P2p Personal Credit risk Identification Index Selection Research under Sharing Economy in China

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Abstract. With the development of the Internet financial, the number of the P2P network platform is increasing rapidly, however the problem of the P2P platform is also a increasing trend in the meantime. After investigating its reason, individual credit risk is the main factors of problem platform. For the personal credit risk identification index system is imperfect of the P2P lending platform in our country, in this paper, combined with the characteristics of P2P lending platform in China and based on the personal credit risk identification index selection research at home and abroad, then the personal credit risk identification index system of P2P network that fixes China is built. Thereby the P2P industry in China can be facilitated to develop in health and sustainability.

Introduction

With the rapid development of Internet technology and the Internet financial, P2P network loan platform scale is increasing in our country. The emergence of P2P network credit platform makes up for the traditional financial system in the deficiency of small loans, which brought us a lot of convenient financial services. But as a result of the industry's shorter development history and it is at an early stage, it can't be ignored that some problems exists in the industry, for example, the related laws and regulations system is not sound, risk control is imperfect and so on. These problems make some P2P platform greatly increase the probability of violation of laws and regulations. Thus credit risk in the process of borrowing has become the important factor to the healthy development of the P2P network credit platform in China.

In this paper, through researching the personal credit risk evaluation index selection of the P2P network platform and based on the the choice of evaluation indexes and credit rating model of traditional commercial bank in our country, built a set of effective index for borrowing in the process of personal credit risk control which has a certain guiding significance.

P2P network personal loan credit risk present situation in China

P2P network of high growth and high returns loan aggravate the occurrence of credit risk
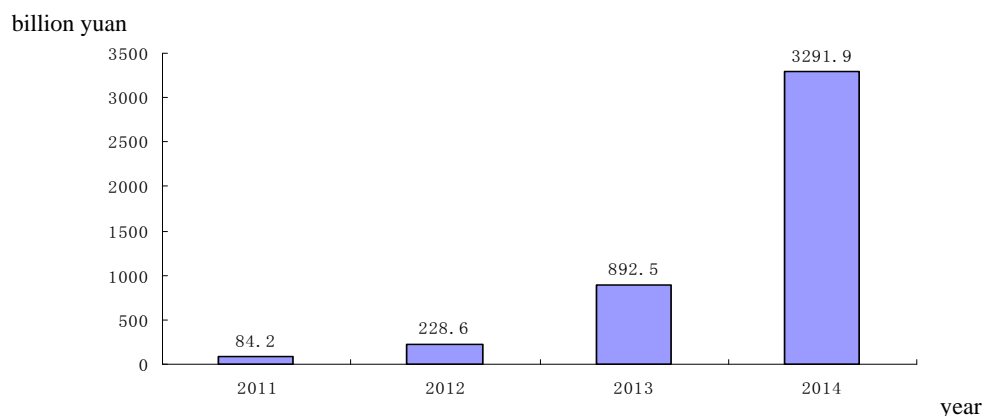

Figure 1   Net credit industry turnovers in 2011 ~ 2014

See from figure 1, By the end of the December 31, 2014, the national net credit sales is 329.19 billion yuan, which enlarged the 39 times compared with 2011. Up to now, with the aid of the ultra high profit margins, P2P loan has attracted more and more investors to arrange the finance through the network platform loan financing, but due to good and evil people mixed up in P2P industry which led to the decrease of the quality of the P2P company and the platform credibility and also increase of personal credit risk.

   The benefits of credit risk and loss of six to one。 borrowers and lenders in P2P lending industry sign the contract, then the lender creditor's rights is produced by gains which also determines the price, so the lender profit is predetermined, and its loss is asymmetric. In the process of financing loan deal , the lender loss depends on the condition of the borrower default, therefore credit risk makes the gains and losses for both parties is not symmetrical.

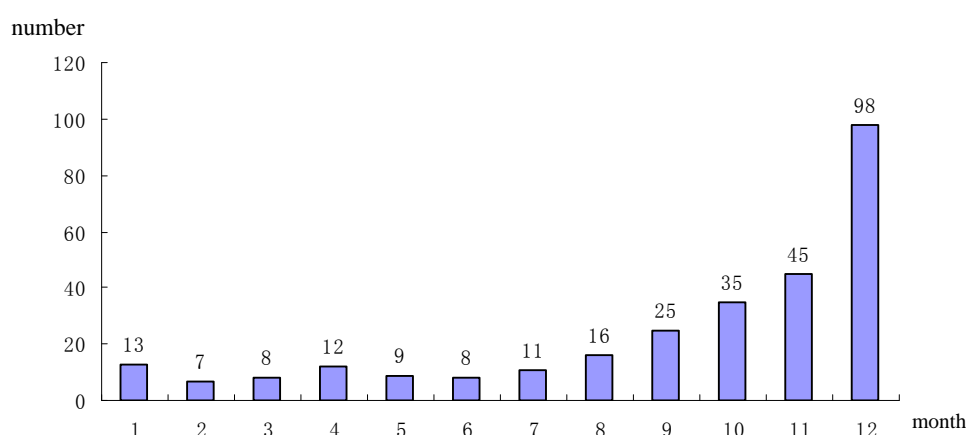**Credit risk has the characteristics of chain reaction.**

number

Figure 2   Question platform number in every month of 2014

See from figure 2, the question platform number increased month by month in 2014.   "run" ,the difficulty of withdrawal and active suspension with the problems results in the collapse of p2p platform which reached 287, and the number is 3 times as the 2013. The phenomenon of the problem of p2p platform will undoubtedly form bad chain reaction, which makes the industry of credit risk greatly increased.

The cause of the P2P network personal loan credit risk in China

Low audit requirements of the borrower in the P2P platform. Due to P2P platform don't have the right to personal credit record from the commercial Banks , it only rely on online review of the borrowers' basic information , so it can not accurately determine the borrower's credit and assess borrowers' repayment willingness and ability.So no matter to determine the repayment willingness or repayment ability of the debtor, P2P network credit platform is not very good grasp of the debtor's specific financial conditions,and also between P2P platform and lenders,they can't well understand each other's credit status. In addition, because it can't get enough information of the borrowers, this increased the probability of credit risk default of borrower.

the assessment of borrower's credit loan and credit rating in P2P network is not perfect

P2P network platform obtain reference indicators from the personal credit assessment model of commercial Banks ,and conduct a preliminary determination of the borrowers' loan information and payment information to a certain extent, this reduces the incidence of the personal credit risk. However, due to the P2P platform less access to the personal information and the reduction of

screening ability of effective information for borrowers , this can lead to the optional credit evaluation index less and the credibility also reduce correspondingly, which also lead to personal credit risk greatly increased.

P2P network loan personal credit risk identification index selection

credit risk identification index Selection. The credit risk identification indicators were mainly from the commercial bank loan of personal credit evaluation model which may be easily obtained in some degree. Mainly from the borrower basic information, debt paying ability, operation ability and so on to evaluate. As shown in table 2.

Table 2 The selection of credit risk identification indexes

category	Selection reason
Natural characteristics	the more rich social resources, the repayment ability is stronger, but for young people, because of their economic foundation is unstable, it is high risk in the process of payment
Historical performance	the borrower's past information help lenders to reduce the information asymmetry, and thus reduce credit risks.
The borrowing information	the loan amount determines loan repayment pressure. when the monthly repayment amount is large which can cause more pressure and borrowers repayment ability is relatively lo wer, making the return default or late.
Family situation	When the average annual income of borrowers is higher, the loan amount is reduced, the repayment pressure is reduced, and less likelihood of default; On the other hand, the borrower credit risk will increase.
Investment industry	When loans for basic production, such as breeding industry, credit risk is high, and when used in consumer spending and self-employment,credit risk is smaller.

Combined with the characteristics of P2P network credit in China, construct suitable personal credit risk identification index system of credit platform for P2P network in our country. As is shown in table 3.

Table 3   P2P network platform for personal credit risk identification index system

Category	Grading index	Scoring criteria	(scores)			
Natural characteristics	age	<20	20-30	30-45	>45	
		2	4	6	4	
Historical performance (frequency)	Late payment number	>50	20-50	10-20	<10	No default record
		0	1	3	5	10
	Return on time number	>50	20-50	10-20	<10	No pay record
		15	10	8	5	0
	Successful borrowing number	Never succeed	1-10	10-20	>20	
		0	1	3	10	
	Borrowing failure number	>50	20-50	10-20	<10	No default record
		0	2	4	8	10
The borrowing information	Borrowing amount(yuan)	<6000	6000-10000	10000-50000	50000-100000	>100000
		8	6	4	2	1
	Return deadline(months)	<3	3-5	5-12	12-24	>24
		10	8	6	4	1
Family situation	The average family's income(yuan)	>5000	4000-5000	3000-4000	2000-3000	1000-2000
		9	6	5	4	3
		<1000				
		1				
Investment industry	direction of investment flow	consumer expenditure	individual management	Fundamental production sectors		
		8	7	4		

Setting of index weight. The current index weight methods of network platform loan mainly are: First, it is set according to industry experience and subjective judgment of the business. Second, it is set by various mathematical function formula or mathematical model to determine the weights. For

it is difficult to collect and analysis the data of personal credit loan rating, in this article, it mainly uses the expert scoring method and weighting method which are generally used in P2P platform, and it is also combined with the subjective evaluation method and data mining technologies to determine the the weight of each index in the credit rating index system, as is shown in table 4.

Table 4　the weight of each index

category	identification index	weight
Natural characteristics	age	5%
Historical performance	Late payment number	15%
	Return on time number	5%
	Successful borrowing number	25%
	Borrowing failure number	5%
The borrowing information	Borrowing amount	15%
	Return deadline	15%
Family situation	The average family's income	10%
Investment industry	Borrowing to	5%

After statistical analysis of the borrowers' information was carried out,score the borrowers' credit based on P2P personal credit risk assessment index system and weight of each index scores, then get the the specific rating criteria in table 5.

Table 5　personal credit risk rating of P2P platform

score	>80	70-80	60-70	60-50	<50
Credit rating	AAA	AA	A	BBB	C

Conclusion

Normative personal credit risk inidentified index system shall be built and examination for the credit of users shall be enhanced. The information published in the network shall be regulated, and the transparency of the information shall be raised. P2P platform should draw lessons from the credit system of commercial Banks and other credit rating agencies,and design a suitable credit rating evaluation system for their own platform. Only in this way can the good reputation of P2P platform be improved.

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