Allocation Incentives of Marketplace Lending Platforms during the IPO of Debt Securities

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Abstract

When marketplace lending platforms issue new securities, they play a similar role as underwriters in an IPO. For both intermediaries, revenue generation is proportional to the volume of securities created. Yet, when it comes to the allocation of these newly issued securities, marketplace lending platforms claim to randomly allocate securities among investors while IPO underwriters preferentially allocate. We provide evidence that the allocation behavior of marketplace lending platforms is not random and favors one group of investors at the expense of others.

We explore channels to explain why marketplace lending platforms might preferentially allocate securities to particular investors. Our results suggest a tension between adverse selection issues within the institutional market that force platforms to preferentially allocate and an opposing channel caused by heavy securitization activity of the marketplace lending notes which reduces the platforms' preferential allocation of loans to institutional investors.

Research Questions

1. **Do platforms "randomly" or "preferentially" allocate new loans between institutional investors and retail investors?**
2. **What incentives drive platforms to preferentially allocate loans?**

Motivation

1. **Marketplace lending platforms are agents with a similar objective to equity/bond underwriters.**
   - The IPO literature suggests that a volume motive encourages *underwriters* to under price (Loughran and Ritter, 2002) and preferentially allocate securities to institutional investors (Aggarwal et. al. 2002; Goldstein et al. 2011).
2. Understanding the incentive of marketplace platform is important while research on their incentives is sparse.
   - Marketplace lending platforms substitutes for commercial lending and become a potential threat to the traditional lending system. (Cornaggia et al., 2018; Tang, 2018)
   - The IPO literature demonstrates the incentives of underwriters matter (Lowry et al., 2017). As Vallee and Zeng (2018) show, the incentives of the platforms can lead to unique behavior relative to traditional intermediaries.
   - Striking Regulatory Balance: An overly burdensome regulatory approach can easily stifle the innovativeness (Venkatesan et al., 2018), yet too light-handed an approach exposes retail investors to substantial risk (Jackson et al., 2016).

Hypothesis

$H1_0$ [Randomly allocation]: If platforms allocate loans non-randomly, the hazard rate for default (prepayment) will be different for loans *assigned* to the whole loan (institutional) market or fractional (retail) market.

$H2_0$ [Adverse selection channel]: If adverse selection is high among institutional investors, the platforms will allocate lower defaulting loans to the whole loan market.

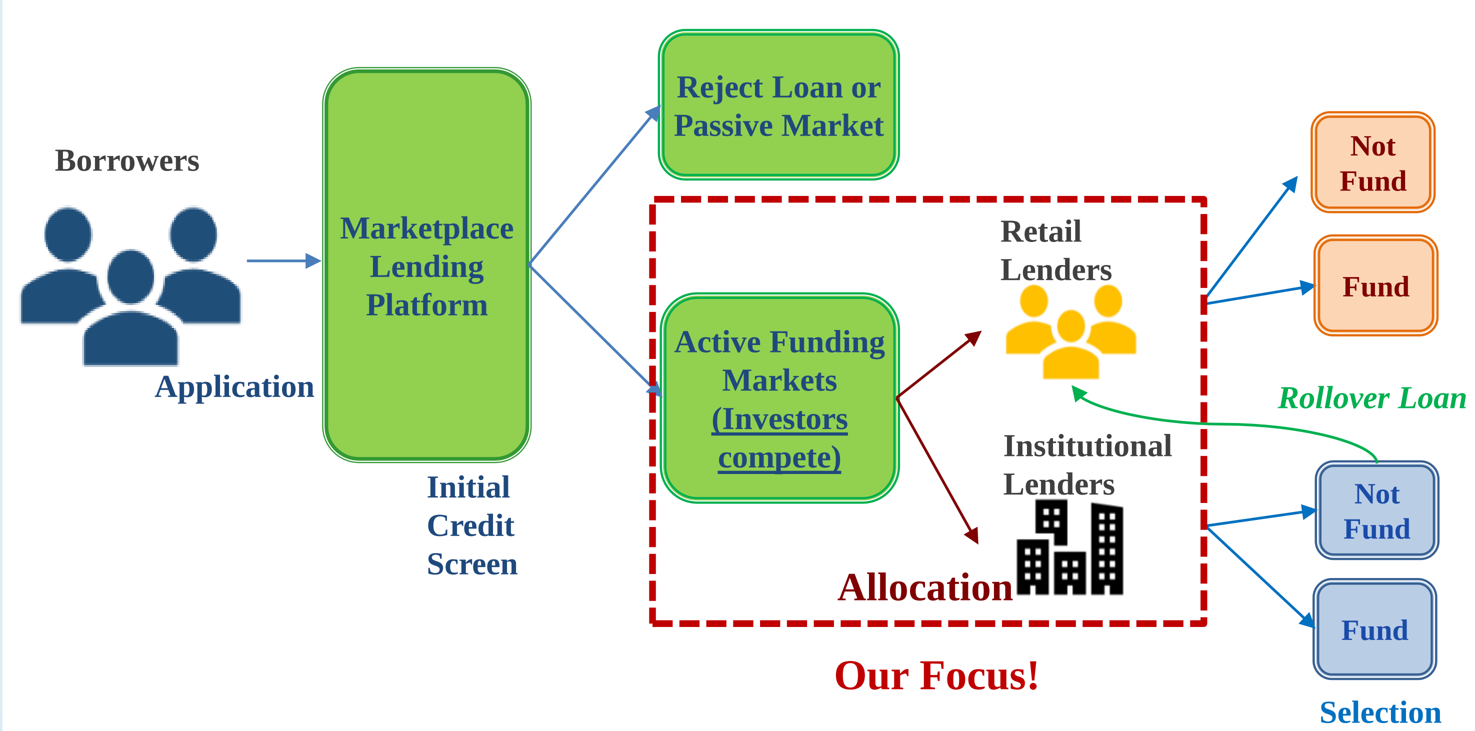
$H3_0$ [Clientele channel]: If securitization activity is low among institutional investors, the platform will allocate lower defaulting loans to the whole loan market.

Main Finding

Using the data in LendingClub and Prosper, the two most matured marketplace lending platforms in U.S., we find that:

1. **Allocation is not random.** Institutional investors are allocated better loans on LendingClub but not on Prosper.
2. **Similar to Rock (1986)'s adverse selection argument**, LendingClub allocates better loans to the active institutional market when the adverse selection is high to incent uninformed institutional investors to continue to contribute capital.
3. **Consistent with the clientele effect**, Prosper allocates worse loans to institutional investors when there is heavy securitization activity of the loan pool by institutional investors.

Institutional Background



Marketplace (P2P) lending platforms are financial intermediaries that use technology to match credit supply and credit demand. After screening borrowers, platforms post loans to be funded by investors online in an active funding market. Platforms divide institutional and retail investors into separate markets, and platforms must choose where to allocate a loan. Within each market, investors compete with each other to select which loans they choose to fund. Loans allocated to the institutional investors that are unfunded roll over to be funded in the retail market.

Empirical Setting & Results

❑ Univariate Analysis : Investor type and Credit Grade

Figure 1. Default Rate

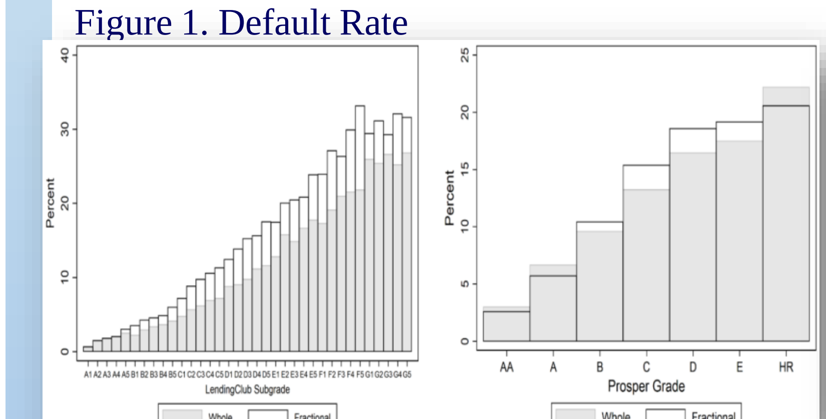
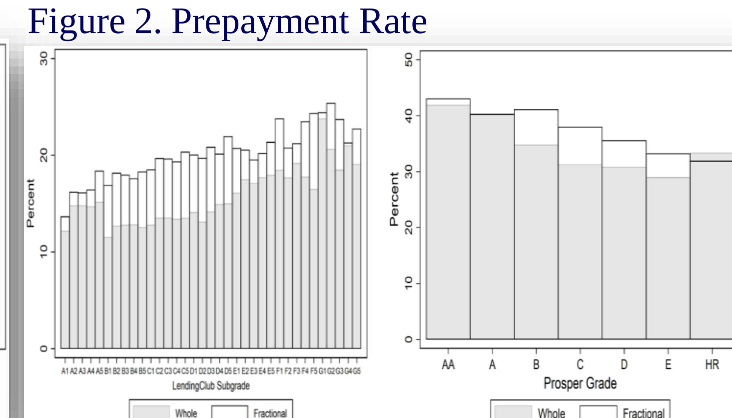


Figure 2. Prepayment Rate



❑ Cox Proportional Hazard Model

We estimate loan default (prepayment) dependency using a hazard model:

$$h(t|x) = h_0(t)\, exp(x\beta) \qquad (1)$$

where initially h(t|x) is the hazard rate of default (prepayment), i.e., the conditional default (prepayment) rate, and

$$x\beta = \beta_t + \beta_1 \cdot \boldsymbol{Whole_{i,t}} + x'_{borrower}\beta_c + x'_{loan}\beta_l + \epsilon_{i,t}$$

Main Interest:

✓ ***$Whole_{i,t}$***: *an identifier equal to one if the loan is assigned to the whole loan (institutional) market, and zero to the fractional (retail) market.*

Control Variables:

✓ Borrower characteristics: the number of inquiries in the last six months, years since credit was established, debt-to-income, indicators on loan purpose, and credit utilization.

Empirical Setting & Results (continued)

✓ Loan contract features: credit grade, amount of the loan requested, interest rate and term of the loan.

✓ Year-quarter fixed effects to adjust for the variability of credit risk due to the macroeconomy.

❑ Main Result-Allocation is not random

We find that LendingClub assign better loans with lower default and prepayment rate (3.1% and 1.3% lower rate in all loans) to institutional investors (*$Whole_{it}$*). But there is no obvious preferential treatment in Propsper on average.

Table 3. Default and Prepayment for Lending Club*

	Default$_{it}$			Prepayment$_{it}$		
	All	IG	HY	All	IG	HY
Whole$_{it}$	0.969***	0.985	0.951***	0.987**	0.983**	0.992
	(10.08)	(1.04)	(13.53)	(4.07)	(5.03)	(0.42)

Table 4. Default and Prepayment for Prosper *

	Default$_{it}$			Prepayment$_{it}$		
	All	IG	HY	All	IG	HY
Whole$_{it}$	1.025	1.071**	1.010	1.009	0.998	1.023
	(2.21)	(4.27)	(0.25)	(0.89)	(0.02)	(2.57)

*These regressions results are robust using the Gamma baseline hazard within a fragility model to simultaneously estimate default and prepayment.

**All: all grade loans, IG: investment grade loans, HY: high yield loans.

❑ Channels:

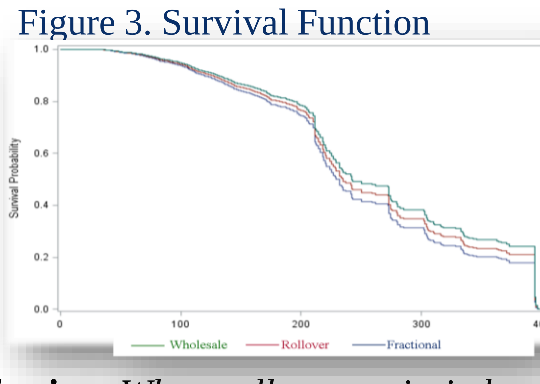
We examine whether the p2p lending platforms would treat investors differently according to the adverse selection incentive and/or clientele catering incentive.

➢ Adverse Selection Channel

Table 10. Preferential Assignment on LendingClub driven by Adverse Selection

	All	IG	HY
Whole$_{it}$	0.935***	0.913***	0.951*
	(-3.46)	(-3.23)	(-1.81)
Rollover$_{t-1}$	1.134	0.970	1.225
	(1.09)	(-0.17)	(1.30)
Whole$_{it}$ × Rollover$_{t-1}$	1.358**	1.923***	1.003
	(2.18)	(3.17)	(0.02)

Figure 3. Survival Function



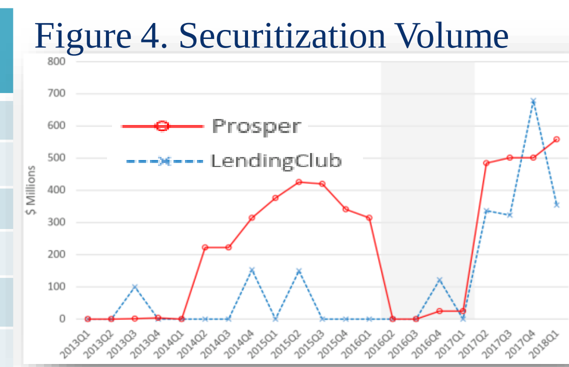
We use "Rollover rate" as a measure of adverse selection. *When rollover ratio is low, the competition and the adverse selection problem among institutions is strong. Thus, during this period, platform would assign better loans to institutional investors to entice less informed institutions to stay in this market.*

➢ Clientele Channel

Table 11. Preferential Assignment on Propser driven by Clientele Effects

	Full	Pre 2017Q2	Post 2016Q1
Whole$_{it}$	1.052***	1.053***	1.047
	(7.34)	(7.41)	(0.47)
Quiet$_t$	763.823	280.635	0.853**
	(0.07)	(0.13)	(4.54)
Quiet$_t$ × Whole$_{it}$	0.877***	0.876***	0.911
	(10.12)	(10.25)	(1.52)

Figure 4. Securitization Volume



We use "Securitization Quiet Period", during 2016Q2-2016Q4, to test the clientele effect. *During this period, institutional investors are mainly buy-and-hold investors. As securitization activity is ceased, institutions care more about the quality of loans, and the platform would assign better loans to them.*

Conclusion

This paper examines the behavior of the new financial intermediary, the marketplace lending platforms and explores what drive their behaviors, and we connect the growing FinTech literature with the IPO literature on underwriter incentives.