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Determinants of loan funded successful in online P2P Lending

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Abstract

Online Peer-to-Peer lending has developed rapidly recently. In this article, an empirical study was conducted by using public dataset from Paipaidai, the largest online P2P lending in China. We analyze the factors that determine the probability of obtaining the loan in online P2P lending. The result indicates that annual interest rate, repayment period, description, credit grade, successful loan number, failed loan number, gender, and borrowed credit score are significant factors to loan funded successful on Paipaidai platform.

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1. Introduction

In recent years, online Peer-to-Peer (P2P) lending has developed rapidly in China. Online P2P lending is to borrow and lend on the Internet, and borrowers and lenders can use the Internet platform to achieve online trading. It is considered to be a major innovation in the area of retail banking. In 2005, the first online P2P lending company, Zopa, was launched in the United Kingdom. Then Prosper was the first P2P lending firm in the United States, which was opened in 2006. In China, online P2P lending platform first appeared in 2006. In these years, the number of P2P platforms as well as the volume of transactions both have been steadily increasing. According to statistics, in China, the number of online P2P platforms has reached 2448 to the end of 2016, while the turnover reached 2,063 billion RMB which is an increase of 110% compared with turnover in 2015.

Online lending provides new financing channels for small, micro enterprises and individual borrowers. With the rapid development of online P2P lending market, more and more problems are encountered. The domestic online lending industry is still in the stage of development, which is an industry with high risk. Attracted by the

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high investment return, a large number of investors have poured into the market, and various practical problems have become increasingly prominent. Firstly, there is high default rate as well as high industry risk. Many online lending platforms lack the risk control ability, and they cannot effectively identify bad loans. In the case of high loan default rates, many platforms have been forced to close. Secondly, many investors blindly seek high returns and follow suit in investment. Due to the serious information asymmetry between the borrowers and the lenders in online lending, the loan rating given by the platform is not so useful that the investors cannot effectively assess the investment risk. Thirdly, most platforms lack of rapid and effective credit ranking and loan approval system. For example, whether the loan applications are approved have nothing to do with the credit rating.

Therefore, the purpose of this article is to analysis the factors that determine whether the borrowers can obtain loans finally or not from the largest P2P platform in China, which will help the platforms to improve its loan approving process and reduce their operational risk. An empirical study is conducted by using public dataset from Paipaidai. The result indicates that annual interest rate, repayment period, description, credit grade, successful loan number, failed loan number, gender, and borrowed credit score are significant factors to loan funded successful on Paipaidai platform.

2. Related Works

Since the first P2P platform started in 2005, there has been a growing body of literatures focus on online P2P lending. Many of the studies use tradition data on Prosper, which has made its loan data publicly available. The information of borrowers is divided into hard information and soft information. Hard information includes credit rating, loan amount, ethnicity, gender and so on. Soft information includes social network and social capital of the borrowers. Sanjeev Kumar points out that the investors will give full consideration on the historical failed funding number and the successful number of the borrowers in order to achieve less risk of return [1]. The two indicators can reflect the financing risk in a certain extent. Seth Freedman shows that the credit rating of the borrowers is positively related to the success rate of loans on Prosper [2]. The study of Puro et al. shows that a lower interest rate decreases the borrower's chances of getting the loan funded, while a smaller loan amount increases the success probability [3]. The study of Ravina, Pope et al, and Barasinska shows that borrowers's gender, age, ethnicity affect the success of funding [4-6]. Herzenstein et al. show that borrowers' financial strength, their listing and publicizing efforts and demographic attributes affect the probability of funding successful [7]. Duarte et al. show that borrowers who have more trustworthy appearance are more likely to have their loans funded [8]. Larrimore et al. show that objective and specific description of loan has positive impact on funding success [9]. Lin et al. analyse the role of social connections in evaluating credit risk and discover that strong social networking relationship is an important factor that determines the borrowing success [10]. Freedman and Jin also find that borrowers with social ties have more possibility to have their loans funded [11].

In this paper, we analyse the factors that determine the success of loan funded, including both the hard information and the soft information on Paipaidai platform.

3. Data

This study uses 193614 loan applications on the Paipaidai platform from January to June in 2014 obtained from <http://www.ppdai.com>. Among the application set, there are 43837 applications obtained the loan in the end, and 149777 failed. By using the user ID, we also grab the social net information of the loan applicants. Over the study period, Paipaidai lent about 277 million RMB to borrowers while the total amount of the loan applications is about 746 million RMB as shown in Table1.

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