Research on the Construction and Application of Statistical Monitoring System Based on Internet Finance

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Abstract. With the support of Internet technology, the Internet financial system has been continuously developed, and then gradually formed a development system, such as Internet third-party payment, P2P online lending, crowdfunding and many other representative Internet finance models. In the development process of Internet finance, due to the influence of its own nature, it is necessary to establish a corresponding monitoring system in the development process, effectively control the probability of risks in Internet finance, avoid the widespread spread of Internet finance in case of problems, and affect people's property safety. The broad statistics of the Internet financial business information is an important basic work for the Internet financial supervision, but also one of the important steps for the implementation of innovative supervision in the next step. Therefore, this paper summarizes the Internet finance and introduces the existing risks, and puts forward the construction strategy of the Internet financial monitoring system of statistics.

Keywords: Internet finance · statistical monitoring system · risk · construction and application

1 Introduction

Internet financial risk presents new characteristics, the types of risk need from multiple angles, the corresponding protective measures, and to develop a good Internet risk awareness, alert risk possibility, at the same time for the Internet direction also need to establish corresponding regulatory system and system, further improve the regulatory system, all aspects of the Internet financial regulation, and combined with the regulatory system and system, effectively control the Internet risk scope, reduce the scope of Internet risk impact on enterprises and users. So establish the Internet financial statistical monitoring system, and the application of the Internet finance, can effectively and timely discover the risks and problems of the Internet finance, timely carry out the corresponding control measures, to further promote the amazing development of the Internet in China, and even affect the development and innovation of the whole Internet finance [1].
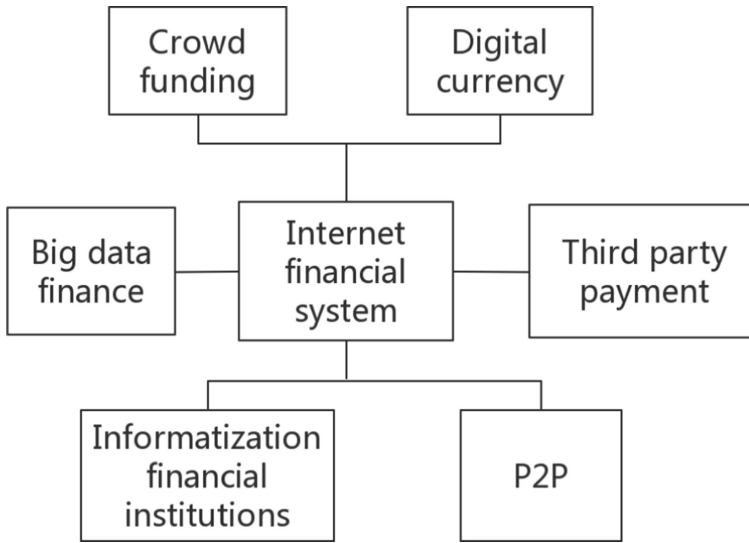
Fig. 1. Basic system of Internet finance (self drown)

2   Internet Finance and the Risks Existing in It

2.1   Internet Finance

Internet financial popular, is to use the Internet platform using computer information of information technology to carry out and handle financial services, the Internet financial services in the mode system and service content are different from the traditional financial services, at the same time created a new financial formats, promote the financial industry service platform of personalized and information. Internet financial in China development time is short, mainly divided into three stages, respectively is 90 to 05 financial Internet transformation, 05 to 11 years of third-party payment development, and 11 years to now the substantial development of Internet finance, after 30 years of development, the Internet financial appear various operating mechanism and business model, and the construction of the Internet financial scene also presents a diversified characteristics. Figure 1 is shown in the basic system of Internet finance [2].

2.2   Risk

The risks arising in the construction process of Internet finance have three major characteristics. First, they are highly concealed, secondly, cross-infection, and finally, instantaneous explosive [3]. Therefore, these three characteristics need to be considered comprehensively according to the analysis and prediction of Internet finance risks. The risks of Internet finance are roughly as follows.

Legal Risk

At present, the laws and regulations related to the construction of Internet finance are not perfect enough, and the stipulated content is lacking, which leads to the insufficient supervision of the construction of Internet finance scenarios, and then the emergence of appropriate risks [4]. Internet financial management department in China although issued many regulations, but due to the change of the Internet financial market, many regulations of pertinence is not strong, cause a lot of Internet financial institutions turn management regulations "loophole", seek improper interests, seriously damage the order of the Internet financial market, let many Internet financial scene at the beginning of the construction of improper purpose.

Increase the Difficulty of Central Bank Credit

In the construction process of Internet finance, it will involve the relevant monetary policies of China's central bank, and bring great challenges to the central bank's monetary management policies. For example, in the digital currency mentioned in the above article, can the measurement method of digital currency be included in M1? In addition, because the statutory deposit reserve in relevant policies can not well restrain Internet financial enterprises, the multiplier of money is unconstrained to a certain extent [5].

Risk of Personal Information Abuse

In the early stage of construction, Internet finance will dig deep into personal information to get more detailed personal credit information, and rating relevant credit on individuals according to the obtained personal credit information. Whether the rating results obtained from the data analysis of one department category can accurately evaluate the personal credit rating, and whether the personal credit rating being evaluated is comprehensive. Thus leads to a large number of user groups when looking for loan financial Internet platform, need to constantly submit personal information, resulting in personal information is abused, and even the risk of information leakage, at the same time, various personal platform information submission behavior will be included in the personal credit report, seriously affecting personal information credibility [6].

Technical Risk

There are certain risks and loopholes in the actual application of Internet information technology, and Internet information technology is an important support for Internet financial enterprises to build Internet finance. Once technical risks occur, it will not only affect the Internet financial enterprises, but also affect the information security of users. Then, information is stolen by interested people, causing economic damage to Internet financial enterprises and individuals.

Regulatory Risk

At present, the construction supervision mode of Internet finance in China is separate supervision, but in the actual supervision process, it is mixed supervision, and this supervision mode will inevitably cause the lack of supervision. Internet finance involved in the field is very complex, cause many kinds of financial business integration together, but our country separate regulatory mode, to its regulation, inevitable regulatory gap, leading to the rapid spread of regulatory risk and aggregation, when gathered to a certain extent, will occur, causing immeasurable economic losses.

3   Construction Strategies and Steps of the Internet Financial Statistical and Monitoring System

3.1   Establish an Internet Financial Security System

In order to ensure the security of Internet financial construction and Internet financial industry, at the same time implement the CPC Central Committee and the State Council related decisions and deployment, the Internet financial scene construction and Internet financial industry illegal behavior, encourage and protect truly valuable Internet financial innovation, can take the following Internet financial construction risk measures, establish Internet financial security system [7], promote the standardization of Internet financial industry, orderly development, as Table 1 Internet financial project security system construction content.

3.2   Improve the Risk Management System of Internet Finance

Improve the Internet financial management system, is an important premise of the construction of Internet financial monitoring system, need to grab from the internal control, deep internal organization and rules system problems and risks, and optimize the business process, the construction of effective Internet financial analysis preventive measures and management methods, at the same time to establish a complete social system, the formation of e-commerce authentication system, scientific and effective evaluation of individual and enterprise credit, reduce the inconsistent information caused by the probability of selective risk [8]. The core concept of risk management is through the combination of industry, product, region, term and customer base Credit assets are managed to reduce the risk of credit concentration of banks and pursue profit maximization under the condition of controllable risks. The basic idea is to improve the capital allocation of high-quality asset portfolio and reduce the capital allocation of inferior asset portfolio. Mainly through the five links of customer segmentation, evaluation mechanism, cause analysis, measure design and monitoring system to adjust the asset structure, so as to achieve the established business objectives.

Core idea: to quantify the future predictable loss caused by risk as the current cost of the bank, and to adjust the current profit of financial institutions, and then to measure the use benefit of capital, so that the income is linked to the risk borne, and unified with the final profit goal of the institution. EVA = total revenue-operating cost-cost of capital-risk cost-capital occupancy fee (or economic capital * expected rate of return on economic capital); non-revolving credit, EAD = current risk exposure; revolving credit, EAD = in-balance-sheet exposure + CCF off-balance-sheet exposure (CCF is credit risk conversion factor); default risk exposure includes not only the loan balance but also Including interest, overdue penalty interest, fees and other arrears. The relevant calculation formula is:

Table 1. Construction Content of security System of Internet Financial Projects(self drown)

project	content
P2P net loan	To carry out the user information intermediary mechanism, shall not establish capital pool, shall not be illegal fund-raising activities, shall not be the financing or instead of the user promise principal and other activities, shall not exaggerate the financing project earnings and development prospects of misleading lenders, in addition to the necessary information collection verification, credit tracking and other business content, shall not be engaged in the relevant offline marketing activities. Without relevant approval, lending platforms shall not engage in high-risk financial businesses such as asset management, creditor's rights and equity transfer.
Internet financial financing management	Internet financial enterprises shall, according to their own business scope for related business, shall not be attached to the Internet to develop related business, at the same time without the approval of relevant departments, shall not sell or issue a kinds of financial products, if the same group obtained multiple financial business qualification, shall not violate related transactions and other related business specifications. It is necessary to establish consistent regulatory rules in accordance with the traditional regulatory rules of financial enterprises to effectively prevent the cross-spread of the risks of Internet financial scene construction.
Third-party payment business	Third-party payment institutions shall not misappropriate or occupy the user's funds without authorization, and the user's fund accounts shall be opened under the People's Bank of China or the commercial banks that comply with the relevant regulations. It is not allowed to connect multiple banking systems at the same time and open inter-bank clearing and settlement business in a disguised form. The institutions that open payment channels shall have corresponding qualifications and shall not operate payment business without a license or in advance.

(continued)

Table 1. (*continued*)

project	content
Internet finance field advertising	Internet financial enterprises must obtain relevant approval for advertising activities in this field, and shall not exaggerate their financial products and business contents, or mislead users to carry out relevant business activities.

$$UI = \left[\left(\sqrt{\frac{1}{1-R}} * G * PD + \sqrt{\frac{R}{1-R}} * G * 0.999 \right) - PD \right]$$
$$* \left\{ \frac{1}{1-1.5R} - [1 + (M - 2.5) * b] \right\} * LGD * EAD$$

where b is the term adjustment factor and R is the correlation coefficient.discount rate

The zero-risk exposure formula is:

$$UL = \left[\left(\sqrt{\frac{1}{1-R}} * G * PD + \sqrt{\frac{R}{1-R}} * G * 0.999 \right) - PD \right] * LGD * EAD$$

3.3 Strengthen the Supervision of Internet Finance

To strengthen the supervision of Internet finance is to reduce the types and probability of risks of the Internet financial monitoring system in the early stage of construction, and to improve the quality and level of the Internet financial monitoring system, and to raise the access threshold of Internet financial enterprises. By introducing the advanced supervision mechanism, the financial management mechanism of China's separate business supervision should be optimized, the role of the Internet supervision system should be improved, and the efficiency and management role of the Internet financial supervision mechanism will be improved [9]. Thus, under the coordinated development of various industries and banks, a brand new financial ecosystem will be formed, and the sustainable development of Internet finance will be promoted according to the actual development situation of Internet finance in combination with the various forces of government units and enterprises. For example, for the access mechanism of Internet financial enterprises, the access conditions are clearly stipulated, and when reviewing the relevant qualifications submitted by the Internet financial enterprise, the business and the products sold by the Internet financial enterprise have the corresponding qualifications.

3.4 Expand the Publicity and Promotion of Internet Finance

Expand the Internet financial promotion work, is in order to improve people's Internet financial risk awareness, increase people's awareness of Internet finance, to a wide

variety of Internet financial platform for scientific and reasonable analysis and judgment, correctly realize the Internet financial platform and product good and bad, improve people's Internet financial use consciousness, so as to combine their own situation to choose the right Internet financial products, avoid excessive consumption, information abuse, promote the healthy development of Internet finance. For example, the role of the Internet financial monitoring system on the service objects, Not only for Internet financial companies, It also includes users, And the main service object is the users, So, when building an Internet financial system, you can join forces with a commercial bank or a national bank, With the community, sub-district offices and many other grass-roots organizations, Jointly carry out the corresponding Internet financial publicity activities, So that the people can correctly understand the Internet finance, Know the risks existing in Internet finance, And to recognize the role of the Internet financial monitoring system in it, Then in the Nissan life can be many Internet financial products for the correct judgment.

3.5 Design and Statistical Principles of the Internet Finance Statistical and Monitoring Framework

The design and statistical principles of the statistical monitoring framework of Internet finance should be the design thinking from four aspects: firstly, determine the statistical scope of Internet finance, considering the variability of financial instruments in the future, supplement and extend financial instruments in the design of monitoring indicators, fully disclose information, effectively protect the rights and interests of investors and incorporate them into the important central idea of the design; thirdly, set the classification dimension of Internet finance scientifically, and establish the classification mark according to roles and economic behavior characteristics, which is scientific and reasonable Classification each classification mark and ensure the mutual exclusion of the classification standard to avoid cross-classification; fourth, the authenticity and access of the index design reference data, pay attention to the operability of the statistical data, and ensure the statistics of the design index to the maximum extent. Followed by statistical principles, statistical principles also need to follow four points, respectively is the new principle, scientific principle, systematic principle and practical principle, the scientific principle need and practical attention, not only to reflect the development of Internet financial situation, but also to establish the statistical monitoring framework of indicators with measurable and sex, the data source True and reliable, the statistical data information will not be repeated situation [7].

4 Conclusion

To sum up, based on the Internet financial statistical monitoring system of construction and application, system in the construction need to consider the Internet financial risks and risks, and then in the construction system, formulate corresponding management measures and monitoring system, achieve effective prevention reasonable risk control effect, further strengthen the perfection of Internet financial regulatory system and construction, and in the late application can meet the development trend of Internet financial industry, improve the regulation of the Internet financial monitoring system.

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