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PSYCHOSOCIAL FACTORS LEAD TO DELINQUENCY INTENTION ON ONLINE PEER-TO-PEER LENDING PLATFORM: A SURVEY EVIDENCE

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Abstract

In recent years, online P2P lending grows remarkably. Past studies mainly used direct second-hand data from P2P platforms to conclude many factors are related to people's delinquency and default behaviours, lacking further exploration on how people's social and psychological status could impact their behaviour during the borrowing and repayment process. On foundation of general strain theory (GST) and the model of frame selection (MFS), we used survey method and collected data from more than 700 Chinese subjects. A two-stage structural equation model was proposed. In the first stage, we investigated how people's psychosocial factors (e.g. economic capacity, sense of fairness and sociability etc.) could shape their individual feelings and attitudes in social context (e.g. life satisfaction and self-esteem) as well as morality. In the second stage, we tested the relationship between life satisfaction, self-esteem, moral norm and people's delinquency intention on P2P lending platform. The empirical results suggest that higher psychosocial status will be conducive to better individual feelings of life satisfaction and self-esteem. Moreover, better psychosocial factors will mostly lead to a higher moral norm of people. Therefore, these favourable feelings and morality further contribute to less delinquency intention on P2P lending platform. Our research has both academic and practical implications.

Keywords: P2P lending, Delinquency, Psychosocial factors.

1 INTRODUCTION

Online peer-to-peer (P2P) lending is a newly-created debit and credit pattern via the Internet, which refers to the unsecured loans between lenders and borrowers through online platforms without the intermediation of any financial institutions (Collier & Hampshire 2010; Bachmann et al. 2011). However, online P2P lending requires a lot on the credit assessment of users, especially the borrowers. During past years, many empirical studies, mainly using data from P2P platforms such as Prosper, Lending Club and Paipai Dai, have been made to conclude that loan characteristics, borrower characteristics and social capital characteristic are related to delinquency and default loans (Serrano-Cinca et al. 2015). Nevertheless, the existing researches are mostly based on direct second-hand data created on P2P website. There lacks further exploration on how people's social and psychological status could impact their behaviour during the borrowing and repayment process.

Many studies suggest that people's psychosocial status (such as economic capacity, sense of fairness and sociability etc.) have important impact on their social feelings, attitudes as well as morality (e.g. Frey & Stutzer 2002; Jiao & Wang 2013). These factors further play vital roles in individual's behaviour of delinquency, and even crime (e.g. Guiso et al. 2009; Nivette 2011). Therefore, we used a survey in this study to explore how psychosocial factors could affect their delinquency intention on P2P lending platform.

On foundation of two important theories in sociology and psychology: general strain theory (GST) proposed by Agnew (1992) and the model of frame selection (MFS, Kroneberg 2005), we collected and analysed the data with a survey for more than 700 Chinese subjects. The empirical results suggest that higher psychosocial status will be conducive to better individual feelings of life satisfaction and self-esteem. Moreover, better psychosocial factors will mostly lead to a higher moral norm of people. Therefore, these favourable feelings and morality further contribute to less delinquency intention on P2P lending platform.

2 CONCEPTUAL BACKGROUND

2.1 Delinquency and Default in Online P2P Lending

Delinquency is defined as non-payment of a loan when due. As a possible further result of delinquency, default refers to acts of failing to meet a financial obligation in the end. In this study, we do not make the special distinction about the difference between delinquency and default. We regard delinquency and default intention as the failure of borrowers to repay the money before the due time. In the past years, delinquency and default have been delicately explored in the field of P2P lending. A number of factors have been demonstrated to be related to delinquency and default, which are helpful to discern possible delinquency intention. For instance, in terms of loan characteristics such as loan purpose, Lin et al. (2013) found that wedding was the less risky loan purpose while small business was the riskiest. Serrano-Cinca et al. (2015) summarized that better borrower characteristics like high annual income, stable current housing situation, good credit history and less borrower indebtedness contributed to less possibility to default. In spite that our study still focuses on delinquency and default in online P2P lending, such an important issue, we are trying to conduct it from another point of view.

2.2 Psychosocial Factors and Delinquency: General Strain Theory

In many scientific fields like sociology, psychology and criminology, psychosocial factors play important roles in guiding people's daily behaviours. For example, the sense of loneliness led people to the unsafe feeling and these people tended to be more defensive and sensitive to threats and rejection

(Hawkey & Cacioppo 2010). An improvement in psychosocial factor such as individual self-image led to a stronger inclination to resist immoral actions (Dal & Terviö 2008). General strain theory, put forward by Agnew (1992), provides a theoretical model to account for criminal and violent acts. The core idea of it is quite simple: individuals who experience strains or stressors often become upset and sometimes cope with crime. Agnew (2001) suggested that crime might be a method for reducing strain, seeking revenge, or alleviating negative emotions. So such individuals may engage in crime to end or escape from their strains.

2.3 Moral Norm and Delinquency: Model of Frame Selection

Besides psychosocial factors, moral norm is of significance in shaping and managing people's action. Moral norm defines certain standards of conduct that are believed to be proper forms of behaviour. The model of frame selection explains the relationship between moral norm and behaviour result, predicting that actors unconditionally adhere to moral norms if they have been strongly internalized (Elster 1989; Etzioni 1988) and if the situation cannot be framed in a way that legitimizes norm-breaking (Esser 2001; Kroneberg 2005). Only if these conditions do not hold, do actors deliberate over legal and illegal alternatives and consider their expected costs and benefits. The underlying implication of the model of frame selection emphasizes the vital role of high level of morality in controlling people's negative behaviours.

3 RESEARCH MODEL AND HYPOTHESES

Based on the conceptual analysis in section 2, we carefully chose antecedents and proposed our hypotheses. The research model is shown as below.

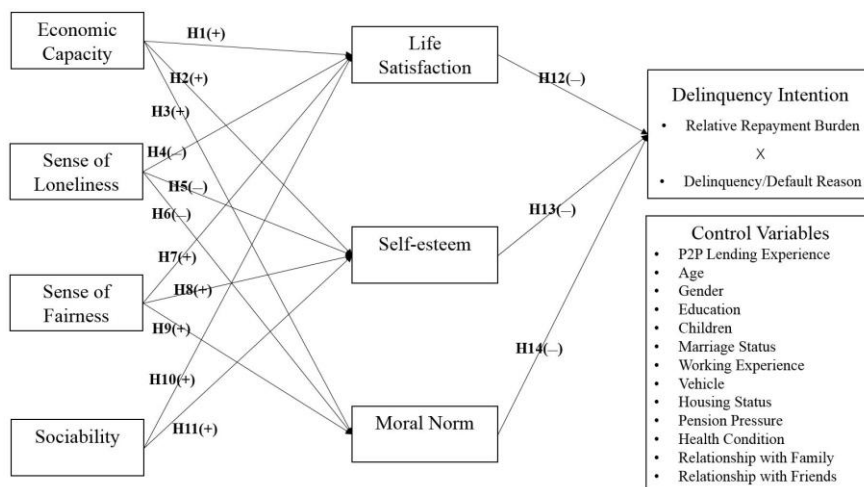


Figure 1. Research Model

Economic Capacity

Economic capacity refers to people's wealth, income and consuming ability, which is an indicator of individual economic state. There are studies showing that within a given country at a given point in time, the rich report higher life satisfaction than the poor (Frey & Stutzer 2002); and wealthier people have higher moral standards (Guiso et al. 2009). Moreover, Gilligan, a prison psychiatrist, argued that economic inequality affected crime via psychosocial processes through self-esteem, sense of control over one's life, loneliness etc. (The Equality Trust 2011). This argument implies that lower economic capacity makes people more sensitive to experiences of inferiority such as disrespect. Hence we hypothesize:

H1-3 Economic capacity of people is positively related to their feelings of life satisfaction. Economic capacity of people is positively related to their self-esteem. Economic capacity of people is positively related to their moral norm.

Sense of Loneliness

Loneliness is usually defined as a complex set of feelings that occurs when intimate and social needs are not adequately met and that "drives" individuals to seek the fulfilment of these needs (Russell, Peplau & Cutrona 1980). It has been concluded that lonely people have a lower evaluation of self, a lower self-esteem, less happiness than non-lonely people. Meanwhile they are more likely to make a moral utilitarian choice than non-lonely people (Jiao & Wang 2013). As a negative emotion, feeling lonely always increases the strain, decreases the severity of moral judgment and leads to defensive behaviours. Hence we hypothesize:

H4-6 People's sense of loneliness is negatively related to their feelings of life satisfaction. People's sense of loneliness is negatively related to their self-esteem. People's sense of loneliness is negatively related to their moral norm.

Sense of Fairness

According to the research of Adams (1963), individuals are likely to compare their reward-to-investment ratio to that of some relevant other, which causes the sense of fairness. In general, procedures that are considered unfair result in less positive feelings and less satisfaction (e.g. Folger 1977). At the same time, this inequity may become a threat to or may even damage his or her self-esteem (Wiesenfeld 2000). Moreover, the effectiveness of moral rules is possible to be affected by economic policies that may undermine a sense of fairness (Guiso et al. 2009). When comparing with others, if the individual perceives his reward-to-investment ratio to be smaller than that of the comparison other, he or she will feel relatively deprived, with lower self-esteem and lower moral norm. Hence we hypothesize:

H7-9 People's sense of fairness is positively related to their feelings of life satisfaction. People's sense of fairness is positively related to their self-esteem. People's sense of fairness is positively related to their moral norm.

Sociability

Sociability is conceptualized as preference for being with others rather than being alone (Cheek et al. 1981). The extant studies have found that highly sociable individuals are more likely to experience pleasant moods than less sociable individuals; and sociability is significantly related to life satisfaction (Emmons 1986). The social exclusion theory also justifies the relationship between self-esteem and sociability: all events that raise self-esteem maintain or improve the individual's chances of being included, and low-self-esteem persons are more likely to be anxious, lonely, and jealous than those with high self-esteem (Leary 1990). Hence we hypothesize:

H10-11 People's sociability is positively related to their feelings of life satisfaction. People's sociability is positively related to their self-esteem.

Life Satisfaction

Life satisfaction is the way a person perceives how his or her life has been and how they feel about where it is going in the future. The theory of relative deprivation (Nivette 2011) supports that in the blocked opportunities to achieving prescribed cultural goals cause individual frustration and aggression, which may lead to homicide (Chamlin & Cochran 2006), and the higher the levels of protection from the severity of the market, the lower income equality, and accompanied by the higher

life satisfaction, with the lower the potential for crime. Contacting general strain theory, with the improvement of life satisfaction, the strain is reduced and the likelihood of delinquency or default decrease. Hence we hypothesize:

H12 People's life satisfaction is negatively related to their delinquency intention.

Self-esteem

From the perspective of social exclusion theory, self-esteem may be conceptualized as an internal, subjective "marker" that reflects an ongoing assessment of the individual's inclusionary status (Leary 1990). Self-esteem is a typical indicator of individual psychological states; namely, it is a concentrated reflection of people's caring about self-image, pressure on interpersonal relationship, and individual emotional reaction. General strain theory suggests that such strain may lead to negative actions. Kaplan (1975) has extensively analysed the dynamic relationship between self-derogation (self-esteem with a reverse scoring) and self-report delinquent behaviour from a large sample of adolescents. Hence we hypothesize:

H13 People's self-esteem is negatively related to their delinquency intention.

Moral Norm

Moral norm refers to standards of conduct that are believed to be "right", "just" or "ideal" forms of behaviour. However, people may have delinquent behaviours, deviant from their moral norms and deviant from their peer behavioural norms (Buffalo 1971). As what the model of frame selection claims, from the definition of moral norm, individuals may have moral considerations that affect their willingness to default. Default can be perceived as morally wrong and as such something to avoid if not at all costs, at some significant cost. In addition, Hirschi (1969) in his formulation of social control theory contended that commitment to conventional morality is a strong deterrent to delinquency. Hence we make following hypothesize:

H14 People's moral norm is negatively related to their delinquency intention.

Moreover, we set several control variables such as age and education to avoid unnecessary bias.

4 RESEARCH METHODOLOGY AND DATA ANALYSIS

4.1 Instrument Development

We conducted a survey to test our hypotheses. We adapted existing validated scales whenever possible in developing our survey instrument. Most scales we selected have been proved to be mature and sound by many academic studies over the years. All of these items used a seven-point Likert scale. Besides, we used daily time spending on social media, number of friends on the instant messaging tool and the frequency of communication with friends to measure sociability of people. We also adopted monthly earnings, expenditure-to-income ratio and perceived price level as the indicators of personal economic capacity.

Because few people will be willing to tell their real ideas on any improper and disgraceful action they intend to do, it is hard to directly measure people's delinquency intention. In this study, we designed situational questions (context occurred on other (anonymous) person) as an alternative way to simulate the reality and test the delinquency intention. Due to loan size (high or low) as well as the use of borrowed money (objective reason such as emergency and subjective reason such as making large spending) will definitely impact the delinquency intention, we specially adopted four (2×2) scenarios to control such factors. Specifically, the delinquency intention was measured as below:

Each respondent was required to choose "for you, the least acceptable proportion of repayment (0% to 100%) of the person in the following four scenarios" respectively. Then we would use it (reversely calculated) to indicate the delinquency intention of the respondent himself.

*This is a [male/female] P2P borrower whose average monthly income is about ¥MMM [income]. He/she has borrowed from a P2P lending platform and need to repay ¥NNN (**Scenario 1 and 3:** = [income] × 0.6; **Scenario 2 and 4:** = [income] × 1.2) each month. In a certain month the borrower [delinquency/default reason] (**Scenario 1 and 2:** encountered an emergency such as severe illness, natural disaster, accident, etc.; **Scenario 3 and 4:** made a large spending such as mobile phone, travelling, treating others, etc.). Hence he/she may fail to repay the money before the due time. According to the P2P lending regulation, the platform will institute a suit against the borrower if he/she cannot repay the money in time*

The gender and monthly income in the beginning were based on each respondent's selected gender and income in the questionnaire. When a respondent made a choice of gender and monthly income, such information would be automatically generated in the dependent variable measurement scenarios. We manipulated this in order to better measure the real intention of respondents with the similar background of the borrower and the respondent himself; Namely, better empathy effect (Flury et al 2008). Thereby we had the combination of loan sizes and delinquency reasons with four different scenarios.

4.2 Data Collection

An online survey was conducted in China for the main study. In total, 860 subjects participated in the survey during a month. After data cleaning, the final sample size was 713. The percentage of male subjects was slightly higher than that of female subjects. The 18 – 30 age group was the majority. The majority of subjects had a low level of education. These results are consistent with previous studies (e.g. Serrano-Cinca et al. 2015), indicating good representativeness of our sample subjects.

4.3 Measurement

The results of CFA analysis and inter-construct correlation suggest the convergent validity and discriminant validity of the constructs are almost established. We set four situational scenarios to measure delinquency intention. Therefore, we firstly conducted paired samples test before structural model analysis to check whether there might exist discrepancy among the four groups of answers. From the results of paired-T test we can notice that the delinquency intention was significantly different between each pair of the four answers of dependent variable items. The result was reasonable and in line with our expectations.

4.4 Structural Model Analysis

Table 1(a) and (b) report the structural equation model fitting results with standardized LISREL path coefficients respectively for the first and second stage model. All indices suggest the model is with good fit.

The results from Table 1(a) suggest that people's economic capacity is significantly related to their individual feelings of life satisfaction and self-esteem. Higher economic capacity leads to better life satisfaction and higher self-esteem. However, the relationship between economic capacity and moral norm is not salient. Hence H1 and H2 are supported while H3 is rejected. Similarly, sense of fairness is positively related to life satisfaction, self-esteem and moral norm, which indicates the confirmation of H7, H8 and H9. Sociability of people is also positively related to both their feelings of life satisfaction and self-esteem, showing that H10 and H11 are supported. On the contrary, the sense of

loneliness will lead to less feelings of life satisfaction, lower self-esteem and moral norm, which is consistent with our expectation and H4 to H6 are supported.

	Dependent Variables					
	Life Satisfaction		Self-esteem		Moral Norm	
	Path Coeff.	Std. Error	Path Coeff.	Std. Error	Path Coeff.	Std. Error
<i>Independent Variables</i>						
Economic Capacity	0.126	0.035***	0.124	0.032***	n.s.	
Sense of Loneliness	-0.176	0.039***	-0.336	0.032***	-0.073	0.043*
Sense of Fairness	0.291	0.036***	0.166	0.038***	0.197	0.038***
Sociability	0.075	0.036**	0.241	0.031***	-	
<i>Control Variables</i>						
P2P Lending Experience	n.s.		n.s.		n.s.	
Age	n.s.		n.s.		n.s.	
Gender	n.s.		-0.087	0.033***	-0.070	0.037*
Education	n.s.		0.082	0.031***	0.076	0.034**
Children	n.s.		n.s.		n.s.	
Marriage Status	n.s.		n.s.		n.s.	
Working Experience	n.s.		n.s.		0.119	0.041***
Vehicle	0.070	0.040*	n.s.		n.s.	
Housing Status	0.140	0.031***	n.s.		n.s.	
Pension Pressure	-0.066	0.039*	n.s.		-0.110	0.032***
Health Condition	n.s.		0.140	0.034***	0.103	0.044**
Relationship with Family	n.s.		n.s.		0.175	0.045***
Relationship with Friends	0.084	0.038**	n.s.		0.081	0.046*
<i>Model Fit Indices</i>						
Adjusted R Square	0.380		0.506		0.437	
Sample Size	713		713		713	

Path Coefficient (Std. error)	Dependent Variables				
	DEL1	DEL2	DEL3	DEL4	Delinquency Intention (DEL1 - DEL4)
<i>Independent Variables</i>					
Life Satisfaction	-0.065** (0.033)	-0.102** (0.039)	-0.063** (0.032)	-0.105*** (0.036)	-0.080** (0.039)
Self-esteem	-0.192*** (0.035)	-0.184*** (0.032)	-0.130*** (0.032)	-0.184*** (0.033)	-0.186*** (0.033)
Moral Norm	-0.194*** (0.032)	-0.180*** (0.034)	-0.195*** (0.035)	-0.188*** (0.035)	-0.190*** (0.034)
<i>Control Variables</i>					
P2P Lending Experience	0.085** (0.036)	0.065** (0.031)	0.076** (0.035)	0.127*** (0.033)	0.098** (0.036)
Other Control Variables	n.s.	n.s.	n.s.	n.s.	n.s.
<i>Model Fit Indices</i>					
Adjusted R square	0.119	0.122	0.123	0.142	0.131
Normalized χ^2	2.39	2.59	2.88	2.41	2.44
RMSEA	0.052	0.061	0.063	0.054	0.061
GFI	0.94	0.91	0.90	0.93	0.91
CFI	0.92	0.90	0.91	0.90	0.91
AGFI	0.90	0.84	0.85	0.90	0.86

Note. All the values of *Delinquency Intention* was taken the base-10 logarithm when conducting structural model analysis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 1(a)(b). Structural Model Analysis Results

The results of Table 1(b) suggest that better feelings of life satisfaction and self-esteem will significantly decrease people's delinquency intention on online P2P lending platform. Likewise, holding higher moral standards is conducive to avoid delinquency intention and behaviours. Therefore, H12, H13 and H14 are supported. Moreover, with the P2P lending experience accumulates, people may tend to be more delinquent. Other control variables are not significant.

5 DISCUSSION

5.1 Discussion of Findings

Almost all the proposed hypotheses were demonstrated by our empirical study. Our research to some degree emphasized the significance of social status and psychological feelings on individual development and behaviours, especially some negative intention in online financial market. We found that higher life satisfaction and self-esteem of people were negatively related to their intention to default in P2P lending platform. Also, higher individual moral standards will improve self-control of people to refrain from delinquency behaviours. This phenomenon can be interpreted by the model of frame selection.

In addition, we demonstrated that psychosocial factors at different levels interact. Our research indicated that wealthier citizens in society would always hold higher level of life satisfaction and self-esteem, but it had no significant relationship with personal morality. This is in line with the conclusion of Guiso et al. (2009). Loneliness is no doubt a passive emotional states. As we expected, it decreased people's happiness in life, self-respect and even moral standards. A possible reason may be defensive behaviour would take a dominant role beyond a certain self-inhibition when people are feeling lonely, as GSL suggest. It is not hard to understand that sense of fairness helps to raise people's feelings of life satisfaction and self-esteem. Fairness also improves individual moral standards, which might be due to a heart of thanksgiving as well as paying back to society. Sociability measures people's social willingness and ability. Usually optimistic and extraverted person has higher sociability, and such good disposition implies less pressure in life. Hence according to GSL, it is not surprising to find that sociability is positively related to people's life satisfaction and self-esteem.

5.2 Theoretical and Practical Implications

Our research makes interesting theoretical contributions to the literature. First of all, this study is among the earliest researches on investigating people's delinquency or default intention on online P2P lending platform through methodology of survey. Second, to the best of our knowledge, this is one of the earliest study to apply the theories of sociology and criminology (e.g. GSL, MFS) and important factors into online P2P lending research. We utilized theoretical model and factors of sociology into the Internet finance context, which is conducive to improve the reason exploration and excavate more interesting findings in Internet finance studies. Finally, we specially explore four scenarios to test people's delinquency intention on P2P lending platform considering both the impact of repayment burdens and delinquency reasons. This is not only a methodological improvement, but also proposes an important sense to design lab experiment or even field experiment to inspect related issues on P2P lending service.

This study also has several practical implications. For P2P lending providers, our research suggests an effective method to improve the user credit evaluation. We suggest P2P providers try to collect and understand each borrower's psychosocial state in proper ways such as interviewing with indirect questions, using relevant indicators as proxy, and so on. In addition, the conclusion of our study also suggest P2P providers to focus on many other important factors like borrower's P2P lending experience, housing status and relationship with his or her family and friends. On the other hand, for financial and social governors, they shall pay more attention to people who with weaker economic capacity and less sociability (the so-called down and out resident), and improve life quality of residents as well as endeavour to create a fairer social environment. This would be the essential and sustainable solution to decline default in financial service and guarantee the healthy financial market development.

5.3 Limitations and Future Work

This study is not without its limitations. First, because research by survey is difficult to measure people's true behaviours, the results of delinquency intention may be biased or distorted as to people's real action in the practical world. Second, we have measured many factors in this study, and in fact we believe there would be much more interesting and complex findings, which may require some other proper and sound theoretical foundations. The structural model analysis could be conducted further to compare the intergroup difference. Finally, in the literature of sociology, psychology and criminology, many other factors have been mentioned and studied. Further research may import these useful factors to better assess people's credit on online P2P lending platform.

6 CONCLUSION

With the advancement of online P2P lending, this study seeks to answer the question of how people's psychosocial status could lead to their delinquency and default intention on P2P lending platform. We proposed a two-stage model. Our empirical study of more than 700 subjects in China suggests that higher psychosocial status (e.g. higher economic capacity, stronger sense of fairness and sociability, and lower sense of loneliness) will be conducive to better individual feelings of life satisfaction and self-esteem. Moreover, better psychosocial factors will mostly lead to a higher moral norm of people. Therefore, these favourable feelings and morality further contribute to less delinquency intention on P2P lending platform. This study introduces theories and common factors of sociology, psychology and criminology into Internet finance and information system field, proposing a supplement and support for better user credit evaluation.

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