



Policy Uncertainty and Household Credit Access: Evidence from Peer-to-Peer Crowdfunding

Xiang Li Bibo Liu Xuan Tian
Tsinghua University PBC School of Finance



Abstract

This paper studies how policy uncertainty affects household credit access. Using crowdfunding data from a major peer-to-peer (P2P) crowdfunding platform, Prosper.com, and a news-based policy uncertainty index developed by Baker, Bloom, and Davis (2016), we find that policy uncertainty negatively affects households' access to small loans. Using an instrument variable based on partisan conflicts and a difference-in-differences analysis relying on plausibly exogenous variation in policy uncertainty generated by gubernatorial elections, we show that the relation is likely causal. Investors' increased caution on deal selection and enhanced value of the "wait-and-see" option appear to be two plausible underlying channels through which policy uncertainty affects P2P crowdfunding. Further evidence suggests that policy uncertainty increases loan interest rates and default probabilities.

Research Questions

- Does policy uncertainty affect household credit access? — **Equilibrium analysis**
- Does policy uncertainty affect household borrowing need? — **Demand side analysis**
- Does policy uncertainty affect investment propensity in the P2P market? — **Supply side analysis**
- How does policy uncertainty affect household credit access? — **Mechanism analysis**
- What are the economic consequences of policy uncertainty's impact on household finance? — **Interest rate and default probability**

Identification Strategies

- The instrumental variable approach**
 - The instrument: *Partisan conflict*, a frequency count of newspaper articles containing terms related to lawmakers' policy disagreement (Baker, Bloom, and Davis, 2016; Bonaime, Gulen, and Ion, 2017; Azzimonti, 2018)
 - Relevance criterion: directly affects uncertainty in policies
 - Exclusion restriction: captures only the intensity of the debate rather than the content
- The difference-in-differences approach**
 - The shocks: gubernatorial elections (Colak, Durnev, and Qian, 2017; Jens, 2017), which are likely exogenous and staggered across business cycles

Equilibrium Results

Policy uncertainty is negatively correlated with the value of loans made on Prosper.com

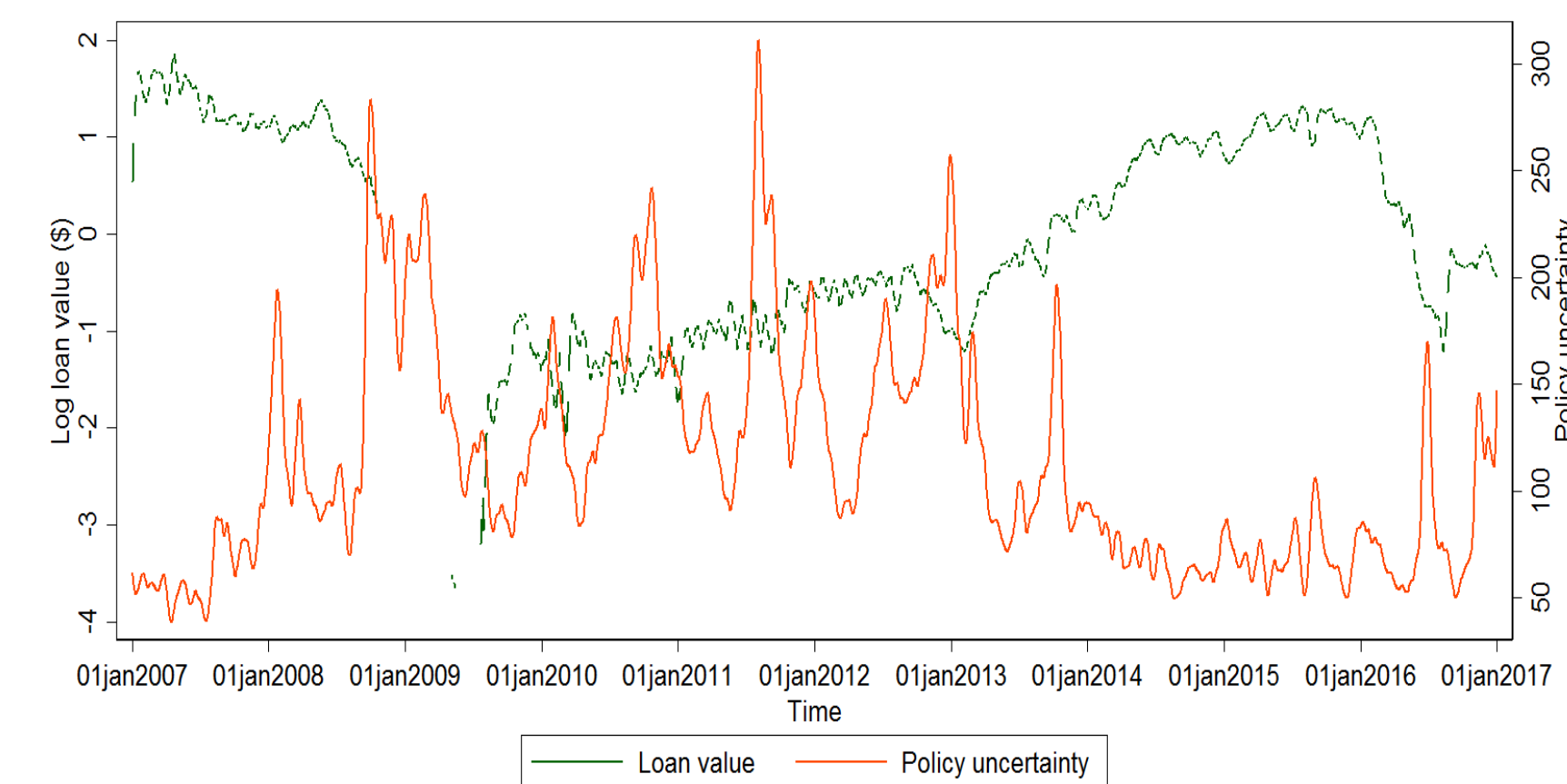


Figure 1. Policy uncertainty and loans made on Prosper.com

Policy uncertainty appears to have a negative and causal effect on P2P crowdfunding activities: with a one-std increase in BBD

- The fraction funded decreases by 18.2% (19.5% of the mean)
- The funded amount decreases by \$1,022 (8.2% of the mean)
- The funding duration increases by 0.27 days (31.4% of the mean)
- The funding probability decreases by 0.6% (0.9% of the mean)

Table 1. Endogeneity test using the two-stage instrument variable regressions

Dependent variable	First stage		Second stage				
	(1) BBD	(2) Funded	(3) Percent funded	(4) Amount funded	(5) Funding duration	(6) Interest Rate	(7) Default Rate
<i>Partisan conflict</i>	0.756***						
Instrumented BBD		-0.019***	-0.570***	-0.263***	0.067***	0.029***	0.266***
Controls	Yes	(0.005)	(0.207)	(0.017)	(0.003)	(0.005)	(0.045)
State and Occu. FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	879,627	878,024	879,627	879,627	822,993	108,400	19,920
Adj./Pseudo R ²	0.360	0.069	0.372	0.377	0.308	0.302	0.131

Demand Side Results

- The shocks:** gubernatorial elections (Colak, Durnev, and Qian, 2017; Jens, 2017), which are likely exogenous and staggered across business cycles
- Funding probability and amount decrease significantly if the borrower resides in a state expecting a gubernatorial election in the next month**

$$FundingStatus_i = \alpha + \beta \times Elect_i^{-1} + \theta \times Macro_i + \gamma \times Control_i + FE + \epsilon_i$$

Table 2. Endogeneity test using the difference-in-differences (DiD) approach

Dependent variable	(1) Funded	(2) Percent funded	(3) Amount funded	(4) Funding duration	(6) Interest rate	(7) Default rate
<i>Elect¹</i>	-0.010*	-0.700***	-0.052***	0.001	0.009***	0.08*
	(0.006)	(0.223)	(0.019)	(0.003)	(0.003)	(0.04)
<i>Elect⁰</i>	-0.001	-0.177	-0.023	0.00002	0.009**	0.004
	(0.006)	(0.227)	(0.018)	(0.004)	(0.004)	(0.003)
<i>Elect⁺¹</i>	0.007	0.122	0.002	-0.001	0.005	0.002
	(0.006)	(0.195)	(0.016)	(0.004)	(0.003)	0.001
Controls	Yes	Yes	Yes	Yes	Yes	Yes
State and Occu. FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year-month FEs	Yes	Yes	Yes	Yes	Yes	Yes
N	879,353	879,627	879,627	822,993	108,400	19,920
Adj./Pseudo R ²	0.057	0.500	0.472	0.195	0.326	0.103

Demand side: Policy uncertainty appears to have insignificant effect on listing amount

Table 3. Demand side analysis: Listing amount

Dep. var. = Listing amount	BBD		Gubernatorial elections	
	(1) Cross section	(2) Time series	(3) Cross section	(4) Panel
Instrumented BBD	-0.033	-0.372		
	(0.043)	(-0.31)		
<i>Elect¹</i>			0.026	0.069
			(0.022)	(0.85)
<i>Elect⁰</i>			-0.008	0.047
			(0.017)	(0.27)
<i>Elect⁺¹</i>			0.026	-0.024
			(0.017)	(-0.20)
Controls	Yes	Yes	Yes	Yes
FEs	Yes	Yes	Yes	Yes
N	108,400	40	108,400	1,692
Adj./Pseudo R ²	0.270	0.853	0.273	0.692

Supply Side Results

Supply side: Bidding amount decreases significantly during periods of high policy uncertainty

Table 4. Supply side analysis: Bidding amount

Dep. var. = Bidding amount	BBD		Gubernatorial elections	
	(1) Cross section	(2) Time series	(3) Cross section	(4) Panel
Instrumented BBD	-0.874***	-2.674*		
	(0.117)	(-1.91)		
<i>Elect²</i>				-0.185*
				(-1.74)
<i>Elect¹</i>			-0.047***	0.025
			(0.016)	(0.24)
<i>Elect⁰</i>			-0.059	-0.057
			(0.124)	(-0.41)
<i>Elect⁺¹</i>			0.061	-0.071
			(0.058)	(-0.47)
Controls	Yes	Yes	Yes	Yes
FEs	Yes	Yes	Yes	Yes
N	108,400	37	108,400	1,692
Adj./Pseudo R ²	0.263	0.511	0.294	0.468

Channel 1: The disciplinary channel

- During periods of high policy uncertainty, a household's future cash flow and financial conditions are less certain, which translates to increased credit risk
- P2P investors are able to respond to new information on credit risk and adjust their investment strategies and thus are more likely to fund high-quality requests

Channel 2: The option to wait channel

- If it is more costly to reverse a loan investment, the effect of policy uncertainty on P2P crowdfunding would be more pronounced because the value to the option to wait is higher
- Smaller cost of delaying an investment is also correlated with higher option value

Table 5. Mechanism tests

Panel A Dependent variable: Funded	Mechanism tests				
	(1) Grade	(2) Income	(3) FICO	(4) Illiquid	(5) Funding duration
<i>IR=</i>	0.042***	0.067***	0.085***	-0.560***	-0.003***
Instrumented BBD*IR	(0.007)	(0.006)	(0.010)	(0.083)	(0.0001)
Controls	Yes	Yes	Yes	Yes	Yes
State and Occu. FEs	Yes	Yes	Yes	Yes	Yes
N	879,552	879,552	878,024	879,552	820,763
Pseudo R ²	0.040	0.040	0.068	0.040	0.047
Panel B Dependent variable: Percent funded	(1)	(2)	(3)	(4)	(5)
<i>IR=</i>	9.188***	8.115***	16.642***	-1.841	-1.149***
Instrumented BBD*IR	(0.462)	(0.345)	(0.362)	(2.136)	(0.126)
Controls	Yes	Yes	Yes	Yes	Yes
State and Occu. FEs	Yes	Yes	Yes	Yes	Yes
N	879,627	879,627	879,627	879,627	820,765
Adj. R ²	0.394	0.394	0.393	0.372	0.171

Conclusions

- Policy uncertainty significantly reduces crowdfunding activities and hence households' access to small loans in the P2P market
- Investors' increased caution on deal selection and enhanced value of the "wait-and-see" option appear to be two plausible underlying channels
- Our paper contributes to the policy uncertainty literature by showing the effect of policy uncertainty on households and investors at the micro-loan market
- Our paper sheds new light on the factors affecting P2P crowdfunding by linking macro shocks to crowdfunding outcomes

References

Baker, Scott R., Nicholas Bloom, and Steven J. Davis, 2016, Measuring economic policy uncertainty, *Quarterly Journal of Economics* 131, 1593-1636.

Bhattacharya, Utpal, Po-Hsuan Hsu, Xuan Tian, and Yan Xu, 2017, What affects innovation more: Policy or policy uncertainty? *Journal of Financial and Quantitative Analysis* 52, 1869-1901.

Bonaime, Alice A., Huseyin Gulen, and Mihai Ion, 2017, Does policy uncertainty affect mergers and acquisitions? *Journal of Financial Economics*, forthcoming.

Gulen, Huseyin, and Mihai Ion, 2016, Policy uncertainty and corporate investment, *Review of Financial Studies* 29, 523-564.

Jens, Candace E., 2017, Political uncertainty and investment: Causal evidence from us gubernatorial elections, *Journal of Financial Economics* 124, 563-579.

Kim, Hyunseob, and Howard Kung, 2016, The asset redeployability channel: How uncertainty affects corporate investment, *Review of Financial Studies* 30, 245-280.

Nguyen, Nam H., and Hieu V. Phan, 2017, Policy uncertainty and mergers and acquisitions, *Journal of Financial and Quantitative Analysis* 52, 613-644.

Tian, Xuan, and Kailei Ye, 2017, How does policy uncertainty affect venture capital? Working paper, Tsinghua University.