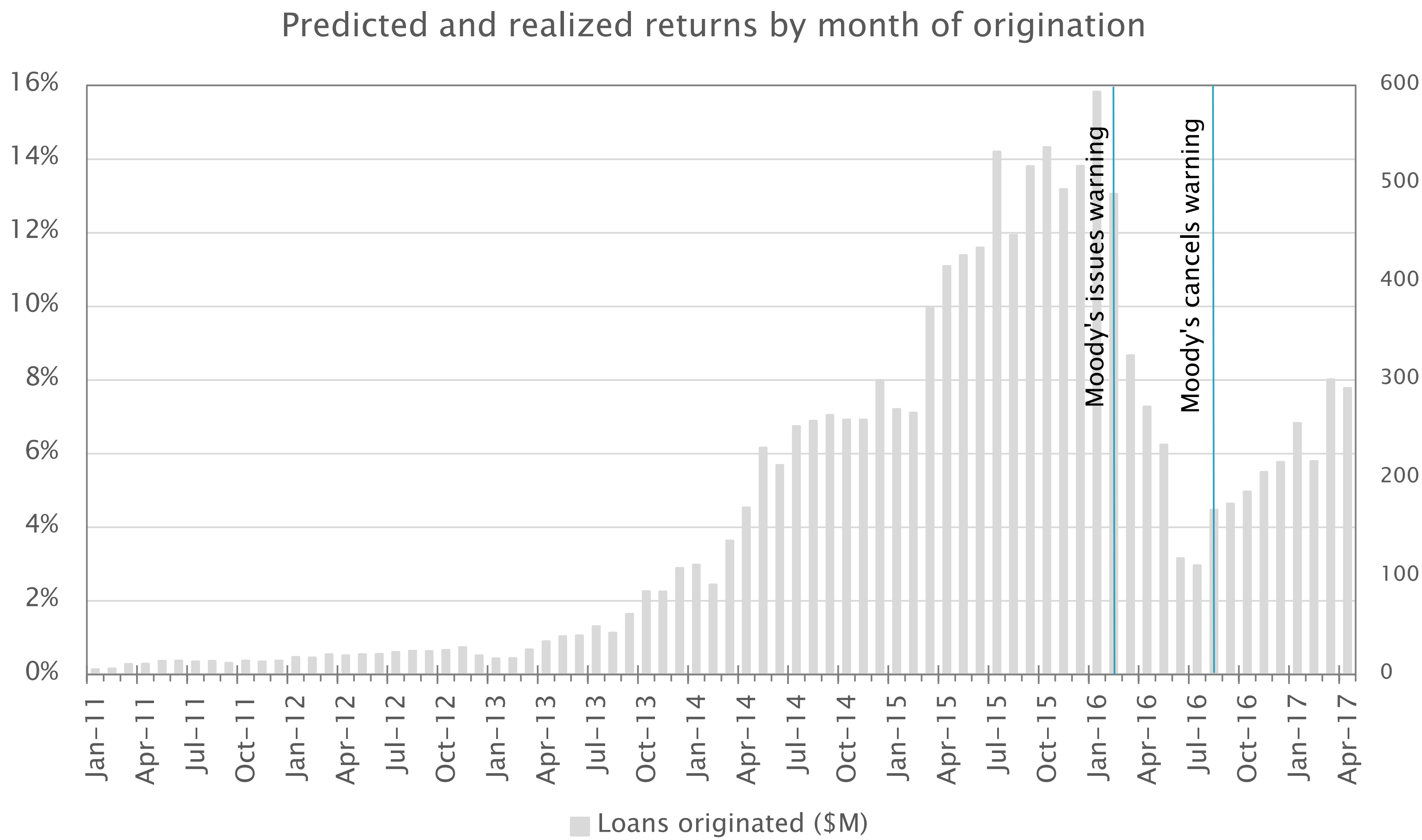
- Evidence of lax screening in 2015 originations

Case study: Moody's downgrade warning



- 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