



The Impact of Political Orientation on Investment Risk Appetite: Evidence from a US P2P Platform

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Abstract. This study utilizes the loan data from Prosper Company between 2005 and 2008, consisting of 575,011 records, to investigate the influence of political preferences on lenders' risk-taking behavior. The political leaning of each lender is measured by the percentage of Republican legislators in their respective state. The maximum interest rate accepted by a lender is used as a proxy for their risk preference. The results suggest that lenders who lean more towards the Republican party tend to have a higher risk appetite in the personal credit market, and this effect becomes even more pronounced with increased external competition. Further research reveals that during the period of Republican rule, lenders with a Republican-leaning political preference held a more optimistic expectation of the personal credit market, resulting in higher risk-taking behavior. These findings contribute to our understanding of the impact of political preferences on investment decisions and provide new insights and methodologies for related fields of research.

Keywords: P2P platforms; Political preferences; Risk preferences.

1 Introduction

Peer-to-peer (P2P) network lending serves as a grassroots microloan model that pools small amounts of funds for the purpose of lending to borrowers. Facilitated by the advent of the internet and big data, lending and transactions predominantly take place on online platforms, positioning P2P lending as a fintech product. The first P2P lending platform, Zopa, was founded in the UK in 2005 and has since expanded to Europe, America, and Asia. This type of platform offers alternative options for small and micro-enterprises and borrowers, in addition to presenting superior and diversified return choices for lenders, thereby endowing them with enhanced competitive advantages and gradually closing the gap with traditional credit sectors.

An increasing number of scholars are studying lender behavior on P2P platforms. The research on influencing factors can be broadly classified into three categories. Firstly, borrower characteristics are the most commonly studied influencing factors. This can be further divided into two parts. One part studies the impact of individual or multiple factors, mainly involving factors such as occupation [1], income [2], gender [3], and overall personal characteristics [4][5]. The other part mainly studies the impact

of the number of factors disclosed by borrowers, which generally shows a positive correlation with the success rate of financing, meaning that the more information disclosed [6][7], the higher the success rate, especially when the borrower's credit rating is not high [8]. Secondly, research on lender characteristics is relatively scarce, possibly due to the limited information disclosure by lenders on the platform, which makes it difficult to obtain data. However, scholars have studied psychological effects (herd behavior) [9], geographical areas [10], and other factors. Thirdly, platform characteristics [11] have received the least amount of scrutiny, with most attention devoted to analyzing the impact of platform reputation on financing.

In financial markets, investors' risk preferences are a crucial determinant that significantly impact investment decisions. The political orientation, as an important set of values and belief systems, may also exert a significant effect on investors' risk preferences. However, as the above review of literature shows, related research is still insufficient. Therefore, this article aims to explore the impact of political orientation on investment risk preferences through analyzing data in the US personal credit sector and P2P platforms. The outcomes of this investigation are expected to provide critical insights into risk preferences for investors and serve as a reference for investment decisions.

2 Variable Selection and Data Analysis

The study used 575,011 loan data from Prosper company from 2005 to 2008 as the research object, with a total of 497 lenders, and all variables except for past investment preferences and political affiliations were original data.

Past investment preferences were obtained by calculating the average investment rate. Political affiliation data mainly came from the ratio of Republican seats to the total number of Republican and Democratic seats in each state legislature in Wikipedia. The values were between 0 and 1, with values closer to 1 indicating that the state's population was more politically inclined towards the Republican Party, while values closer to 0 indicated that the population was more politically inclined towards the Democratic Party. Given that elections only took place in even years, the results for 2006 and 2008 were calculated separately, whereas the political affiliations for 2005, 2006, and 2007, and 2008 were analyzed individually. In the case of Nebraska, where party affiliation was not indicated during elections, the political affiliation was determined based on the Pew Research Center's polling data in their research article "Blue States Get Even More Democratic", and the corresponding political affiliation value was assigned based on the lender's state. Clearly, political affiliation here is a continuous variable, as individuals are unlikely to be followers of a certain political stance in all situations, and their affiliations may change and sway with their beliefs. Therefore, the paper believed that it was more realistic to treat political affiliation as a continuous variable rather than a discrete one. Details pertaining to the specific variables and their meanings can be found in Table 1, while Table 2 lists descriptive statistics for the data.

Table 1. Main Variables Selected in this Study

Variable name	Variable meaning
BorrowerMaximumRate	The maximum interest rate set by the borrower, which can represent the risk preference of the investor
Lender_politics	Political leaning of the lender
BidAmount	The initial amount set by the investor for the loan
ParticipationAmount	The final amount invested by the investor in the loan
Funded_per	The funding ratio of the loan when the investor decides to invest
is_homeowner	Whether the borrower owns a home (1=Yes, 0=No)
stated_monthly_income	The monthly income of the borrower
monthly_debt	The monthly debt of the borrower
MemberKey	The account number of the investor, with each investor having only one number
LenderState	The state in which the lender was located when the loan was made
BorrowerState	The state in which the borrower was located when the loan was made
occupation	The occupation of the borrower
t_lender	The order of each order placed by the investor, generated by creation_date and MemberKey
BorrowerMaximumRate_mean	The average interest rate of the investor's past investments, representing the investor's past risk preference
creation_date	The time when the order was created
Lender_Status	The final status of the investor (withdrawn, partially invested, crowded out, invested successfully)

Table 2. Descriptive Statistics for Relevant Variables

	mean	25%	50%	75%	max
BorrowerMaximumRate	20.26	15.00	19.26	25.00	48.00
Lender_politics	0.44	0.38	0.40	0.54	0.81
BidAmount	90.91	50.00	50.00	100.00	20000.00
ParticipationAmount	59.75	0.00	50.00	55.00	20000.00
Funded_per	0.72	0.08	0.43	1.08	43.59
is_homeowner	0.51	0.00	1.00	1.00	1.00
stated_monthly_income	5420.66	2875.00	4283.25	6516.67	4833333.00
monthly_debt	883.36	300.00	661.00	1179.00	101500.00
BorrowerMaximumRate_mean	20.04	17.38	19.49	22.55	35.00

Based on the analysis of Table 2, it can be observed that lenders have the following characteristics: 1. They have a relatively high risk preference, as the mean BorrowerMaximumRate is 20.26, the first quartile is 15, and the second quartile is 19.26, which are all significantly higher than the benchmark interest rate. The maximum value is even close to 50, indicating that lenders on the peer-to-peer lending platform are more adventurous; 2. The loan amounts vary greatly, but small loans still dominate. Observing BidAmount and ParticipationAmount, both have mean values within 100,

which belong to small loans. The third and first quartiles are also within 100, indicating that small loans still dominate. Although the maximum value is as high as \$20,000, it is only a minority; 3. There are more people from the blue state. Observing Lender_politics, the mean value is 0.44. If 0.5 is used as the boundary for political inclination, it is clear that the sample data is biased towards the blue state (Democratic Party). When reaching the third and first quartiles, the value is only 0.54. Therefore, approximately three-quarters of the sample population tend to be Democrats.

3 Empirical analysis

In the empirical analysis, the BorrowerMaximumRate variable is used as the dependent variable and the Lender_politics variable is used as the independent variable to study the impact of political inclination on investor risk preference. The specific model is defined as follows:

$$\text{BorrowerMaxminymRate}_{nt} = \beta_1 \text{Lender_politics}_{nt} + \beta_2 \text{Control_varicalbe}_{nt} + \theta_n + \lambda_t + \mu_{nt}$$

The aforementioned model is established on the basis of Lender_politics as the research variable, while the Control variables mainly include BidAmount, Funded_per, is_homeowner, stated_monthly_income, monthly_debt, BorrowerMaximumRate_mean, t_lender, and dummy variables created based on BorrowerState and occupation. θ represents individual fixed effects, which are generated by creating dummy variables based on MemberKey to control for the differences in geographical and economic conditions among lenders. λ represents fixed time effects, which are generated by creating dummy variables based on the monthly creation_date. μ represents disturbance terms.

As mentioned in the previous section, the data may have heteroscedasticity. Therefore, heteroscedasticity-robust standard errors will be used for regression analysis. In addition, to verify the robustness of the results, regressions will be gradually tightened, as shown in Table 3. The first column shows the results of the regression analysis for the full sample, which represents the impact of political orientation on risk preferences when lenders make their first bids without external competition. The second column classifies the data according to the Lender_Status variable, and regresses the data that has not been withdrawn to represent the relationship between the two variables when there is external competition. The third column regresses the actual lending data in the original data (i.e., ParticipationAmount is not equal to zero) to represent the actual impact of political orientation on risk preferences for lenders. It is worth noting that in this regression, BidAmount is replaced with ParticipationAmount, which better reflects the actual situation of lenders. The resultant findings are presented in detail in the accompanying table.

Table 3. Empirical Analysis Results

	full sample	The "No Withdraw" sample	Actual investment sample
Lender_politics	12.1358	12.1367	13.1354
	(14.651***)	(14.652***)	(12.354***)
Funded_per	0.2916	0.2915	0.1699
	(24.624***)	(24.619***)	(11.81***)
is_homeowner	-1.6195	-1.6195	-1.5462
	(-84.115***)	(-84.116***)	(-68.48***)
stat- ed_monthly_income	-4.49E-06	-4.49E-06	-1.75E-06
	(-1.785*)	(-1.785*)	(-1.13)
monthly_debt	0.0005	0.0005	0.0004
	(23.233***)	(23.232***)	(16.81***)
t_lender	5.39E-05	5.40E-05	6.05E-05
	(14.319***)	(14.327***)	(13.068***)
BorrowerMaxi- mumRate_mean	-0.0123	-0.0123	-0.0101
	(-4.974***)	(-4.976***)	(-3.463***)
BidAmount/ ParticipationAmount	-0.001	-0.001	-0.001
	(-13.006***)	(-13.001***)	(-10.975***)
sample size	575011	574997	391684
R2	0.402	0.402	0.416

Note: *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively. The first row under each variable represents the regression coefficient, and the value in parentheses in the second row represents the t-statistic.

Analysis of the regression results indicates a significant relationship between political leaning and risk preference in all three models, with Lender_politics being statistically significant at the 1% level, indicating that political leaning does have a certain degree of influence on individual credit risk preference. Furthermore, the absolute value of the coefficient of Lender_politics gradually increases with the increase of external factors, suggesting that political factors have an increasing impact on the lender's risk preference, even though the increase is not very significant. This at least suggests that as external competitors and borrower considerations increase, the impact of political influence on lenders will gradually increase. Finally, observing the sign of the coefficient of Lender_politics, all three models have a positive coefficient, consistent with the previous analysis that political leaning and risk preference are positively correlated. It appears that political openness has not brought about risk openness. This finding aligns with prior research by Yosef, Alok and Jeremy [12], who found that the political environment and personal political views affected their expectations of the stock market and macro economy. Specifically, when the party they support was in power, they had more optimistic expectations of the stock market, underestimating risk. On the contrary, when the party they did not support was in power, they had pessimistic expectations of the stock market, overestimating investment risks.

The sampled data pertains to the period spanning from 2005 to 2008, during which George Walker Bush, a member of the Republican Party, held the presidential office.

Therefore, Republican voters during this period held an optimistic outlook towards the stock market and macro economy. However, this research further expands on this conclusion, showing that when the party they support was in power, it would not only lead to better stock market expectations among voters of that party, but also affect their individual risk preference in the personal credit market. That is, supporters of that party had higher risk preference. Therefore, in the personal credit market, if a certain party is in power, lenders whose political views are closer to that party will have more optimistic expectations of the credit market, leading to higher risk preference.

In addition, those who entered the personal loan market were only a small part of the American population, and they were all self-selected to enter this platform for borrowing and investment, which inherently had a higher risk appetite than the general public. Among this small group of people, Republican-leaning lenders had a higher risk appetite. Therefore, there were some extremely risk-loving lenders in politically conservative areas, whose risk appetite was higher than in politically open areas.

4 Conclusion

This article takes the loan data from Prosper company between 2005 and 2008, which consists of 575,011 records, as the research object. It is the first time that political preference is introduced into the study of lender's risk preference. In terms of data, the percentage of Republican Party in each state legislature is used to measure the political orientation of lenders in each state, and the highest interest rate accepted by lenders is taken as the risk preference. As for regression, the data is divided into three types: full sample, non-withdrawn sample, and actual investment sample, and robust standard errors with heteroskedasticity are applied. The empirical results indicate a positive correlation between the political orientation and the risk preference of lenders in the US personal credit market between 2005 and 2008. This suggests that the greater a lender's proximity to the Republican Party, the higher their risk preference will be. Additionally, the impact of political orientation will gradually increase with the increase of external competitors, but this enhancement is very weak, indirectly indicating that political openness cannot affect the investment risk. Furthermore, in the personal credit market, if a certain political party governs, lenders who are closer to that party in political stance will have a more optimistic expectation of the credit market, leading to a higher risk preference. In general, these research results contribute to understanding the influence of political preference on investment decisions and provide new ideas and methods for related fields of research.

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