

Risks and Prevention Strategies of Internet Finance in China*

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Abstract—This paper examines the main patterns and characteristics of China's Internet finance and puts forward suitable preventive measures and regulatory policy for the legal risk, technology risk, credit risk and operational risk of the current Internet financial markets to perfect China's Internet finance related laws and regulations, strengthen construction of credit system, and establish a long-term mechanism to ensure financial market stability and healthy development of the Internet.

Keywords—internet finance; finance risk; risk prevention; finance monitoring

I. INTRODUCTION

With the YuEBao coming out of nowhere in 2013, it has been a vigorous development in China Internet Finance Market. Business in internet finance arises rapidly. Innovated finance forms, such as the third party payment platform, online lending company, crowd funding platform as well as internet financial information gateway companies have imposed forceful impact to the traditional financial institution and raced seizing market shares in the field of depository, loan and remittance. According to the analysis report from the People and Innovation Consulting, the crowd funding industry has raised 22.025 billion RMB

In total nationwide in 2017 alone; up to the end of December 2017, the crowd funding industry has accumulated a historical record of 58.42 billion RMB. By the end of May 2018, there have been total 253 crowd funding platforms running regularly in China. Data from Research Center of Online Lending House indicates that up to the end of May 2018, the accumulated overall transaction of P2P internet lending has reached the total amount of 7158.464 billion RMB, passing the threshold of 7 thousand billion for the first time, the total number of internet lending companies with regular operation is 1872.

However, China's Internet finance is still in its infancy, and illegal activities such as illegal fund-raising, fraud, and money laundering are common occurrences. Personal information disclosure and damage to investors' interests have occurred from time to time. According to the statistics report of the Network Lending Eye Research Institute in July 2018, the number of online lending platforms in Guangdong

reached 1,136, and 28 new problem platforms were added in the month. The cumulative problem platform was 746, and the problem platform accounted for 65.7%. It can be seen that the issue of prevention and control of Internet financial risks is imminent. By analyzing the characteristics of the Internet financial model, this paper clarifies the context of risk generation so that the right medicine can be minimized, the probability of Internet financial risk is minimized, and the Internet financial market is guaranteed to operate stably and efficiently.

However, internet finance industry in China is still in its infant stage, illegal activities such as illegal fund raising, financial fraud and money laundry is a quite common practice, on top of that, compromising of personal information and violation of investor's interest has been seen from time to time. According to the statistical report from the Research institute of Internet Lending Sky Eye, up until July 2018, there are total 1136 internet lending companies practiced in Guangdong province along, a net increase of 28 companies compared to the prior month, 746 out of 1136 have some kind of problems, the problematic ratio is as high as 65.7%. Therefore, it has become extremely urgent for the internet finance industry to come up with an effective mechanism to prevent and control those risks.

In this paper, the root cause sequencing of the internet financial risks are explored and examined by analyzing the characteristics of the modes of internet finance, so as to act appropriately and to minimize the risk occurrence probability of internet finance, to ensure the stability and the efficiency of the internet finance market.

II. PRIMARY MODES AND MAIN FEATURES OF CHINA INTERNET FINANCE INDUSTRY

The internet finance flourished as a result of deep integration of finance industry with internet technology. Supported by the internet technology, new types of financial products and services emerge one after another. So far, some typical Internet finance models have been formed mainly through third-party payment, online lending, crowd funding and Internet financial information portals.

A. Third-party Payment Platform and Its Characteristics

With the integration of internet and payment function, the third party payment platform has become the brightest star in

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the internet payment options. There are three operating modes for the internet payment: the first mode is through the internet bank gateway online payment mode, which is achieved through linking both application systems of buyer and seller into bank system. The payment process is completed when the money is transferred online from buyer's bank account into seller's bank account. In this mode, differences in the gateway ports for different banks are quite significant, and connection costs are quite high.

The second option is the unified payment gateway online payment mode, which is completed by a financial service institution specializing in online payment of e-commerce. Similar to a commercial bank, the central bank provides a clearing account for it to complete the online payment function, namely China Union Pay. This model is quite costly and cannot achieve cross-bank collections.

The third is the online payment mode of the third-party payment platform, that is, an independent organization with certain strength and credit guarantee, and the network payment mode realized by the two parties through the network connection. The essence of this online payment mode is the custody. The fundamental of operation is to set up a transit account between receiver and payee, so as to realize the pause crucial for the capability of monitoring and control of the fund. The third party holds the responsibility of mediating and monitoring function. Where the money will finally go is determined by the agreement reached by both party. Specifically, this is a payment guarantee that is implemented through payment custody, which solves the problem of integrity in online payment. Third-party payment institutions continue to innovate, integrating online and offline payment methods, opening up new payment scenarios, improving the payment experience of consumers, and realizing payment, financial services and financial management functions. Being a neutral of interests, payment platform, which does not compete for business with the corporation served, creates a bridge connecting government, corporation, company and individual. Data published by Airui Consulting shows that, the size of online payment transaction is about 2075.1 trillion yuan, among that 202.9 trillion yuan coming from mobile payment, which is an increase of 28.8% from 2016. Future offline consumption will become a new supporting point for the transaction size growth. In recent years, the growth rate for mobile payment is higher than that of PC based. Consumer's payment habits have been migrated toward mobile option, and the third party payment will march toward the era of mobile payment. It is observed that Ali pay, Tenpay and Union Pay continue to hold the top three positions in the third party payment market in recent years. The two giants of Ali pay and Tenpay combined take up almost 50% of market share of China third party payment transaction size. The level of market concentration is terribly high.

B. Internet Lending Company and Its Characteristics

Internet lending here refers to the direct loan realized through internet platform between individual and individual. It is a subcategory of internet finance industry. Internet lending includes individual internet loan and internet petty

loan. Individual internet loan (that is P2P online lending) is an internet lending mode directly executed between borrower and investor. Internet petty loan is referred to the small amount of loan provided through online platform to individual or corporation by the small-amount loan lending company which is a subsidiary owned by an internet company. P2P internet loan, which is the biggest innovation highlight in internet finance business, has four types of modes. The first one is pure online mode. In this mode, the internet lending company is responsible for providing the trading platform and coming out trading rules, investigating the credit of the borrower, typical representative is Pai Pai Dai. The second one is online + offline mode. In this mode, the internet lending companies mainly focus on online wealthy management, and publish the credit information of the borrower as well as following the relevant law service, and attract investor; meanwhile the lending company will recruit borrowers through offline strategies such as sending a local subsidiary or agency representative into borrower's home for further verification of credit and solvency of the borrower. Typical examples are Anxindai and Renrendai. The third mode is an authentication offline mode. The online lending platform company accomplishes face to face verification and procedure of loan, generally by secured loan provided by the platform. At present, most of the P2P internet lending platform in China belongs to the offline authentication mode. A typical example is Helidai. The fourth mode is atypical P2P mode, which is achieved mainly offline by means of transferring credit and debt to satisfy the requirements of both party involved. Under this mode, it is an indirect loan relationship formed between the true parties of transaction. Typical representative is Yidai.

C. Platform for Crowd Funding and Its Characteristics

Crowd funding refers to the fund raised by a project initiator in the form of group purchase and purchase in advance. It relies on internet and SNS (Social Network Software) to spread the information about the project, to obtain the funding of public. Crowd funding can be divided into four types. The first one is donation based crowd funding, that is the investor who provides fund through donation and sponsorship pay no attention to the return. The supporter does it for the purpose of public benefit, primarily in the field of public welfare. Typical examples include Xin Gong Yi and Ai Xin Chou. The second type of the crowd funding is one with return. The investor invested in the project or the company through attain products or service. Crowd funding with return encourage individuals and small size startup companies raise money to realize innovation. The investor is of charitable and philanthropy spirit, the investment is a kind of pre-order or donation. Typical example is Dian Ming Shi Jian. The third type is ownership crowd funding. The investor invests the project or company for certain percentage of the ownership so as to expect return of interest and principals. Typical examples are Yi ren dai and Renrendai. The fourth type is stock crowd funding. Investment to a project or company aimed to obtain a certain percentage of company stock. The stock crowd funding has become main stream of crowd funding mode, representing the future development trend. Typical examples are Ren Ren

Tou, Tian Shi Jie. Crowd funding has a low entry threshold and there is no entry requirement for the fund initiator in terms of identification, status, professional age etc. And there is no requirement for capital size. Compared to the traditional fund raising pattern, the primary advantage of crowd funding is the low cost, especially in initiating cost, marketing cost, and transaction cost. Based on internet, the crowd funding sets up a direct link between the investor and borrower, so as to increase dramatically both the efficiency in fund raising and transaction as well.

D. Internet Finance Gateway and Its Characteristics

Internet finance gateway is referred to the third party media service platform that relies on internet to provide the sale service for finance product. It is a new commercial activity derived from media service to support internet finance transaction, and its primary value lies in the value of channel. There are three types of internet finance gateway. The first one is the third party information platform, which is a gateway that provides comprehensive information for their customer in terms of data and industry information. Typical examples are Wandaizijia and He Xunwan. The second type is finance vertical search platform, which lists internet finance products on the platform. The customer can pick up desirable products by comparing prices directly. Typical examples are Rong 360, Haodai and etc. The third one is online finance supermarket, which is a sales platform with a large number of finance products to provide service like shopping guide, sales matching service and relevant media service. Typical example is "ZhongYin"online, 91 finance supermarket and etc. The internet finance gateway company lists overwhelming variety of finance product on the platform, with very clear information about product's price, characteristic and returns to make it convenient for customer to compare, select, match and reduce the occurrence of reverse selection. The gateway also carries out real-time monitoring the company by credit investigation and risk warning system so as to reduce the ethic risk. Compared with the offline search, internet finance gateway could search and compare price online owing to the new technology such as big data and cloud calculation, which can save the time cost greatly. With the channel advantage of internet finance gateway becoming clear, it can push the internet finance industry to further development driven by reverse control combing through the vast customer base it has accumulated so far.

III. RISK ANALYSIS OF CHINA'S INTERNET FINANCIAL MODEL

The rise of internet finance has triggered the profound reform in finance business mode and service mode, but there are uncertainties lies in the road. Risk problems comes one followed close on another. The stability of financial order has been threatened seriously. In the following sections the risk patterns will be explored based on the characteristics of variety finance modes.

A. Risk of Third-party Payment Platform

The risk of the third party payment platform comes from three aspects. The first one is the capital safety risk. With the rapid expanding of online consumption scale, the scale of online payment transaction expands constantly. In 2016, the dimension of third party online payment transaction is over 100 trillion yuan. When the agreement is reached between the two parties of an online transaction, the purchaser will transfer his pre-payment to a third party account and leave there temporary, therefore a gigantic sedimentation fund pool is formed. With the rapid development of the third party payment, more and more customers involve, and the more customers involved the bigger the deposit pool. Because the deposit pool gets so big that it will trigger finance system risk that impacts the nation's economic order if something goes wrong with the giant deposit pool. The second is the information safety risk. The third party online payment over depend on things such as payment account, terminal, online information resource. It is very vulnerable in terms of information safety risk, especially during the process of information manipulation, broadcasting and usage. In addition, it happens from time to time that consumers' personal information and trading information has being leaked, embezzled and tampered. Furthermore, technology challenges such as computer virus, hacker attack have become increasingly prominent. The third is operational risk. The size of customer group of third party payment is huge. The number of third-party payment user groups is huge, and Internet technology vulnerabilities often exist, and any operational errors can lead to dangers. Besides, a system which is not protected by the modern electronic customer certification technique such as U shield is very vulnerable to the attack of phishing software. If the violation is happened during fund transfer, it could cause the fund stolen unwillingly. Combined trading scale of third party payment from 2013-2020 in China (in trillion yuan).

B. Risk of Internet Lending Company

There are four main risks in the online loan platform.. The first one is credit exposure risk. Due to the low threshold of online lending business and the low creditworthiness of borrowers, online lending faces greater credit risk. As the credit investigation system is not yet open, there is no information sharing among different online lending platforms. Therefore it is impossible to acquire all the information associated with the borrower, such as the sum of borrowing among from all the lending sources and solvency, resulting in the climbing of overdue rate and bad debt due to the lack of effective after lending management. The second is the technique risk. Most of the platforms pay more attention to the business side but much less to the maintenance side. The extent of protection of internet finance to its customer's information is far less than sufficient compared to that of the traditional finance institute in terms of mechanism in internal controlling and monitoring, for example, the event of Ruxin leakage of customer information. The third is legal risk. The biggest legal risk is being drawn into the illegal fund raising scheme. The form of illegal fund raising through P2P online lending include: 1) setup capital pool, the finance products are packaging and

sell to the lender to take in money from the lender. 2) Identify the bogus borrower absorbing money from lender. 3) self-funding scheme, taking out a new loan to pay off an old one by robbing Peter to pay Paul. The fourth is operation risk. It only looks simple, but actually is quite complicated to run an internet lending platform compared with the financial institute such as bank. P2P is a new comer and still in its early stage far from mature, lacking systematical structure and scientific operation mode, with very limited platform management experience. It is pretty vulnerable to the challenges incurred during the operation, which in turn triggers the operation risk.

C. Risk of Crowd Funding Platform

Thanks to the rapid development of the internet, Crowd funding, representing an innovation in finance and investment industry, has been a favorite among investors. Although crowd funding has a very promising future, the risk associated with the crowd funding shouldn't be overlooked. In 2017, there are total 331 crowd funding platforms which have some sort of problem associated with them or have to be forced to transform nationwide. The risk of crowd funding lies in four aspects. The first one is legal risk. The raising of illegal fund is just like a sword hanging over the crowd funding. Crowd funding promoting his creative ideas and projects to the unspecified public investors, it is very likely for crowd funding platform, lured by high profit, to infringe the law bottom line by getting involved with illegal fund raising. The second is the operation risk. Crowd funding playing a role of media should not hold the responsibility and take the risk. But there is no way for the crowd funding platform to assure the accuracy of the information released, which in turn causes the loss of capital to the investors. Besides, in the crowd funding, there are lack of trust among the limited partners, and the form of this limited partner restricted the investor from advocating for shareholder rights, resulting in the problem in operation. If monitoring is not adequate, it is very possible to expose the risk for supporter, investors and platform. The third is technique risk. With the rapid development of technology, the speed of technology innovation is very fast and the product replacement rate is unbelievable high. The product of crowd funding must be produced within the time-frame specified. Otherwise, it will be eliminated by market. If the quality of the product is not guaranteed, the value of the project will be greatly discounted. The fourth risk is the moral hazard. In crowd funding, a close tied relationship has been established between financing party and the leading investor, it will lead to success or failure of the project whether the leading investor fulfill his obligation and represent the investor to exercise the right of the stakeholder. However, there is very little restriction to the leading investor. Owing to the asymmetry of policy making and information asymmetry, investors are in vulnerable position and face the severe moral hazard.

D. Risk of Internet Finance Gateway Company

The internet finance is based on big data technology and cloud calculation. It breaks through the asymmetry of information, reduces the occurrence of reverse selection and

ethical risk and provides the customer with good experience of product selection. However, it should not be overlooked for the risks brought up by the internet finance gateway. There are mainly four kinds of risks associated with the internet finance gateway. The first one is information safety risk. With the widely application of big data and cloud calculation, it has become more and more integration and openness for the internet finance. The platform has collected enormous number of customer data information, and potential risk for the leakage of customer privacy and transaction data is vast. The second is the technique risk. Under the big data environment, traders could take advantage of the computer equipment and software to acquire, to generate, and to submit the instructions quickly and to buy and sell more frequently within a short period of time, to balance position, and to hedge risk. It is necessary to monitor and control these types of finance transaction tools, otherwise could cause the market turmoil. For example, the irrational plummet of Dow Industrial Index on April 23 2013 was caused by a piece of fake news that president Obama was attacked by the terrorists reported by the Associated Press. The third is credit risk. Even though the volume of traffic flow is humongous, the size of the traffic flow is not the same as the size of customer; real customer is only a small portion of the traffic flow. Good quality customers are the foundation of a platform survival. Because it is impossible for the platform to master the accurate information about the customer's credit, it will cause the platform to bankrupt if the credit crises outburst simultaneously. The fourth is operation risk. After the first time searching and comparing the price and performance, the customer of the online finance search platform could set up direct contact with the lending company, they don't need the platform for the subsequent loan process to avoid the tedious process of searching, comparing, and applying. This type of customer will become "one-time" customer. Therefore, it is huge challenge for the gateway platform how to maintain a good customer relationship, and to stabilize the customer base.

IV. RISK PREVENTION STRATEGY OF CHINA INTERNET FINANCE

The internet finance in china, as a newborn thing, has developed rapidly, but far from maturity. Risk prevention and supervision still need to be perfected. Based on analysis mentioned above, corresponding risk prevention means and supervision strategies are proposed in this paper as following.

A. Strengthening Relevant Laws and Regulations, and Standardizing the Innovation Process

Currently, there has been comprehensive implementation of regulatory restrictions for the third party online payment. The other types of internet finance modes, such as crowd funding, internet lending, finance information gateway should draw lessons from the advanced international legislative experience, clearly define business boundary, come up with the relevant laws and regulations as soon as possible, explicit right and obligation, regulate the business conduct of platform, shape a good development environment.

Furthermore, reinforcement of legislation of information protection, make sure the internet finance platform to protect information technology and resource of information data, enhance risk prevention management.

B. Construction of Social Credit System and Reinforcement of Early Warning System

Credit risk is one of the major risks of internet finance, mainly because of the information asymmetry of the two sides of the transaction. First, break the confinement of uneven development situation between government sponsored and non-government credit investigation system, take fully advantage of big data and cloud calculation; Second, unify the credit investigation management; Third, improve the credit evaluation system.

C. Establishing Long-term Effective Regulatory Mechanism, Safeguarding the Healthy Development

First of all, under the leadership of the state council committee in financial stability and development, it is very important to further specify the monitoring and controlling responsibility among the associated financial regulatory entities and to reinforce inter-cooperation among different entities. It should be assigned clearly what the assignment and responsibility should be for financial regulatory institution and local government so as to avoid problems such as regulation turmoil, regulation redundancy and regulation vacuum. The secondly, some regulations should be perfected in detail and promoted to the regulatory level or even legal level, based on the "Instructions regarding to the expedition of the healthy development of internet finance" introduced in 2015. The thirdly, it should be improved and strengthen the weak link and vacuum existed in the financial regulatory, such as the exit mechanism, debt evasion treatment, and credit system construction.

V. CONCLUSION

In the era of the Internet, traditional finance has already emerged with new risk characteristics and management methods, followed by a series of new management measures and legislation. There are four main aspects in summary, namely, risk-based management measures, relying on reliable and independent sources of information, legislation to strictly control information behavior, and implementation of regulation based on business substance.

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