The Study of the Influencing Factors of SMEs’ Financing Modes Under the Backdrop of Internet Finance
(Teach submitted for the degree of Executive Doctorate in Business Administration)

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ABSTRACT

Beginning from the analysis of the development status in the small and medium enterprises (SMEs) and their current financing mode, and together with the in-depth analysis of the implication, features and main functions of Internet finance, this thesis explores the inner logic of how to transform the financing mode for SMEs under the Internet finance. It focuses promoting and providing secured environment for financing transaction in SMEs. Then, by applying the social capital theory as the analysis tool, this thesis proposes the hypothesis that SMEs can enhance the communication between the supply and demand of capital through Internet finance, and that by establishing trust, the Internet finance can promote the financing transaction. At the same time, by applying the theory of risk management as the analysis tool, this thesis also proposes the hypothesis that when SMEs are financing through Internet finance, the risks should be effectively managed in the respect of credit, technology and legal aspects on the financing platform. Finally, by granting questionnaires, the researcher does the empirical research to verify the above hypotheses. The research shows that the social capital based on information exchange and credibility establishment is the driving force for attracting SMEs to finance on the Internet finance platform. The various risk management, ranging from micro to macro level, focuses on individual credit, technology management and laws and regulations. They are the requirement of whether the Internet financing platform can operate and can get the recognition from SMEs. Through the theories and empirical research, this thesis clarifies the business value of P2P Lending and on-line mutual Aid financing, and defines the key elements for attracting SMEs. Based on all of these, this thesis also proposes the corresponding strategies and suggestions.

Key Words: Internet Finance; Small and Medium Enterprises (SMEs); Social Capital, Risk Management
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Chapter I: Introduction

1.1 Background and Research question

1.1.1 Background

Small and medium-sized enterprises (SMEs) are relatively small economic units compared with large companies in terms of staff, assets and operation scales. SMEs usually are invested by an individual or several people. Because the number of employees and turnover of such companies are small, they are often managed directly by owners and seldom see intervention from outside.

SMEs are an important part for “business startups and innovations by the general public”. They play an irreplaceable role in creating jobs, promoting economic growth, advancing scientific innovation and maintaining social stability, which is strategic for China’s economic and social progress. Meanwhile, as a vital part of China’s economy, the development of SMEs can have a direct impact on the overall economy. Yet, the difficulty in financing for SMEs is one factor that has impeded their development (You Ruizhang, 2010). The researcher has been working in finance industry for decades and has accumulated rich experiences. The objective of this thesis is to provide breakthrough solutions for SMEs in financing.

Internet finance refers to a new finance mode providing financing, payment, investment and information services by using Internet and telecommunication technology with the cooperation between traditional finance institutions and Internet companies (Zhu Xiaopeng). Such mode is a product generated by the advancement of Internet and mobile Internet technology. Internet and mobile Internet store massive personal data. Internet finance provides 7 core financial functions: payment, transaction, saving, data storage, principal, supervision and due diligence. Fundamental changes take place in all of the functions. Will the changes turn around the financing difficulty for SMEs? Any risk will be exposed during the trial and error phase? And How to prevent the potential risks? In order to answer these questions, in-depth analysis is conducted and the practical suggestions are proposed in this paper.

The advancement of Internet finance is driven by the development of Internet and technology:

1. The advancement of Internet and I.T facilitates the e-commerce development
Internet information technology changes our life rapidly. Everyday, new technology is developed while the old technologies are revamped. Traditional industries embedded with Internet makes e-commerce prevailing. Internet is one of the most important elements in electronic information Industry. Internet is indispensible in promoting economic growth, and facilitates the progress of the society. Even though the 2008 financial crisis lingers, the e-commerce has maintained momentum and led the development direction.

E-commerce has continuously revolutionized and new business models emerge. E-commerce related fields also gain development such as law system, software system, I.T system, information structure, e-payment and e-contract. All of the items secure a safe, convenient, real time and effective Internet activities.

2. The combination of Internet and finance facilitates the emergence of P2P leading platform

A genuine and permanent shift in financial market landscape is taking place. 1. The traditional financial institutions endeavor to redesign their business operation to adapt themselves to mobile Internet, e-business and information. The operation and performance are improved in traditional financial institutions. All kinds of Internet products arrive, including mobile banking, Internet banking, e-payment tool, e-check and e-invoice. I.T facilities the emergence and revolution of Internet finance. The combination of Internet and finance creates new business models. The non-financial institutions also have opportunities to tap into the financial service industry. Zopa, emerged in 2005 in UK, is the first P2P leading platform in the world.

Compared with traditional leading business, the new financing method enjoys several advantages: 1. Save time and transaction cost. The borrower makes use of the online platform and the transaction efficiency is improved. 2. Provide an investment platform for the loan provider and help them to diverse the risk. 3. Expand investment channels for the debtor. The debtor can browse the leading information on the platform and choose the project with highest return. 4. Prevent the emergence and expansion of usury. The online platform acts as a lending agency and matches the needs of the borrower and the debtor. And combining the Internet, tremendous business opportunities will be discovered. Furthermore, this financial innovation practice provides guidance for micro finance, micro loan, non-governmental financing and SMEs’ financing.

3. As Internet develops, Social Network Service(SNS) prevails

With the advancement of Internet technology, Internet application prevails in different industries and taps into people’s daily life. Using application becomes people’s lifestyle. In
SNS, Internet prevails in each corner of our society.

SNS connects people and Internet and makes their relations closer. SNS makes use of Internet connect people and form a social network. Real life constraints is broken and users use Internet to build up their own network. Groups are formed according users’ preference and interests. And the applications embedded on social network are diversified and are very convenient to use. The social network applications start to threat the traditional applications on Internet.

Under such background, Internet finance gains rapid development immediately after its emergence. By 2014, the total lending volume of top 10 P2P lending platform amounts $US 2.73 billion. And all the data extracts from P2P-Banking.com. U.K is the first country that creates P2P lending platform. The lending volume reaches £7 billion, with over 60% annual growth rate. Led by Zopa, the lending association is established to formulate the rules and criteria to promote the growth of this new industry. U.K government has fully recognized P2P’s potential to benefit the economy, so starting from Oct. 2012, P2P lending platform are included in the national finance system and regulated by the government.

Currently in China, the number of Internet finance platforms has been numerous and the transaction volume is estimated to exceed 10 trillion yuan (http://www.wdzj.com/, 2016). However, the development of P2P lending platform has been much bumpy in China than in other countries. We can see that although the platforms in China came into being in an early time, there has not a leading platform that is authoritative and most of the platforms suffer from technical difficulties and insufficient capital. Alleged egregious fraud has also been reported in some companies.

Through analyzing Chinese Internet finance platforms and comparing with those from other countries, Internet finance has potential to alleviate SMEs’ chronic funding difficulties. The P2P lending industry needs to develop complete credit information system otherwise the operational data of micro companies are hardly obtained. And it takes time and capital to build national credit information system, which hinders the development of the platforms. Besides, a lot of issues and uncertainties affect Internet finance’s development such as inadequate risk control, lack of regulation, unsecured platform technology, lack of self-supervision and legality of the platform etc. In a word, supervision and management rely on law enforcement. And the platform operation requires complete credit information system otherwise the platform bears more risks and costs. The loan sharks and illegal fund-raising may occur. Furthermore, without a comprehensive credit information system, he lenders’ fund
could not be secured and the returns cannot be guaranteed either. There is also a possibility of information leakage.

SMEs play a significant role in promoting Chinese economy. But what cause their financing difficulty? Is there any flaw with traditional financing methods? Will Internet finance complement with the traditional mode to solve the difficulty? Will the new mode carry disadvantages and flaws? All of the questions are worthy of exploring.

In order to understand how SMEs utilize Internet finance to achieve financing, one needs to understand the feature of it. Starting from examining how risk management theory and social capital theory affect SMEs’ financing mode. And the correlation of the two is further explored. The researcher is going to explore the content of the theories and find the theoretical foundation for the research question.

The solution requires collective wisdom and co-effort from lawyer, government, practitioner and scholar. This thesis mainly discusses SMEs’ financing modes under Internet finance. Hope the research outcome and implication will promote the progresses of Internet finance.

1.1.2 Research question

The essence of Internet finance is the combination of Internet technology and financial services. Internet finance brings huge impact to the market. The scholars and researchers attach great importance to Internet finance. Prosper is the first P2P lending platform in the U.S, which spurs the innovation in Internet finance.

Internet finance in China just starts, with unsubstantial impact in the society. However, as the Internet finance gains more attention in the academic field. And lots of work need to be done in data collection and empirical analysis. Currently, most of the researches done are qualitative research, including the analysis of the platform, supervision and policy-making. Hence, quantitative analysis must be enhanced in China. Improve the researcher’s capability of data collection, data analysis and sorting so that research situation will be improved in China.

After reading literature, for Chinese situation, this research can be approached from 4 perspectives:

1. Define the financing nature of SMEs. Lots of literature shows that the nature of financing for SMEs is the lender’s risk control and where the borrower can find the capital. In another word, how SMEs innovate its financing modes? Because for SMEs, their fixed assets are not adequate and transaction volume is not substantial.
2. Define the operation pattern of Internet finance. One of the greatest features of Internet finance is fully make use of mobile Internet and Internet. The combination of Internet technology and finance ensures a low cost of financing. The fairness ensures market transaction under Internet finance. Lower financing cost secures competitiveness of Internet finance, gathers more individual investors and solve the financing difficulties. Internet finance, the innovated financing mode, gains acceptance of the market gradually.

3. Understand how Internet finance affects SMEs from social capital perspectives. Compare Internet finance with SME financing, and understand their differences and similarities. Internet finance is an innovated financing methods and collateral-relied situation is changed. With lower financing cost and enhanced trust on the market, the problem of financing difficulty is solved.

4. Evaluate SMEs’ financing risk from risk control perspective. Thinking merely from the borrower’s view is not enough to understand the whole ecology of Internet finance. Under Internet finance, the crucial point for SMEs is to decide which financing mode they would like to choose. And risk control issues of SMEs are also an important aspect for platforms (lenders). In risk control, the most important is technology support in Internet finance and government policy. Generally speaking, SMEs should attach great importance to the policy risks and technology risks of Internet finance. China will learn the best practice and the lessons from home and abroad. To solve China’s issues, the risks should be controlled from three perspectives: government, Internet platform and financial institutions. The ultimate goal is to eliminate the financing difficulties for SMEs.

To conclude, the research question of this paper is that by analyzing SMEs financing features and constrains to research on the value of Internet finance for both lenders and borrowers in solving issues regarding financing difficulties met by SMEs. The paper also gives empirical tests on risk control over key operation points of Internet finance platforms and puts forward advices.

1.2 Research objective, content, methods and implication

1.2.1 Research objective

The research objective includes:

1. Analyze the current development of Internet finance and SMEs’s financing methods, and
study their relations. In order to understand the financing difficulty faced by SMEs, the researcher begins with studying the research findings achieved by scholars from home and abroad. Literature review is used as a method to carry out the research.

2. At present, most of the research objects are developed countries. The financial system is well developed. Aim at studying the specific circumstance of Chinese SME, the analysis of current study is focused on the real case study of Chinese Internet finance.

3. In China, when researchers study Internet finance and SMEs financing, questionnaire is applied to test hypothesis raised by case study.

4. Given the current circumstance, the paper intends to propose innovated financing methods for SMEs. The purpose is through analyzing the current factors affecting risk control of Internet finance platforms to explore the ideas that would advance the growth of China’s Internet finance and finally promote the development of SMEs.

1.2.2 Research method and content

This paper adopted three research methods:

1. Literature research methods. Preliminary analysis is conducted on Social Capital Theory. And the researcher is going to exam how social capital affects P2P, which builds valuable foundation for the future study.

2. Interdisciplinary research approaches. The researcher is going to study the differences and connections between social capital and P2P on-line platform to conduct comparative analysis. Tailored to Chinese situation, the researcher would like to propose social capital measuring system, which could be used to solve the practical issue.

3. Empirical analysis. The data for empirical analysis is from questionnaire, which is applied to verify the assumption. And Expert interview is adopte to choose questionnaire indicators.

The content includes 5 areas:

1. Analyzing theories regarding SMEs under Internet finance. The theories cover risk control, social capital theory and transaction cost analysis theory. We could take advantage of analyzing and studying theories to parse the connection between Internet finance and SME financing, by which, lay a foundation for our research.

2. Understand the financing channels of SMEs and the issues that require to be solved. Currently, Chinese economy is undergoing a special phase. Social and economic
development urge for improvement. The technology, law and financial system are incomplete, which result in a dead loop of financing difficulty for SMEs. The fundamental reasons for financing difficulty are lack of information and high-cost, which is also adverse to the management of idle money of SMEs. Therefore, it is urgent to find a new model to resolve the problems in traditional financing.

3. Solve SMEs’ issues by Internet finance and propose solutions. The research takes social capital theory as a tool, studying the transaction trust and transaction communication. By using incentive mechanism, examining how Internet finance will affect the SMEs investment and financing.

4. Studying SMEs risk-control capability under Internet finance. There are two kinds of risks. The first one is fixed risk, which includes macro-risk, market-risk, individual credit risk etc. The second one is new-type-risk, which is caused by Internet finance, namely, technical risk and information security issues.

5. Through case study and questionnaires, the researcher formulates hypothesis, based on which, the researcher proposes solution to the financing difficulty in SMEs. In a word, hypothesis is analyzed in order to offer the actual solution.

1.2.3 Research implication

In China, few empirical researches in Internet finance is done in China. There is no research conducted to explore financing pattern under Internet finance from social capital perspective. And there is no empirical evidence explored either. Furthermore, there is no study about which financing channel that SMEs prefer in Internet finance. This paper provides two implications:

1. Theoretical implication

From the perspective of social capital and Internet, this paper discusses how SMEs finance against the backdrop of Internet finance. This research explores the fundamentals of Internet finance. Risk control, customer behavior and Internet finance mode etc. are explored in this paper. Starting from the angle of social network, the utility of social capital under Internet finance is explored. The correlation between social network and social capital are established. The researcher makes use of the methods and outcomes of social network and establishes indicators to evaluate the effectiveness of Internet finance platform. The evaluation outcome is further explored by empirical research. This research is useful for SMEs to evaluate their risks in investment and financing. In a way, this
paper facilitates theoretical improvement and with innovated research methods involved in many fields.

2. Practical implication

Taking risk control theory and social capital theory as a basic, against the background of Internet finance, this paper explores the key conditions of SMEs’ different financing channels. This paper examines necessary condition and sufficient condition respectively; creating a complete model that could be applied to conduct analysis on various financing modes, by which, laying a solid foundation for policy making.

1.3 Innovation

There are three possible innovated areas in this paper:

1. Clearly present the features and concept of Internet finance. Analyze how Internet finance impacts on SMEs’ investment and financing mode.

2. Under the framework of risk-control and social capital, a model is formulated to evaluate the factors that affect SMEs’ investment and financing.

3. After constructing a model, the researcher is going to form hypothesis based on case study, then empirical analysis is conducted to prove the hypothesis.

Collecting and sorting data is a difficult task in thesis writing. Besides, since investment and financing modes are technically difficult, it is quite hard to analyze the investment and financing modes based on Internet finance of SMEs in various sectors.

1.4 Limitation

There are some limitations of this study. Due to lack of fund and time, the information discussed in this paper could be obtained on Internet by everyone. China is a large country with uneven economic development in different regions. Enterprises face different regulation and policies. This paper could not be testified nationwide. In the future, if we could collect enough data, we could make the most of it and roll out the model to the whole country.
Chapter II: Literature Review

2.1 Research on Problems of Small and Medium Enterprise (SME) Financing

2.1.1 Overview of international SME financing problems

There has been various foreign research of SME credit financing, with their research and analysis focused on certain limited aspects, such as asymmetric information theory, financial intermediation theory, financial development theory, theory of control right, bank structure theory, credit rationing theory, agency cost theory, capital structure theory, etc. The author will pull together and introduce the extensive previous research in the three following aspects: bank scales and bank-enterprise relationship, SME financing pecking order and structure, and related institutional environment.

2.1.1.1 Traditional finance theory and SME financing

Trade-off theory (Miller, 1977), theory of firms’ ownership structure (Jensen and Meckling, 1976) and capital structure theory (Modigliani-Miller, 1958, 1963) all work on normal enterprises, focusing on the optimal debt-to-equity ratio.

Majluf and Myers put forward pecking order theory in 1984. The research studies different ways of financing and whether enterprises follow the financing orders. It came up with the conclusion that a company’s scale is crucial to whether it follows a particular financing order. Harvey and Graham (2001) pointed out that there is no regular financing order in large businesses. Though the research targets financing orders of large businesses, but the theory is more applicable to the financing order of SME, which has lower information transparency.

James S. Ang (1991) proposes that researches of modern corporate finance have not brought about any solid developments, showing a huge gap between theory and practice. He suggested that a revised version of pecking order theory would be more adaptable to SMEs. In other words, the financing order of SMEs normally is internal financing - owner-contributed funds - external financing.

The controlling owner’s preference and inclination is vital to a SME’s capital structure and financing order. In real-life situations, many small enterprises are not in accordance with the financing order, but operate in "a truncated form." In other words, small businesses normally disregard supplying conditions and base their financing decisions on their own preferences. The research has shown that owners of small businesses tend not to access to external financing for fear of diluting control of ownership. Even if long-term debt financing would
have no influence on the control of ownership and independence, small businesses are unwilling to obtain it. The main reason is that long-term debt financing requires paying fixed income to the contributor, and at the same time undertaking the responsibilities of bankruptcy and liquidation.

2.1.1.2 Bank scales, bank-enterprise relationships and credit financing of SMEs

Regarding the current of SMEs’ credit financing, researchers focus on bank’s scale, relationship and information advantages during the process of financing as well as on the comparison between different banks’ advantages. The main reason lies in bank merger, which brings about multi-faceted changes including bank scales, bank-enterprise relationships, and bank structures. The changes would, to certain degree, exert influence on companies’ financing cost and accessibility. At the same time, bank mergers allow researchers to obtain more research data and materials, which is helpful of conducting empirical researches.

(1) Bank scale and credit financing of SMEs

First, Small Bank Advantage hypothesis. Strahan and Weston (1998) and Berger, Goldberg, and White (2001) hold that the close relationship between small and medium-sized banks and SMEs has allowed information to pass on quickly, while their simple structures has also encouraged communication between banks and enterprises. Hence, the availability of credit of small medium-sized banks to SMEs increased, which brings small medium-sized banks a higher percentage of credit to SMEs, comparing with large banks. In contrast, large bank disadvantage hypothesis has very different approaches. Large banks are stricter on extending credits, preferring large-scale companies that has been long and well established. The current situation, in which small medium-sized banks grant loans to SMEs and large banks to big companies, will increase irregularity in market development and slow down information transmission. In this case, Berger and Udell (1998) hold that large banks will be driven toward standardized criteria, which makes relationship lending more difficult.

The second theory put emphasis on large banks advantages. Stein (2002) analyzes in his research, from a structural standpoint, that the way large banks assess loan application gives play to their advantages on organizational structures and information transmission. Moreover, large banks’ location advantage facilitates information communication between branches and local companies, which enhance effectiveness of supervisory management. With a different approach, Berger and Udell (2006) lay stress on technical advantage. Comparing with small banks, large banks have better credit techniques, and transactional loan techniques become mainstream. Relationship lending, in contrast, becomes increasingly disadvantaged, with
large banks tightens their evaluation criteria on relationship lending to small enterprises. The credit model of large banks lowers small enterprises’ credit costs, making credit more available.

Aside from large bank advantages, disadvantages of small enterprises are also worth noting. Jayarathe and Wolken (1999) find that the number of small banks has a greater impact on small business loan. When there is fewer banks, small businesses have higher credit limits, not necessarily more financing restrictions, showing fair loan repayment capacity. Moreover, their research has found the loan records between businesses and between banks share some similarities. Due to strict evaluation, it is not necessarily harder for small businesses to acquire loans from large banks than from small banks, showing that small banks do not have many loan advantages to small businesses. On the other hand, the disadvantages of small banks are becoming more evident. The disadvantages result from automated and anonymous trade, in which interpersonal relationships are not required. At the same time, Petersen and Rajan (2000) consider that there has also been a change of the way banks evaluate their customers. They normally gather information from impersonal channels, and base their decision on hardware information, making distance a less important factor in terms of information acquisition.

(2) Bank-enterprise relationship and SME loans

Seeing from a different perspective, bank-enterprise relationship is also of crucial importance. Currently, researches have put emphasis on analyzing the factors such as bank scale, as well as the effects bank-enterprise relationship has on loan behaviors.

Petersen and Rajan (1994) consider that the length of bank-small enterprise relationship have impacts on both loan amount and cost, the former the greater and the latter the smaller. Small businesses prefers obtaining loans from only one provider, so that they obtain more amount with less rate, which is more beneficial than separate loans. Berger and Udell (2002) conduct research in enumeration method, listing the advantages bank-enterprise relationship brings to SME loans: the closer the relationship, the lower the loan rate and evaluation criteria would be, as banks value repayment capacity more than commercial credit, which is beneficial to access to more loans; furthermore, bank-enterprise relationships normally last around 9 years, which explains the importance of managing a long relationship to both parties. The research of Strahan and Westen (1998) shows that the length of relationships is negatively correlated to bank scales, while small banks have closer relationships with enterprises. Uchida et al.’s
(2006) empirical data research shows that, in Japan, the bank-SME relationships are more distant; consequently no significant advantages come along.

Therefore, though the bank-enterprise loan relationships are not evident, it is evident that the two parties are connected in certain ways.

2.1.1.3 Institutional environment and SME financing

Beck, Demirgüc-Kunt, Laeven and Maksimovic’s (2006) research works on the differences of business financing between countries with dissimilar development levels. In countries with developed financial systems and institutions, it is easier for business financing. Financial system plays a vital role in business financing. With well-developed financial system, it paves way for business loans, increases financing amounts, and provides a clearer picture of the way ahead.

The development of financial market is vital to institutional environment. Love (2001) considers that a state of mature development is beneficial to business financing, extending financing amount and reducing financing constraints. As businesses thrive, it is also good for the development of capital market, increasing resource allocation ability and maintaining market order. Financial market development is negatively correlated to business financing constraints. Developments of legal and financial systems are vital to business financial settings. For instance, Beck, Demirgüc-Kunt&Maksimovic (2005) has found that, not only legal and financial systems affect business financing constraints and amount, but also government performance and other factors. Giannetti (2003) considers that, among various factors, the business financing amounts and constraints are positively correlated to the country’s maturity of legal system and intellectual property.

Woolcock (1998) holds that the financial development of enterprises are also influenced by informal institutions in financial systems, namely social capital and trust level, which enhance the level of justice, fairness and openness of business information. North (1990) states that for those countries with unsound institutional and economic developments, the informal institutions such as culture, economic trust and customs, are very important to business financing and beneficial to societal progress.

It is noteworthy that Giannetti (2003) and Rajan (2000) et. al have pointed out that financing and investing are correlated. They are just like two side of one coin -- the financial market. How well the financing is could usually mirror how well the investment is doing. Hence, reasonable financial innovation must be a portfolio of both financing and investment, which provides new thoughts to relative researches.
2.1.2 Studies on SME credit loan problems in China

The existed foreign studies on SME credit financing are the basis of studies in China. In current stage, researches have been focused on credit financing difficulties and future prospects.

2.1.2.1 The influences and suggestions of current financial systems on SME credit financing

(1) Bank monopoly and the establishment of small medium-sized financial institutions

YAO Yang and LU Feng have insisted that SME refers to companies with less than 500 employees. Their research (2004) proposes that serious credit discrimination exists in banking industry, which is driven by two main factors. First, the inefficiency that has come with the monopoly of state-owned bank, and secondly, financial repression. The situation is to the disadvantage of domestic businesses’ development. Generally speaking, many private businesses are SMEs, they take on more risks than state-owned enterprises do. Therefore, if information asymmetry exists, the current loan inclination of banks complies with rational man hypothesis.

Xiao Ronghua and Lu Dan (2008), LiZhiyun (2002), Li Yongjun and Lin Yifu (2001) share similar opinion on what causes SME financing difficult in China. They consider that the financial system is overly concentrated, with large banks playing the major role. ZhongTianli and Qin Jie (2011) conclude from their empirical study on SME in China that facilitating small-medium sized banks development has positive impact on SME financing. It is because small medium-sized banks can enhance market efficiency with their unique cost and information advantages on extending credit to SMEs. Therefore, the best resolution to SME financing difficulties is to establish a financial system that focus on small and medium-sized banks.

Wang Zhaodi (2006) holds that banks in the current financial system can coordinate and complement each other, and there is still room for developing services to SMEs. Therefore, there are no need of establishing new financial institutions at this stage.

(2) Credit discrimination and supply of financial institutions.

Li Zheng (2004) considers that the ownership that comes from current systematic obstacles has blocked the development of domestic non-state-owned economy, while difficulties in financing has embodied the discrimination of ownership. Shi Xiquan and ZouXinyue (2002), Zhou Caihong (2004) explores the reasons for ownership discrimination on the basis of
differences that derives from property attributes. National finance, state-owned banks and enterprises are closely connecter in terms of property attribute, with central government taking on the fund risks of state-owned banks. However, as state-owned banks and non-state-owned economy have different property attributes, banks are unable to transfer the risks of non-state-owned loans. In view of research on deficiency of property rights, NiuJiangao (2006) considers that due to a lack of clarity and protection of property of SMEs, opportunism exists among SMEs, affecting the credit amount extended by the banks. Zhang Jie (2000) holds that ownership discrimination has brought about the current financial difficulties of SMEs, the only way out is to create and improve the financial setting that is needed for endogenous financial institutions. By establishing and developing endogenous financial institutions, the internal financing basis of private economy will be protected.

Wang Xiao and Zhang Jie (2002) consider that the scale discrimination of market economy has resulted in SME financing difficulties. Chen Xiaohong and Zhang Qi (2008) also consider that scale discrimination is vital to SME financing difficulties. The limited capital scale and incapability of providing credit guarantee has made risk-averse banks extend less credit amount to the SMEs.

Some researchers hold that SMEs are under both scale and ownership discrimination. Li Maoji analyzes the effect of loan cost on different types of ownership under certain business scale. The research shows that the loan cost of state-owned enterprises are significantly lower than that of private enterprises, which obviously exhibits that SMEs are under ownership discrimination when accessing to financing.

Liang Di and Zhang Jie (2004) consider that the government has introduced many policies to cope with SME financing problems, but the outcome is unsatisfactory. The reason is that the policies are exogenous from a supply perspective. Meanwhile, during the process of economic transition, the endogenous systems that relieve SME financing problems are either ineffective or inexistent. In current situation, the ineffectiveness of endogenous systems and a lack of coordination of exogenous policies have left the problems remain unsolved.

2.1.2.2 The Influences and suggestions of bank internal management on SME credit financing

( 1 ) Risk management in banking

ZouChuanwei and XuZhong (2010) consider that since financial crisis, banks has centralized lending authority and established credit officer responsibility systems. As the operated loans are mainly centered in large enterprises, huge projects and big cities, the problems of SME
financing have become evident. In view of this situation, it requires reasonable devolution of credit approval and performance-linked incentives. Wu Kebao and Huang Xian (2009) hold that capital adequacy ratio as a constraint condition has changed the risk appetite of domestic commercial banks, which to certain degree lowered the credit amount they extend to SMEs.

(2) Bank internal management and financial services

According to the feedback surveys of banks, the problems of financial services and internal management have aggravated the financing conditions. According to Xiang Ke and Xin Shuren’s survey data of financial institutions and some local SMEs (2004), the surveys carried out by Changsha Branch of People’s Bank of China (2008), the investigated result from Shuozhou Branch of People's Bank of China (2008), and Su Nanhong’s practices (2009), the reasons for SME financing difficulties can be concluded as follows: (1) the SME financial service demand is hard to meet under current banking system; (2) the demands of SME are incompatible with bank management and credit policies; (3) the financial product system is incomplete; (4) the financial system has not provided supporting measures; (5) risk sharing and compensation mechanism is incomplete. The following are suggestions for improving the policies: (1) establish credit loan department and banks especially for SMEs; (2) launch innovative and various financial products; (3) set targeted loan amounts; (4) set up SME credit rating standards; (5) Improve SME credit authorization system; (6) extend the availability of guarantee, pledge and mortgage; (7) government should establish exclusive guarantee or compensation fund for SMEs.

2.1.2.3 Institutional environment and SME credit financing in China

As it is hard to collect SME data, limited studies, regarding the influence of institutional deficiency on SME financing, has been carried out. In consideration of transition economy, the existed studies in this area are based on data from listed private companies.

(1) Institutional environment, scale and term of loan

Zhu Song and Chen Yunsen (2009) find that under a deficient legal system, “political relationships” as a reputation mechanism, is an “invisible guarantee” for business credit loans, which brings more credit amount to businesses. Dai Lu (2010) considers that as legislation creditor protection is insufficient, banks would go through administrative obstruction in the process of liquidation, which weakens the effect of risk transferring mechanism and the deterrent effect of debt covenants, making banks give more short-term loans to SMEs. Li
Zengquan, Sun Zheng and Liu Fengwei (2005) hold that when the legal system is incomplete, political relations can play a role in reducing executory cost and obtaining long-term loans.

Pan Hongbo and Yu Minggui (2008) consider that, under current conditions, political relations can reduce level of discrimination against private SMEs, allowing them to get long-term loans from banks. Fang Xiongjun (2007) considers that when there are more bank autonomy, less government intervention and a complete institutional environment, banks would have lower level of discrimination against non-state-owned businesses and offer more long-term loans. Dong Xizhen (2010) holds that the improving legal system has granted banks more negotiating advantages on urging loan repayment from enterprises. In this way, banks take on less risk, and are therefore more willing to provide long-term loans.

(2) Lack of credibility and SME credit financing

Li Chengcao and NingRong (2005) state that not only is China troubled by serious credibility issues, but also many of the developing countries and countries that have just adopted market economy. However, these countries has put great emphasis on the issue and established more complete financial credit systems. China, who has not paid much attention to credit system, is still troubled by huge credibility issues. Su Cun (2005) considers that the SME financing difficulties is one of the results of lack of credibility. Companies have avoided repaying and caused huge problem loans, which brings operational difficulties to the banks, worsens bank-enterprise relationships, and consequently stops the banks from providing credit capital.

Given the circumstances, reputation mechanism can spur enterprises on keeping good records, and therefore foster banks’ confidence in the enterprises. With guarantees, companies can achieve higher credit rating and is more likely to get loans. Liu Shaobo and Jiang Hai (2004) find that reputation mechanism can effectively reduce trading costs on both sides, and increase the amount of resources and credit services that a bank is willing to offer. Zhao Yanqing and He Guangwen (2008) consider that trust mechanisms can influence small-amount loans by building up trust between both parties. In this case, the borrower, who has hold fluky mentality, is urged to repay as scheduled, so as to uphold good reputation. Therefore both parties maintain mutual trust within a certain period of time. Pong Jiangbo (2008) points out that professional guarantee can only meet SME’s higher-level funding needs, which only takes a small percentage of the total demand. The other parts of the demand, which are the lower-level majority, are still facing financing and guarantees difficulties. For these companies, the mutual guarantee institutions work better than professional guarantee corporations. The reason is that it is easier to get to know each other within mutual guarantee
institutions. It also minimizes risk during the process of internalization, namely turning external economy expectations and requirements into personal code of conduct. Cui Xiaoling and Zhong Tianli (2010) find that competitions between members of mutual guarantee institutions have resulted in excitation effect, which makes debtors work harder to reduce risks and agency related expenses.

Some researchers also point out that when credit guarantees take place in financial market, information asymmetry still exists, therefore market failure can still happen. Moreover, Wang Xiao (2005) propose that since the fiscal supported credit guarantees have characteristics of public goods, it is also possible for government failures. Wei Zhiyu and Yang Zhongzhi (2006) look into how guarantee institutions make risk-averse decisions when they have to deal with moral hazards and adverse selections, with different levels of knowledge of their customers from different fields.

2.1.2.4 Innovative SME financing models

1. SME clusters financing

In view of clusters and relationship financing, Gao Lianhe (2008) hold that agent-assurance system of cluster financial company belongs to the mode of SME clusters financing. He points out that the innovative part is to expand the subject of relationship financing from a single corporation to the cluster. From the viewpoint of “self-organizing theory”, Lin Zhouniu and Lin Hanchuan (2009) explore how SME financing clusters, which mainly target on financing appear and develop. The mode of financing clusters can solve the lack of credit assets problem of individual corporations, bringing SMEs more financing advantages. Based on existed studies, Luo Zhengying (2009) find that the regional embeddedness that is unique to SME clusters can effective reduce moral hazards afterward and averse choice beforehand, and successfully solve the problems of high lender cost which is resulted from limited financing amount of individual SMEs. Regional embeddedness has also turned individual corporations’ financing risks into market risks, reducing the lending risks of financial institutions.

2. Other innovative financing models

Wu Yishuang points out in his research on “Network Joint Guarantee” (2009) that, the loan model, which is jointly created by network companies and banks, can fight against information asymmetry between banks and enterprises by mutual understandings among enterprises. Although the loan model may not be capable of reducing information between banks and enterprises, it handles moral hazards and adverse choices properly and makes ideal
separating equilibrium possible in the credit market. XiongXiong and other researchers (2009) find that in supply chain finance, throughout all operating activities in the supply chain, banks are more concerned about SMEs’ foreign exchange risks when exchange rates fluctuate. SMEs rely on trading partners, who rate their core corporation’s contractual ability and credibility, to improve credit ratings. In this way, SMEs can effectively overcome many financing obstacles.

2.1.3 Comments on domestic and foreign status quo

As there is also a lack of extensive and serial existed studies in other countries, there are few articles on SME financing constraints. Most of the existed studies have taken data from listed companies to analyze the controlling factors of financing constraints. The reason for limited analysis on SME financing constraints is that there has not been enough data released for empirical studies. On the contrary, the US government has accessed and disclosed SME’s data for several times, so that there are more studies on bank-enterprise relationships, and the influence of bank scale on SME loan approval rate and cost. The experts hired by World Bank have also, from the standpoint of countries, explored how different systems from different countries affect SME financing by looking at cross-nation data. The studies mentioned above are often served as comparisons in domestic studies on SME financing. However, since external conditions, such as credit technique, credit position, financial system, etc., vary from country to country, the study results cannot be directly applied to China in its transition phase.

Currently, the world has not paid enough attention to SME financing constraints, with a serious lack of theoretical studies. Though there are many articles featuring SME financing, only very few pay special attention to SME financing difficulties, let alone being representative. Therefore, this research is faced with tough challenges. On the one hand, it requires looking into many previous studies; on the other hand, due to a lack of representative theory as the backbone of research, some analysis can only be tentative and preliminary.

Moreover, no global common ground has been achieved yet on SME credit financing problems. Researchers hold different opinions on various subjects, for instance, the disagreement on credit guarantee, that is whether guarantee has positive or negative impact on SME financing; the disagreement on credit discrimination, that is whether discrimination derives from different enterprise scales or ownership structure; the disagreement on financial market structure, that is whether it is easier for SMEs to obtain loans, under both monopolized and competitive situations; the disagreement on bank scales, that is whether small banks has
more advantages on SME credit financing than large banks. These disagreements are left to
be settled through empirical analysis after more Chinese SME data are disclosed.

On the other hand, there are hardly any studies on demand-side credit constraints, which is
certainly a worth-researching subject. The only existed study is about the causes of farmer
households’ demand-side constraints. Farmer households are scattered, exposed to high risks,
but lack risk-taking ability. Farmer households financing is low in amount and high in
frequency, which is pretty similar to SMEs. Therefore, it is reasonable to discuss SME-related
demand-side financing constraints on the basis of the study.

Finally, there are more researches on the operating principle and advantages of new financing
models. However, most of the studies focus on the advantages, while the applicable
conditions and possible risks are less covered, with no practical operation methods provided,
which makes it hard to put into practice.

In summary, the financing problems facing by SMEs are information acquire and risk control
and the impacts brought by the two. They are the central topics of researches on SMEs
financing modes.

2.2 Internet Finance

Nowadays, foreign and domestic experts and scholars conduct fewer researches on the
changes and problems of Internet finance. Researchers have analyzed Internet finance from
some perspectives, but have rarely taken the development of Internet finance as a research
subject. In the following part, the author will introduce studies on domestic Internet finance
development from three perspectives.

First, the meaning of Internet finance development. Merton and Bodie (1993) point out that
financial functions are more stable than financial institutions. As financial institutions evolve,
though carrying out relatively stable functions, the features and methods have changed
through the ages. With evolving technology and space, financial system develops and selects
institutions that can fully operate the functions. It is then obvious that whether basic financial
functions are carried out fully can determine the advantages and disadvantages of Internet
finance and traditional finance. In China, Yan Jianhong (2011) holds that, broadly speaking,
Internet finance refers to financial services that are provided through Internet. There are
mainly two modes, network joint guarantee and P2P lending. The fact that financial trades
normally don’t include physical goods creates advantages and necessity to the combining of
finance and the Internet. In western countries, the Internet and finance industry have been
connected extensively and in a large scale. In order to enhance the quality and efficiency of
financial services, the value chain of finance industry should be rearranged. Xie Ping (2012) hold that advanced information technologies such as online community, mobile payment, cloud computing and search engine, etc. are brought about by the development of modern information technologies and massive network coverage. Consequently, Internet financing appears, a brand new mode of financing, which is neither indirect financing of commercial bank nor direct financing in capital market, is significantly influencing the current finance mode. Meanwhile, with Internet finance, the general public that used to be excluded from financial system can now participate, which foster the development of an inclusive financial system. Zeng Gang (2012) holds that to optimize the financial structure, Internet finance should be quickly developed and popularized. He also considers that to narrow the gap between Internet finance and financial market, the percentage of financing should be raised.

Secondly, conduct researches on the stages of Internet financing evolvement. In the first stage, namely the networking of traditional financial institutions, Xie Ping (2012) analyzes the evolutionary process of domestic handset banks in terms of services, techniques and modes, and propose that information technology has brought along innovative development of handset banks that provide basic financial services. The second stage of Internet finance evolution is financial intermediate platform. By analyzing important P2P cases, he finds that P2P financing not only brings advantages such as convenience, efficiency, low financing cost and multiple usage, but also effectively supplement the current financing modes, providing a brand new financing channel for individuals and corporations. As far as the trend goes, P2P financing mode is likely to play the lead. Li bo, Dong Liang (2013) propose that Internet financing is highlighted by the fact that P2P financing is derived from incomplete traditional banking services, which not only replenishes traditional commercial banks, but also enlarges room for development. The article also analyzes the operation model and conceptual issue of P2P financing in details. Looking into the functions of third-party payment, Yang Tao (2013) considers that third-party payment service market is booming. Meanwhile, he also considers that third-party payment service providers will become partners with traditional commercial banks, cooperating and competing with each other at the same time, which is good for communal development and improvement. Li Xuejing (2013) holds that crowd funding is an innovative technical financing facility, which is not only a groundbreaking business model, but also add functions of traditional investment banks to Internet financing. Huang Hao (2013) considers that traditional banks should adopt corresponding measures to cope with the changes. They should not only give full play to their advantages, but also learn from Internet and improve their e-commerce platform. Wang Jiaying, Wang Juemin (2013) performs
SWOT analysis on e-commerce of commercial banks. He considers that as e-commerce is at its preliminary stage, while commercial banks are at their mature stage, the two should pay attention to both WT and defensive strategies.

Thirdly, the problems that lie in Internet finance evolution. FengJingsheng (2009) holds that the main issue of domestic Internet finance is incomplete legal system and supervisory coordination mechanism. What’s more, the incompatibility between Internet finance development and risk control can also bring about potential risks. Wang Shihe (2012) considers that the main challenge of Internet finance is to regulate more standard Internet technologies and cultivate talents. In view of safety education, Internet finance still needs to be improved. It should also keep pace with latest developments, and be prepared for new challenges. Zeng Gang (2012) points out that Internet finance is not regulated by supervisory systems in most cases, it has brought new challenges to traditional macro-control. In this way, the development of Internet finance will not only brings instability to domestic financial systems, but also weakens government’s macro-control.

Various solutions have been proposed to solve challenges occurring along with the development of Internet finance. Chen Jing (2000) believes that the background of Internet finance services is separated from the traditional environment. Therefore, what the Central Bank should do is to update and reform financial legislations from time to time, so as to create a better atmosphere to govern and supervise Internet finance. To introduce and amend financial legislations and managing mechanisms are the premises for ensuring the sustainable development of financial system. According to FengJingsheng (2009), following measures can be taken to enforce the supervision over the risks of Internet finance in China. First, set access standards for Internet finance practitioners; second, streamline supervision mechanism, as well as improve law and regulations; third, establish safety regulatory system and adjust relevant policies. Xie Ping (2012) believes that since Internet finance has provided both enterprises and individuals with a brand new investment and financing channel, it plays a positive role in improving China’s financial system, makes up for the disadvantages of commercial bank, and meets the public’s demand in participating financial activities. It can be inferred that in terms of economics, the emergence of Internet finance is necessary and reasonable. Therefore, in addition to supervision over Internet finance, different supervision mechanisms need to be effectively coordinated, so as to keep up with the developing pace and protect the interests of financial consumers. As for Li Bo and Dong Liang (2013), while posing questions, they have pointed out that effective protection is needed for financial innovations. Great attention should be attached to the innovative development of Internet
finance with proper guidance. It is necessary to establish law and regulations for better public understanding of the risks of Internet finance, since it would not only set rules for innovative business, but also prevent systematic and local risks from expanding.

From the existing literature study we can see that Internet finance has advantage in information acquisition. Thus, it is more competitive over traditional financial system in this regard. On the other hand, since the main transaction is online, there would be risk control issues, which need to be resolved theoretically and in practice.

2.3 Social Capital Theory

There are generally three types of capital theories in our society: Human Capital, Material Capital and Social Capital. Among all three, social capital is one of great importance in the study of sociology. Through years of tireless effort of many experts and scholars, the Social Capital Theory has been established. It is an interdisciplinary research theory that has a very extensive applied value. For instance, it plays an important role in the fields such as social and economic development, social participation and democratic politics, the development of science and technology innovation, as well as social stratification and transformation.

2.3.1 Definition on Social Capital and Its main Perspectives

In 1977, Glenn Loury proposed the definition of Social Capital for the first time; his research mainly consists of the influence of economic activities and social structure. It was through this particular research, he was able to suggest the idea of social capital theory in correlation to the already existing two forms of capital, namely human capital and material capital. In 1980, French sociologist Pierre Bourdieu then systematically studied ‘social capital’ on the basis of previous research. He pointed out that there are three forms of capital: economic capital, cultural capital and social capital. While there is a significant difference among these three forms, they also affect each other interactively. The capital can transform under certain conditions and social capital’s chief form of existence is social network.

In 1988, American expert James Coleman studied the issue on social capital from both micro and macro standpoints respectively. He focused primarily on explaining the relation between human capital and social capital and suggested that material capital, human capital and social capital exist simultaneously and they are natural capitals that people are born. However, while the former capital is tangible, the latter two are intangible and all three are convertible under certain conditions. Ever since he offered a systematic explanation on social capital in his book "Foundations of Social Theory" published in 1994, the sociology academic circle has started paying more attention to this concept and its definition.
After that, Mark Granovetter, Ronald Burt, Robert Putnam and many other experts and scholars have continued research on previous studies and produced a series of results. Such as Structural Holes, Social Resource Theory and The Strength of Weak Ties & Embeddedness, and it is through these research conclusions, the theory on social capital has been refined gradually while being recognized and accepted by people. Moreover, social capital can be considered as an explanatory variable in studying the performance of microstructure and macroeconomic development; it has significant research and analytical value while also having a gradual influence in other fields of study.

Based on the different stages of research and analysis on social capital, different experts and scholars have interpreted social capital from various standpoints, and the following are the primary perspectives:

In 1986, Pierre Bourdieu became the first scholar that offered a detailed explanation on the meaning of social capital. Bourdieu used social network as the basis of his discussion on related issues of social capital, in his opinion, social capital expresses itself externally through social network, and the so-called social capital is essentially the integration between both potential and existing resources. Social network, on the other hand, embodies a collective recognition and mutual familiarity that is regulated to a certain extent, and all of this ties in with the idea of resources. Some social problems are manageable through a certain resource that generates social network. At the same time, this social network provides shared resources to all participants, which makes a reliable level of mutual trust between participants.

Respectively in 1988 and 1990, James Coleman proposed that social capital is inherently a duty and mission. To be more specific, not only is it a pre-set goal, it is also an information transmission channel. Moreover, social capital is a reasonable and effective discipline that will either restrict or fuel certain activities. Based on social capital’s unique effect, Coleman believes that the so-called social capital refers to “a resource with external expression of social structure and material wealth that is controlled by others. Its consisting components are in fact the components of the social structure, and it often occurs with such social structure and its correlating interpersonal relations. It facilitates individual behaviors within the social structure ”. Chen Liutie, in 2007, suggested, “social capital also has productivity, its very existence enables possible realizations of certain goals. Without it, such goals may not come true”. It is similar to human resource or material resource, in that it cannot replace some activities entirely, and in fact they are merely related to each other. In other words, certain external expressions of social capital are often ineffective towards other activities; sometimes it can even be counterproductive.
Robert Putnam mentioned in 1993, the so-called social capital is a characteristic demonstrated by social organizations, including the network, social norms, and trust, they promote social efficiency through encouragement and mediation. Ronald Burt, on the other hand, setting out from related researches and theories of “Structural Holes”, indicated that social capital is the controlled number of information and resource that is given to the participants within the network structure. Social capital ultimately represents “connections owned within social networks, and these connections grant sufficient capital possibilities to the participants “.

Francis Fukuyama made the following conclusion in his 1995 research: “Social capital belongs in the realm informal restrictions, it can promote internal collaboration between participants and can be explained through actual cases. However, not all restrictions that can be explained through examples belong in the category of social capital. The structuring constraints of social capital must strengthen the collaboration between participants. Therefore, the virtuous conducts of mutual benefit, respect of agreement, honesty and integrity often bound with the idea of social capital”. Lin Nan, through his research in 1999, also suggested that the essence of social capital originates from all resources within the social network, a conclusion that is based upon Social Resource Theory. As a result, we can perceive social capital as something that exists within certain social structure and can be used by or extract resources from for specific activities.

In Zhang Qizi’s 1997 research, within the framework of Social Network Theory, it considers social capital as a social resource within the social network structure with relationship network as an outer expression. This is a relatively comprehensive early research within in China. Social capital is then defined as the strength to acquire resources in the 2003 research by GuXin and others. In each stage of forming mutual influence and connections between more than two organizations or individuals, participants’ capability in obtaining resources within this network is social capital. Furthermore, in BianYanjie’s 2004 research, he discovered that while the external manifestation of social capital is the social network of all participants, it essentially exists within such network and can also be transferred among participants. No social participants can obtain such resource on their own, and it relies exclusively upon the network as its carrier to be generated, accumulated and used.

So far we have examined various definitions on social capital from several scholars, although their conclusions varied, they do share one clear common ground, that is to say social capital differs from both human and material Capital; it is a form of capital that hinges on the manifestation of social structure. It can be perceived as social network, which covers all social relationships within the network and its available resources, as well as the ability to mobilize
these resources. In addition, social capital’s external expression also includes rules & regulations, trust, norms, culture and so on, which will be of greater importance if we take such factors as cultural features that are formed in Chinese history, and the reality of the long-term imperfect legal system and the sophisticated system of “the rule of man”. Whereas the China’s modern market economy in transition has been failing to meet the development demands of economic modernization due to its incomplete legal system, thus increasing the risks of opportunism during transaction. Given this, it can be seen that social transaction cost can not be reduced and rapid development of social economy can not be secured by merely promoting the credit system of traditional Chinese commerce culture through spiritual civilization construction. Therefore, the utilization of new technology or new tools (such as internet technology or e-commerce tools) to facilitate the establishment of the transaction mechanism, trust, norms and even transaction culture, and improve the ability of every dealer in the transaction network to explore and make use of resources of supply and demand while reducing transaction cost by identifying dealers’ social capital level through transaction credit records and transaction appraisals has become an effective supplement to the legal system that is relatively lagged behind for an economy in transition.

This essay will adopt Bian Yanjie’s explanation on Social Capital. While social capital demonstrates itself through social network in general, for individuals, on the other hand, the external manifestation of social capital becomes one’s ability to mobilize social resources and the status they hold within the network.

2.3.2 The Form and Dimension of Social Capital

From the varied definitions of social capital, it is clear that experts have different opinions on its forms of expression.

In 1990, Coleman pointed out that the major forms of Social Capital includes multi-functional social organizations, relations of authority, norms & effective penalty, obligations & expectations, purposely established social organizations and information network. He then categorized them into two main types: one is individual social capital and the other is collective social capital. In 1997, with a keen advocating for Systemism, Brown suggested that social capital is a programmed system. The distribution of social network resources depends on the interpersonal relationship model, which ultimately constitutes the network itself. Within the realm of Systemism, social capital can be divided into environment, structure and element, and accordingly, it can also be categorized into the level of micro, meso and macro. Based on this, Adler suggested in 2002 that social capital can be divided...
into external capital that covers the meso and micro level of social capital, as well as into internal capital that includes social capital on the macro level. Moreover, in 1999, Uphoff and others have categorized social capital on the collective level into both Cognitive Social Capital and Structural Social Capital. In 1998, through summarizing previous research studies, Nahapiet and Ghoshal divided social capital in three layers from a capital dimension standpoint, the three layers are cognitive dimension, relational dimension and structural dimension respectively, which accords with different types social capital. Such categorization has gained wide recognition from experts and scholars.

As a result to the categorization of social capital through its various forms of expression and dimensions, one can divide its forms of expression from two aspects. To analyze from a structural aspect, that is, from a network standpoint, social capital is essentially a social structure and is expressed through organizational relations. On the other hand, from a cultural aspect by adopting the viewpoint of social information and norms, social capital is a social culture and is demonstrated through social value and its related norms, particularly the ones of social credit.

2.3.3 Measurement of Social Capital

Based on the analysis above, social capital cannot be easily measured as it shows different forms of manifestation. In 2006, De Silva stated that there are two main reasons that there has not been a general consensus on social capital. One of the reasons being that there is still a difference among experts and scholars on the definition of social capital. The second reason is that there is no systematic and scientific means of measurement available at this point.

With the development of Social Capital Theory, the research on its definition and connotation has reached greater depth and experts have made suggestions on measurement methods. For instance, in 2002, Adler and the others have divided social capital into two categories: measurement of group level social capital and measurement of individual level social capital. These two types measurements subsequently evolved into Position Generator and Name Generator and the following is a brief introduction on these two measurement methods.

1. Measurement of Individual Social Capital

It is also called Name Generator. In methods of social capital measurement, this is the one that prioritizes evaluation of the core network of the individual within the self-centered network. It is administered through small-scale survey investigations to achieve an abstract summary on the characteristics that is also reciprocal to a larger range. In other words, it induces a structural characteristic that measures the direct relations and
the network’s property of being both different and similar. To be more specific, it first examines the respondents’ occupation and their level of income and education in relations with approximately 5 friends within the same social network. Once the survey is complete, it will calculate the specific statistical features of the core network of respondents, which in turn evaluates the resource and scale of their social networks.

Other the other hand, there is the Position Generator. It is a measuring method of social capital that focuses on measuring the resources of the social network. This method is established on the basis of Mr. Lin Nan’s social resource theory. It bases its design on the Pyramid structural of social hierarchy and assumes that one’s structural position depends on his or her status and authoritative influence. Therefore, the higher the status, the more network resource they have. Ultimately, through the means of locating, it enumerates the network resource. Specifically speaking, this method requires a occupational index that is obtained through survey, it is subsequently used to calculate one’s status score based on their occupations. Such score becomes the index that measures one’s resource status and ultimately determines how much resources the respondent has.

Based on the methods of Name Generator and Position Generator, the measuring method of social capital has been modified gradually due to the changes in its goal and object. More advance measurement methods start to emerge.

Ever since Bian Yanjie pointed out that social network analysis and social capital theory has an inseparable connection with each other, the academic circle has then started to examine individual level of social capital through the methods of social network analysis. Both Luo Jiade and Zhao Yandong has pointed out in 2005 that the measurement of individual level of social capital is in fact a measurement on the characteristics of social network. This method perceives the society as an unity that consists of social connections and sub-networks of different organizations or individuals. Bian Yanjie suggests that maximized network status, network, status differences and scales of network are the main aspects of measuring individual level social capital. Not only does such method cover both social network and social relations, it also reiterates the idea that social network resources is in fact social capital. Subsequently, Wang Weidong pointed out in 2006 that the total value of social network capital equals its total capacity. Moreover, the total value of social network capital is measured through the aspects of average value of ISEI, the highest value of ISEI, network scale, network density, the highest ISEI value minus its lowest, as well as types of occupation of network participants. Zhao Yandong and LuoJiade (2005) both agrees that the basic
content of the measurement of individual level social capital includes: it first measures the total amount of resources that are available for the individual to utilize within the social network; secondly, it measures the amount of social capital that is actually used in technical activity by the individual. The method of Position Generator and Name Generator is often used in measuring the micro level; however, social capital owned by individual within the social network can be measured by network structure, personal status within the network, network density (i.e. the closeness between network participants), network scales. The social network connectivity can be measured through the measurement of network centrality, while on the other hand, group centrality and structural hole, network density and bridge can be used to measure social network structural model.

Moreover, Liu Jun proposed another measuring method in 2006. This method uses network connection as its analytical unit and measures the social network as a whole. By utilizing the method that measures “block model” value, it builds the overall structure and relationship model of different social networks.

The method of measuring and analyze social capital through social network analysis and its relevant index has gained more and more recognition among researchers and scholars, thus accumulating a substantial amount of results and experience in empirical research and network category measurement.


Different from the measurement of individual level social capital, the measurement of group level social capital prioritizes the aspects of social norms, public participation and trust.

As the first person to formally discuss collective social capital, Putnam suggested a comprehensive index system while examining the American society, which offered valuable academic reference for later research. Parks obtained research results on the level of trust in government and education through measuring the level of individual trust towards the system. Whiteley (1999) suggested that trust is the only element that measures social capital; social capital consists of interpersonal trust and national trust. Uphoff (1996), on the other hand, believes that through the measurement of cognitive social capital and structural social capital, one can measure the collective social capital.

In comparison to the measurement of individual level social capital, the measurement of collective social capital is more objective and is one of higher difficulty. With the popularized use of social network analysis method, Adler and other researchers has conducted systematic and in-depth research on group level social capital through such method.
In Social Capital Theory, it has defined social capital as a new type of capital form that differs from Human Capital and Material Capital. It is a form of capital that has many different definitions and is applicable in various scientific fields, it also has a wide range of dimensions, forms and measurement methods.

In 2003, by summarizing previous research results on social capital, Zhao Yandong concluded that the concept of social capital is primarily applied within the realm of social & economic development, scientific & technological innovation, family & education, employment & immigration, social transformation & stratification, democratic politics & social participation, and it is playing a crucial role in people’s daily lives.

Social Capital exists in the form of social network; they are closely related to one another but also different. Social network is merely an expression of social capital, in other words, social capital is a much more extensive conception than social network. Social network consists of network resource, network scale, structure, resource control methods, resource flow pattern, the level trust require to obtain connections, the closeness of these connections, as well as the level of connection between different social networks. Social network only embodies the characteristic of social capital when it is being used and allocated.

Social capital has been variously defined; it is theoretical conception with exceedingly rich connotations. Based on current level of research, it is still relatively difficult to measure social capital intuitively and accurately. Although experts and scholars have suggested various methods, a comprehensive way to measure social capital still remains inaccessible. With the continuous development of the method of social network analysis, it has the potential to become a reliable and essential method in measuring social capital.

From the above analysis we can see that the focus of social capital is information acquisition and trust building. The information value and risk control is important measure for social capital, which, therefore, can be a good instrument in researches on SMEs financing.

2.4 Risk Management theory of Internet Finance

Many experts have extensively studied risk management. Risk control theory is applied in financial and management field. In this paper, the researcher focuses on Internet finance risk control theory. In the theoretical study at the other countries, many experts and scholars did research on risk control theory. There are some classic opinions. Klafft(2008), Herrero-Lopez(2009) and Lin et al.(2009) argue that under anonymous Internet circumstance, investors lack investment experience, which will result in increasing investment risk. Spence(1973), Rothschild & Stiglitz(1976) and Riley(1975) hold a shared opinion that in
an immature market, financing success is not compatible with the characteristics of the investors, which leads to conflict and contradiction. Dholakia & Lyandres, Andrews, Her-zenstein (2008) propose several non-influential factors of the investors, such as if the investors are hardworking, their capital power, investors’ gender as well as their ethnicity. On the contrary, Pope and Syndor (2008) and Ravina (2007) argue that the characteristics of investors, such as weight, gender, age and race, will have key impact on the success of financing. For instance, black people’s financing cost is higher than that of white people. Ravina gave an explanation that black people are more likely to default.

In foreign countries, in order to reduce the possibility of default, a person is appointed to take charge of the financing project. This person is an agent that links the fund-raisers and invertors. This link could be established by strengthening financing method of Internet joint guarantee as well. Wang, Reuk and Ryan (2007) argue that the initiator of the financing project play an important role, by which increases the success rate of financing and the number of financing objects’ auction. Duan et al. (2009) points out that when we are conducting Internet financing, P2P Internet financing plays an important role for two reasons: 1. People have difficulty in understanding an issue and making decisions that can be caused by overloaded information. 2. Under open Internet environment, people are more inclined to obtain advice from others. Furthermore, Duan et al. states that many people’s decision making is affected by group behaviors. This conclusion could be applied to issues such as Initial Public Offerings (IPOs) pricing behavior (Welch, 1992) and investors’ advice (Scharfstein & Stein, 1990). Jin and Freedman (2008) points out that if the fund-raiser’s friend works in the project group, it will reduce the possibility of default. Freedman further argues that if fund-raiser remains close relations with his/her friend, default rate will be dramatically reduced. Chatterjee & Datta (2008) hold a view that organizers of financing project play a vital role. They act like an agency to process information and provide suggestion to the borrowers. Organizers supervise the whole process of repayment. Sometimes they provide service unselfishly, sometimes in need of obtaining extra benefits. The ultimate goal is to enable the borrower to finance from the debtor. Chiesa & Bhattacharya (1995) propose that the fund-raiser is reluctant to disclosure all information to the financing project organizer. So if there is a possibility of default, the organizer plays an important role in monitoring repayment. Zhangxi Lin & Binjie Luo (2011) adopt decision tree model, conduct in-depth analysis of conformity behavior in Internet financing and offer improvement advice.
2.5 Chapter Conclusion

From above analysis, we could conclude that since the development of Internet financing for SMEs is still in the early stage, related researches and analysis are not systematic. Internet enables more people get involved in financing activities. By efficient information gathering, transactions between borrowers and lenders can be speeded up, yet risks come with online financing. At present, some experts and scholars specialize in researching on SMEs’ Internet financing platform. The consensus reached is social capital theory should be emphasized in risk-relating issues. Nevertheless, many studies done are qualitative analysis. Few of them approach the issue from quantitative angle. And there is no comprehensive study of social capital measurement and risk management and control, which will be a starting point of this paper.
Chapter III: Status-quo and Difficulties of SME Financing

3.1 Main features of SME Financing

3.1.1 Financing methods and channels of SMEs in China

In the developing process of a SME (The definition of small and medium-sized enterprise, SMEs, varies from people to people, so for better studies, this thesis adopts the definition given by Yao Yang and Lu Feng (2008), which defines SMEs as companies with less than 500 employees.), difficult situations, where capital is in urgent need, are not rare to be seen. In different stages of development, SMEs will have different assets to mortgage and their ability to take risks will not remain the same. Therefore, the financing methods and channels of a SME will alter from time to time.

3.1.1.1 Financing methods

Enterprises will adopt different financing methods under different guidelines. Financing methods can be generally divided into two categories: internal financing and external financing.

Internal financing sources include start-up capital, retained profits (including undistributed profits and surplus) and depreciation. Internal financing is the process for companies using its capital for new investment rather than save it up. No intermediary agencies are needed in the process and therefore incurring no intermediary costs. Moreover, transaction costs can be reduced, while obstacles for capital transfer will be minor. The capital structure can be streamlined. The shareholders and financial management capacity are influential in internal financing. Although internal financing is less expensive comparing to external financing, the capital volume is very limited. It would not be realistic for companies to seek development merely through internal financing, since external capital would often appear to be dependable when companies is reaching a certain size or making investment decisions.

External financing involves getting retained capital from an outer source for new investment. Obtaining external capital helps to promote the turnover rate and utilization efficiency of the social capital, so as to optimize allocation of resources. External financing can be further categorized into direct financing and indirect financing. Direct financing generally involves the demander and the supplier raising funds via financial instruments such as securities, debt and entity. Indirect financing refers to the process of the demander and the supplier funding with the assistance of intermediary financial agencies, for instance banks and stock exchanges. According to Rudolf Hilferting, direct financing is usually firmly lined with credit, especially
bank credit, while indirect financing is more closely related to joint-stock companies. However, since joint-stock companies are derived from credit, indirect financing is a more recent concept than direct financing. Direct financing serves as a supplement for former financing methods and channels, enhancing the financing capabilities of enterprises. The emergence of direct financing enables firms to become independent from indirect financing channels, therefore provides impetus for firms while reducing pressure for banks.

3.1.1.2 External financing channels of SMEs in China

In China, the current financing channels for SMEs are as follow:

(1) SME Board is restricted under standards of issue market as well as law and regulations of the Main Board market. Considering the fact that enforcement, supervision and indexes are independent from the main board, it is the SME on the main board with advanced technology and vibrant development that should be chosen to go public and issue securities.

According to the statistics released by the Shenzhen Stock Exchange, until June 18, 2013, there were 998 listed stocks on SME Board with a total entity of 165.152 billion RMB. Despite the fact that most SMEs are not qualified to raise fund on SME Board, comparing to the statics by the end of the year 2014 (only 38 listed stocks on SME Board with a total entity of 3.223 billion RMB), which is far below the current 2%, SME Board in China has made great progress.

SME Board aims to lift the restrictions posed on SMEs in the process of financing and to ensure the health development of SMEs. However, due to the entry standards and restrictions of SME Board concerning operating history, turnover, time of sustained profitability, and cash flow, the majority of SMEs fail to be listed on the SME Board. By the end of 2013, there were 1023 SMEs in China. Only very few of them are listed on the SME Board in China.

(2) The SME collective bond was issued as a coping strategy against the attack of 2008 Financial Crisis to protect SMEs in China. Guided by leading organizations (such as all-level governments), multiple SMEs were gathered as one entity to sell bonds. Each firm is burdened with the debt in accordance with the volume of bonds issued. “Unified revenue and expenditure” policy was adopted. It is a brand new type of corporate bond, with identified name and fixed issue size that was sold to investors of different ranks. The principal and interest will be repaid later within a limited amount of time.

Before the emergence of such bond, it was only large enterprises that were qualified for selling bonds. Selling the bond in a bundling way is a brand new mode of financing for SMEs.
Moreover, it enhances the credibility of SMEs and the credit level of the bond itself, which also serves as a way for local government to diversify SMEs’ financing channels and to enlarge the financing scale of enterprises. Data collected in June 2011 shows that there are eight SME collective bonds issued so far, namely 2011 Chengdu, 2011 Henan, 2011 Changzhou, 2010 Zhongguancun, 2010 Wuhan, 2009 Dalian, 2007 Zhogguancun Hi-tech, 2007 Shenzhen. Nevertheless, regulations concerning risk management for SMEs’ breach of contract still need to be improved. Not to mention, the market still lacks a credit rating system for collective bonds. Added up with expensive intermediary service fees and the unsatisfying effect of expanding bond credit through guarantee, all these problems hinders the market recognition and the generalization of SME collective bond, which consequently fails to solve financing difficulties that SMEs are facing.

(3) The main financing channel for SMEs in China is loans from banks and other financial institutions, which takes up a higher proportion than corporate bonds and securities. According the China Monetary Policy Report (Q3 2013), in the first three quarters of 2013, corporate bond, Treasury bond, share and loan relatively takes up 7.7%, 6.7%, 2.6% and 82.9% of non-financial-institution-related financing in China. The up-mentioned statics show that in terms of importance and scale, bond and stock market remain to be afflictions of external financing, while banks are without doubts still the primary channels for firms to raise funds. SMEs are small in scale and relatively low in profitability, therefore cannot meet market access requirements. As a result of that, the main source of external financing of SMEs is bank loans. In order to provide SMEs with support and assistance in loans, China Banking Regulatory Commission (CBRC) issued specified guidelines “to ensure the growth rate of SME loans is above the average annual loan growth rate, and the total volume of new SME loans no lower than that of last year”. Surveys show that from 2011 to 2014, SME loan balance has been growing steadily for three consecutive years. When a company applies for bank loans, it need to offer various documents ranging from business plans, agreements, contracts, certificates, documents to prove its use right, ownership and mortgage, business license and legal documents, to financial statements. Comparing to financing in open market, bank loans can be applied with simple and clear procedures, providing SMEs with convenience.

(4) Private financing. Without direct financing channel, SMEs cannot receive loans from bank directly. Moreover, since some SMEs only have few investment channels and are in lack of capital, they can only turn to private financing to raise funds. In places like Wenzhou, where private economy is developing rapidly, private financing is the main channel for SMEs
to raise money. Bersly and Coate (1995) indicated that informal finance is essentially different from formal finance, since it applies invisible self-selection mechanism, adopts civil ethical served as restrictions and is distinct in financing method. However, according to Hoff and Stiglitz (1997), with bilateral trust and loyalty serving as the premises of informal finance, the contractual relationship based on trust can easily lead to moral hazard. The more the capital is involved, the larger the risk will be. Furthermore, it is more difficult to manage informal finance. As risks accumulate, once more hazard occurs, economic development will be under huge hit, leading to significant influences and consequences.

Commercial credit and government funding are also primary financing channels for SMEs. Direct financing, loan assistance, government subsidies, tax incentives are all part of the government funding. In the process of transaction, the lending relationship, whether in the form of advance or deferred payment, established out of mutual trust between the two sides is termed as commercial credit. Commercial credit is a main SME financing method. However, it is a short-term method, which cannot offer long-lasting, sustainable and stable funding, and will increase the risk of firms experiencing interruption in product supply, paying penalty and interest, as well as getting credit degraded. The time and size of credit financing can be affected by the enterprise’s position in industrial chain. Therefore, such financing method is not flexible and convenient enough. It is more like a temporary solution rather than a sustainable policy.

3.1.2 Features of SME Financing

3.1.2.1 Financial gaps in debt capital and equity capital

While SMEs may easily find financial gaps in both equity capital and debt capital in the process of external financing, it is a rare case for large enterprises. World Development Report 2014 has examined this phenomenon in depth, indicating that external financing only accounts for 30% of the SME financing, within which less than 5% are advantageous resources; whereas 48% of large enterprises’ funds are raised through external financing. Comparing to large enterprises, SMEs have more limitation and restrictions on loans. Banks are treating enterprises unequally in regard to the size of the firm.

Financial gaps in debt capital and equity capital are major obstacles that SMEs in China are facing. According to the Report on SME Financial System in China (2014), it would be extremely difficult for a SME, with a financing size less than two million RMB, to apply for bank loans. LuoDanglun and Zhen Liming (2008) found that although stock market has provided private enterprises with new financing channels, it is still hard for these companies
to survive in the stock market. In addition, the market share of private companies is relatively small. Such phenomenon is triggered by Chinese government’s macro-control over stock market in forms of intervention and control. In China, financing time, amount and eligibility must be distributed in accordance with the company’s administrative structure, which grants more benefits and care to state-owned enterprises.

3.1.2.2 Mainly rely on internal capital accumulation

SMEs mainly rely on internal capital accumulation. It is one of the most distinctive features of SMEs’ financial structure. The US financial system is mainly based on a capital market. In America, SMEs hold abundant self-owned capital, 49% of which are private owned, and are only allowed to apply for bank loans that is less than 6%. In Japan, public financing is playing a leading role in the market, providing SMEs with loans and funds directly. The applicable loan amount is larger there.

In China, there are mainly two financial channels for SME, namely bank loans and internal capital accumulation. From 1993 to 2012, the “Research on Chinese Private Enterprises” research group had conduct five comprehensive sample survey on the financial channels and methods of enterprises. The findings between 1993 and 1997 indicated that 65.5% of the funds of private enterprises are raised through internal capital accumulation, 21% through loans from credit unions, banks and other financial institutions, 13.5% through money raised by family and friends. The findings in 2012 showed that internal capital accumulation accounted for 55% of funds in private companies. It can be inferred that internal financing still works as the primary financing channel for the SMEs in China. The problem that there only exists one single financing channel remains to be common among SMEs in China.

3.1.2.3 Bank loans is the main external financing channel

Beck, Demirguc-Kunt, and Maksimovic (2008) have studied different external financing channels and concluded that banks and other financial institution are main sources of external financing. Cessy and Olofsson (1996) has conducted comprehensive studies on financing features of European SMEs. The research shows that banks are the main finance source of enterprises, with bank financing playing a primary part in the corporate capital; the proportion of current liabilities in total assets is too high. Investment is largely backed up with profits. The research conducted by NSSBF suggests that banks loans accounts for 18.75% of SMEs’ capital, 53.37% of the total debt financing.
In 2013, People’s Bank of China had carried out surveys on the reform in financial system of Chinese SMEs consecutively in Shanxi, Guangdong, Zhejiang, Beijing and other part of the country. The surveys implied that 65.7% of the enterprises surveyed were experiencing money shortage. In order to raise funds, 62% of them chose to apply bank loans. In 2012, IFO conducted associated program, which surveyed on the financing channels of SMEs, showing that 65.7% of enterprises’ capital come from bank loans, 33.3% from equity financing and 1.8% from bond financing.

All the above-mentioned survey findings prove that banks and other financial institutions are vital to the SME financing in China. Considering the fact that most formal financial institutions are in favor of large enterprises, SMEs in China are under stronger restrictions comparing to those in developed countries. SMEs would apply bank loans to remove financial constraints for the following reasons. First, comparing to securities, bonds and other financing methods, bank loans are easier to apply. Although banks will conduct rigorous approval process and impose restrictions, the probability of a success applicant is still relatively high. Second, the interest of private loans is much higher than that of bank loans, which will increase financial risks and generate extra costs. Third, banks have taken a primary part China’s financial system. SMEs do not have other financial channels to turn to. Fourth, SMEs in China has a better understanding of bank loans than other new financing channels. Therefore, credit loans from banks will remain to be the main financing channel of SMEs in China for a long period of time.

3.2 Connotation and Demonstration of Financial Constraint of SMEs

3.2.1 Connotation of Financial Constraint of SMEs

3.2.1.1 Financial gap and financial constraint

(1) Financial gap is also called financial constraint. Ray et al. (1983) did an in-depth study on financial gap, pointing out that “financial gap” contains two implications. First, the marginal cost of SMEs is less than marginal income. Owing to having difficulties to provide stable and sustained financial support, it is not able to profit through investment. Second, financing cost is less than the cost of capital. Investment activities cannot progress smoothly. Therefore, it is not hard to see that financial gap is caused primarily by high financing cost and low ability of accessing to funds.

(2) Financial constraint is identical with financial gap, describing the same phenomenon and issues. Yet, they have different ways of such description. Financial constraint is more frequently used in foreign literatures but they are not very clear about its concept and
implications. Fazzari et al. (1988) regarded financial constraint as the situation when enterprise has to relieve financial stress by internal funds, which is resulted from the excessive external financing cost for enterprise to shoulder, owing to the large difference between internal and external financing cost. The lack of financing and financing compensation is the fundamental cause of financial constraints. Difficulties in issuing bonds and share, disapproval of loan application from banks and low amount of internal funds are the most significant features of financial constraints.

3.2.1.2 Connotation of financial constraint

(1) Mallick and Chakraborty (2012) stated that financial constraint and credit gap are the same concept, which refers to the discrepancy between actual and expected credit amount. As credit gap increases, the degree of financial constraint raises. They demonstrate obvious positive correlation.

A study of Ma Jiujie (2014) indicated that financial constraint, to some extent, is the limitation or confining of enterprise’s credit and loan. The enterprise cannot access to sufficient loan and its fund demand cannot be satisfied due to such capital supply shortage. Here, insufficient credit supply from credit cooperatives and banks is the most fundamental reason of financial constraint and its confining degree can be described by credit gap of supply and demand.

Some researches do not describe or analyze “financial constraint”. However, issues they discuss belong to the area of financing constraints. According to the study of Zhou Zong’an et al. (2006), a sound and complete credit market has not been formed in China. There is no possibility for Pareto Improvement and commercial banks cannot provide SMEs with enough loans. The study conducted by Yang Siqun (2000) showed that when credit provided by financial institutions is not able to meet the demand of the company, a “financial gap” is thus created. Xu Hongshui (2001) suggested that it is impossible to describe the real capital demand and supply through actual interest rate. There will be a “financial gap” when supply is short of demand and information asymmetry between banks and companies will further widen the gap. Zhong Tianli et al. (2003) stated that if enterprise misses opportunities of fund raising, there would be demand-side market failures. Although the overall situation of credit market is fairly well, banks are still skeptical about the loan applications from SMEs, basically owing to limited management and operation ability as well as unsound financing of such companies. The “financial gap” is a demonstration of their inadequate capacity. Ling Zhiyong (2004) studied in depth about lack of financing of SMEs owing to indirect causes.
He indicated that under appropriate conditions of interest rate, if both the company and bank have taken comprehensive consideration of factors including risks, economy, market, as well as supply and demand and they anticipate the project shall get loan but in fact its application fails to be approved, then such project is a demonstration of “lack of financing owing to indirect causes”.

Based on the aforementioned researches, this thesis regards financial constraint as such: when the net present value is positive, companies are willing to pay interest and submit loan application to banks but owing to the preference of banks and the incomplete credit market, the applications are denied, resulting in credit gap and obstacles in the development of the companies. It is noticeable that the high cost of financing and the weak ability of acquiring credit are the most direct form showing “financial constraint”. It has two meanings. On one hand, companies are willing to pay interest for loan; yet on the other, it is difficult for SMEs to obtain credit from financial institutions such as banks. Therefore, “financial constraint” depicts the contradiction in the credit demand and supply of SMEs, which is the information gap between borrower and lender as well as difficult risk control, and such contradiction brings negative influence to the companies’ development.

(2) Financial constraint, credit rationing and credit discrimination

Some experts think that credit rationing and financial constraint are same. The findings of Zhang Jie (2006) indicated that information asymmetry existing significantly between lenders and borrowers. Hence, unlike big companies, small ones will face “credit rationing” or “financial constraint” issues, hindering economic progress. Although SMEs have good macroeconomic performance, it is harder for them to obtain loans in microcredit market, subjugating these companies’ progresses. Accordingly, how to resolve the micro and macro-economic contradiction that SMEs face has become a worldwide problem.

However, the author of this thesis disagrees with the view above. In fact, there is a big difference between credit rationing and financial constraint. Financial constraint comes in two types, demand-side constraint and supply-side constraint (Boucher et al., 2008), and the latter comprises credit rationing. In an imperfect financial market, banks prefer credit rationing for self-protection. SMEs lacking of transparent information disclosure and operation capability would be constrained. If credit rationing exits for a long period, the financial demand of SMEs would not be satisfied and on the other hand, interest rate requirement and capital supply would go into the wrong direction. Accordingly, people’s behavior, judgment and decision-making would also be disturbed. With such constraints in system, borrowers’ fund
need cannot be met and they have to give up loan applications, which leads to demand-side constraint. It is easy to note the casual relationship between financial constraint and credit rationing.

In China’s financing system, the big four state-owned commercial banks take the dominance. Causes of financial constraint of SMEs also include financial institutions’ discrimination against SMEs in terms of their credit ability, ownership, size and profitability. Research findings show that the most difficult part for the financing of SMEs is discrimination against the companies’ sizes. However, according to the survey on private economy, ownership discrimination is the largest barrier faced by private companies to obtain loans (Zhang Jie, 2000; Zhong Tianli, 2003; Lu Feng & Yao Yang, 2004). Credit discrimination, to some extent, impairs the rights of SMEs and their financing costs are increased accordingly.

Credit rationing and discrimination will lead to credit supply constraints. Owing to the imperfection of the credit market in China, credit rationing takes shape in constant equilibrium, which is an inevitable direction chosen by the market itself. In order to protect their own interests and maintain a good profit status, it is understandable that banks hold discrimination against SMEs and their credit. Still, as the development of SMEs, their credit and management ability are improved gradually and financing market becomes more complete. The credit discrimination will be eased. Therefore, although banking institutions’ pursuit of maximizing interests causes credit discrimination, it will not be sustained and exist for a long period. As the development of SMEs and perfection of financing market, credit discrimination will eventually be resolved.

3.2.2 The Demonstration of Financial Constraint for China’s SMEs

3.2.2.1 Improved credit conditions and worsening financial availability

Since 1999, with the improvement of the economic development, increasing attention has been paid to the development of SMEs. Chinese government and relevant authorities issued a series of measures in succession, making great contributions to the alleviation of the sub-prime crisis. To facilitate the development of SMEs, the government has also put forward corresponding supportive and preferential policies, which can provide more convenient services to SMEs and alleviate its problem on financing difficulties. According to the survey results, by the end of 2015, approved loans for large-scale enterprises saw a 13.3% increase year on year; 17.8% up for medium-sized enterprises and 29.3% up for small enterprises. Statistics from commercial banks indicates that loan services of SMEs have undergone rapid development, with a growth rate up to 62%. Statistics from the Agricultural Bank of China
shows that the loan amount of small enterprises has increased by 13.95% compared with the same period of 2014.

Though the loan amount of China’s SMEs shows an increase trend year by year according to the large amount of statistics and survey results, the issue of financing difficulties of these enterprises has not resolved fundamentally for it is not difficult to see that the loan provided by banks cannot meet their actual capital demand with a remarkable increase of the interest rate of private lending; the problem of credit tight of commercial banks still prevails among SMEs. According to the statistics from the Central Bank, among all the enterprise loans, the proportion of the balance of loans of SMEs shows a successive decrease over the three years from 2008 to 2015.

Research results from relevant organizations indicate that the development of SMEs is still subjected to the strong obstruction from financing constraint. Credit and financing difficulties are still the biggest challenges for their development. In April, 2014, a survey on Chinese entrepreneurs officially released the project report on the growth and progress of the enterprise operators. According to the report, China’s private enterprises and SMEs show a more serious condition of loaning difficulties, and this situation has not been resolved fundamentally with the cost of funds increased. Statistic data display that family and private entrepreneurs who agree that “loans from banks cannot satisfy the real world business” accounted for 40.3% of the people participated; while those who agree that “loans from banks cannot satisfy business expansion” accounted for 74.6%.

There are more previous studies on the financing difficulties of SMEs, but this thesis only analyzes the research results and statistic data obtained after 2008. In 2008, due to the global economic downturn as a result of the sub-prime crisis, all enterprise units are faced with tremendous hardships and obstacles. In order to face up with the economic crisis, China intensified its efforts in supporting SMEs by lowering the loan threshold for them and formulating preferential polices. Even so, SMEs still have difficulties in financing. It is evident that financing constraint does have exerted great influence upon the development of SMEs. On the one hand, SMEs hold great demands for capital, however, on the other hand, banks cannot satisfy this financing needs, and this imbalance between supply and demand has gradually led to credit mismatch and credit gap. So how to solve the problem of financing difficulty for SMEs is a subject that is worth in-depth exploration.

3.2.2.2 Higher lending rate leads to higher financing costs
Both private and public financing requires paying the costs of financing, which is bound to increase the economic burden for SMEs. In 2015, the Central Bank conducted a survey among 6299 enterprises in China, according to the statistic data, compared to the benchmark interest rate, the lending rate of the majority of SMEs showed an obvious increase, ranging from 10%-60%, that of some enterprises showed even higher. While the lending rate of the majority of the large-scale enterprises showcased a slight decrease, that of those showcased an increase was but a small one. Thus SMEs pay higher interest rates for private financing, and shoulder larger responsibility for risks and pressures. The average value of private financing interest rate among small enterprises was 17.1%, and that of medium-sized and large-scale ones was 14.7% and 11.5% respectively.

The reasons caused financing difficulties are first the information divide and second the extreme difficulty of risk control.

When obtaining external financing and loans, SMEs need to pay high time and capital costs and shoulder large responsibility for risks. Apart from interest rates, they are supposed to pay such fees as PR fee, consulting fee, notarial fee, mortgage registration fee, and assets evaluation fee. If no mortgage is provided, they are required to provide 2% capital as credit guarantee. In addition, guarantee companies are usually required to freeze 10% of the cash deposit as bail bond, the expenses of which are usually paid by SMEs. Consequently, the cash flow of these enterprises will decline by 10%. Another fact is that the loan approval procedure is rather complicated. The period, regarding registration, notarial certifying and evaluation etc., is too long, with a minimum of half a month and a maximum of several months. Meanwhile, the capital demand of SMEs features fast capital turnover, high frequency and short time etc. Hence, bank loans, characterized by slow turnover, low frequency and long time, fail to meet the loan demand of SMEs.

3.2.2.3 Time constraints due to its reliance on short-term loan

The demand for circulating capital is the primary source for debts incurred by SMEs, which hold high proportion of current liabilities but a few long-term liabilities. This is, on the one hand, the result of these enterprises’ preference for short-term financing themselves, and on the other hand, the result of the impact from the risk aversion measures of “replacing long-term financing for short-term financing” from banks. In this respect, banks and SMEs share the same goal. Tamari (1980) studied the relations between financial leverage and enterprise scale on the basis of actual data, had a comparative analysis of the functions and effectiveness of the financial leverage in different countries referring to the actual situation of
the enterprises in Israel, France, Japan, UK, and the United States, and at last concluded that short-term financing is the common ground for the financing of small enterprises in different countries.

Short-term loan can confine enterprises’ time-bound restraints to some extent. Short-term loans bear less cost than long-term loans, but an excessive reliance on short-term financing will increase debt risks for enterprises. As the product market has been always under changes, it is less likely to make in-time adjustment and amendment to the business process and unlikely to satisfy the real demand of the market if there are decision-making mistakes or problems. And the term of repayment of short-term financing is relatively short, enterprises will be confronted with more economic losses if failing to repay the principal within the appointed time. With other conditions being the same, extending debt financing into long-term loans provide much time and more opportunities for the readjustment of market layout, business plan and industrial structure. As a result, enterprises can cut down their default risk and face a lower repayment pressure.

Commercial banks provide SMEs with loans less than a year, whose function can only be materialized through working capital loans for the enterprises possess no fixed assets loan. So there comes the problem of using short-term loans in a long-term way. If an enterprise cannot repay the loans within the expected time, then the credit rating of the enterprise will be degraded, and it will be more difficult for this enterprise to apply for loans from banks. What’s the worse, in order to maintain a good credit rating, some enterprises are compelled to repay loans by robbing Peter to pay Paul. In his way, the capital chain of these enterprises will break down, leading to a more difficult situation for those SMEs.

The most direct form of the time-bound financing constraints is the short length of maturity, which is unable to provide long-term, stable and sustaining capitals. As the production cycle of enterprises is shorter while the loan cycle is longer, the imbalance between supply and demand will deprive enterprises of investment opportunities (Zhang Jie, 2003).

3.2.2.4 Indication of regional difference by financing constraint

Because the business institutions of regional city banks and commercial banks provide local SMEs with loans, so the territorial environment will exert distinctive influences over the financing constraint, which boasts distinct geographical features. Institutional environment such as Credit environment of society (Zhang Weiyi etc.), enterprise operating environment (Lin Hanchuan etc.), financial ecological environment (Li Yang etc.), process of marketalization (Fan Gang etc.) brings different degrees of interference to length of maturity,
effectiveness of financing, degree of convenience, financing conditions, and marketalization process. In general, a downturn of financing conditions and marketalization degree often leads to much intensified government interference that is of a stronger motivation and higher degree. As a result, the autonomy and independence of banks will be weakened, and the local government will regulate the financing environment in a comprehensive way by carrying out macroeconomic control. Apart from that, in those regions with a poor financing environment, there are less high-quality and high-level talents in finance, which results in a further weakening capability of banks to monitor and control risks, so the risks have been further increased. To make the matters worse, those regions have no awareness for risk management and control, with a lower financial management level and problems of credit deficiency, “prudent loans” issued by banks become common, and the financing constraint becomes more rigorous. However, in regions with excellent financing conditions, the problems mentioned above have been alleviated effectively.

In China, credit and financing constraint of the economically developed eastern region is less than that of the economic backward region, for the economic development level can also influence credit and financing constraint. Yang Yi (2009) conducted a survey on financing situation of such places as Xiaoyi of Shanxi province, Wenzhou of Zhejiang province, Yancheng of Jiangsu province, Xianning of Hubei province. The statistics shows that economically developed regions boast a relatively easier financing constraint, higher degree of marketalization and less difficult loan application; while in relatively undeveloped regions, the financing constraint is relatively stricter, the degree of marketalization is lower, and the application for loans is more difficult. However, the statistical result of “the evaluation on the financial ecological environment of small enterprises in China ” conducted by Chinese Academy of Social Sciences demonstrates that financing constraint in developed regions is more strict than that in undeveloped regions, with an obvious geographical difference, and the proportion of cost of capital, period of credit, and credit balance in developed regions is much less than that in undeveloped regions. This research result is inconsistent with practical experiences. Yuan Zengting and others (2010) pointed out that difference in financing demand body is the fundamental factor of the above-mentioned phenomenon. For example, eastern region is the home to numerous large-scale enterprises, with a high industrial concentration, rapidly developed economy and more sufficient resources of high quality. And large-scale enterprises in this region have raced to control the majority of bank loans, thus the credit resource that small enterprises can obtain has been greatly reduced.
3.2.2.5 The co-existence of financing constraint and credit centralization

People’s Bank of China analyzed the loans of private-owned SMEs. According to the data, 88.3% of these enterprises have successfully applied loans, which are almost on the global average level; but the loans only have a coverage rate of 18.7%, which is far less than that of developed countries with 54%. This phenomenon is worth intensified thinking. For one thing, from the high loan fill rate it can be seen that financial institutions in China have provided relatively ideal services to the majority of SMEs; for the other, yet the low coverage rate demonstrates that only a handful of enterprises have the qualification to apply bank loans. Therefore, the enterprises that can successfully obtained loans from banks are mostly large-scale enterprises with sound qualifications, abundant capital and in large scale. So it is easy to find out that large-scale enterprises have enjoyed the majority of credit resources from banks while the small and medium-sized ones still face the problems of lack of credit and financing difficulties. The severe inversion between demand body and financial resource allocation is an issue that is worth people’s profound thinking.

The research result of a research group of the Federation of Industry and Commerce (2014) testified the above conclusion. The coverage rate of enterprises that can live up to quota and size-related requirement was 20%, and that of those that cannot live up to the requirement was less than 2%, far below other countries.

The research result of the People’s Bank of China shows that 80% of its loans have been offered to large-scale enterprises, and only a small amount of loans have been offered to SMEs. In general, large-scale enterprises possess more high-quality credit resources, while SMEs present more severe problems in financing constraint. However, banks make a specific classification of SMEs, dividing them into three categories: the first category is those of high-quality and at the core of their industry, with abundant capital, good benefits and profitability, as well as a bright prospect; the second is those being at the upper-stream of their industrial chain, with general cash flow, fixed assets and mortgages and relatively excellent economic benefits; the third is those seeking market directly from consumers, being at the bottom of the industrial chain, and with insufficient mortgage and general economic benefits.

3.2.3 Impact of Financing Constraint

3.2.3.1 Impact of financing constraint on micro level
(1) Impeding the growth of enterprises. Based on the features of enterprises’ development in different periods, Churchill and Lewis (1983) divided it into five development stages, and studied managerial obstacles and the way to promote management concepts. During starting period and survival period, capital plays an extremely important role; the demand for capital will gradually decline when it comes to development and maturity period; and when it takes off, its demand for capital will also greatly improved.

Indeed, enterprises will be subject to financing problem at different development stages. Newly-established companies need initial capital to purchase products, equipment, raw materials and to manufacture; companies at the growth period need capital support to upgrade its technologies and to expand business; and companies at mature period need capital support to re-organize themselves by merger and acquisition, strategic adjustment, technical transformation, information management, the adjustment of industrial structure and governance model, and capital is also the guarantee for their long-lasting development; as to those companies at a declining period, they also need capital support to introduce new technology, reform and adjust the entity of property rights, attract new investors and shareholders, and innovate their financing strategies. If failing to get capital financing, then companies will face with bankruptcy (GengChengxuan, Li Nan, 2009). Therefore, capital support is necessary for each development stage of enterprises, failing to provide sufficient capital support to them will be bound to hamper their development in a sustainable way.

(2) Increasing enterprises’ risks of going bankruptcy. In all countries, SMEs are faced with the problem of insufficient financing channels, and others include politic, economic and market factors will all leave an impact upon their development (Glindo and Schantiarelli, 2003). The research result given by Beck, Demirguc-Kunt, Laeven and Maksimovic (2006) shows that enterprises with abundant capital, rich experiences and a earlier establishing time will encounter less financing constraints. Due to pledge of assets and information asymmetry, small enterprises hold higher risk expectation and transaction cost (risk premium) though their loan amounts is relatively small. About 39% of SMEs and 32% of enterprises think that financing is the biggest challenge for their development.

Financing constraint will to some extent hinder enterprises to make profits and develop, and influence enterprises’ ability to repay the loans and obtain credit. Sullivan et al. (1998) analyzed factors that led to the bankruptcy of SMEs in the United States by making questionnaire. The result showed that economic condition is the main cause for business failures, the second cause is financing. 30% of SMEs have gone bankruptcy as a result of financing gap.
(3) Placing constraints to industrial competition. The existence of financing constraint indicates an outstanding increase in borrowing cost. Even if enterprises have an excellent development prospect and handsome expected earnings, the fraction cost of the financial market will increase as the alleviation of the financing constraint degree due to the incentive and agency problems. After get the approval of loans from banks, enterprises are very likely to invest in high-risk project. But banks will often refuse such loan applications for the consideration of their own interests, thus reducing their risks. Financing constraint let some enterprises have to give up their investment, and that has hindered their sustainable development.

Credit financing constraint speaks for a relatively low probability of successful application of loans. When offered with investment opportunities, enterprises with relatively high financial constraint will be unable to get capital support, seeing those opportunities slipping away, so their output will be cut down accordingly. If enterprises incur large amounts of debts and loans, they will be much likely to be plundered. Provided enterprises incur large amounts of debts with high level of financing constraint, their financing cost will increase remarkably after financial market friction, and the external capital will also be unable to return to these enterprises. Due to excessive debt repayment pressure, enterprises have to curtain investment, as a result of which their competitiveness will be cut down. In this way, these enterprises will be defeated by their competitors who have something on them.

3.2.3.2 Influencing financial stability and economic growth on macro level

Financial constraint is a form of market failure, and shares some common ground with “Pareto improvement”. “Credit gap ” can impede the development of SMEs, making their financial conditions become more stringent, shouldering higher risks and being more likely to be exposed to default. With such problems, even though the “the actual event” didn’t happen, it will to some extent hinder the development of the enterprise, and pose potential safety hazard as a result of worries from enterprises and banks. And when a particular enterprise is influenced by credit crisis or problems, relevant enterprises in the whole industrial chain will be affected by it, thus placing the whole economic and financial system into a volatile state.

In China’s economic system, SMEs play an irreplaceable role. If the problem of capital shortage prevails among these enterprises, and they do not have smooth and reasonable financing channels, then it will give rise to capital shortage in real practices. And this will hamper the development of these enterprises and meanwhile cut down the employment rate, and exert unfavorable influences over the steady development of the whole society.
SMEs are less trustworthy to formal financial institutions for they are relatively in a small scale with low management level. Yet these enterprises hold a relatively low capital accumulation, so they possess higher capital profits than large-scale enterprises, and this is in line with the decline characteristics of the marginal efficiency. Financing constraint from SMEs suggests that the balance between supply and demand has been broken down. In this way, not all the goods of the market can be sold out, and that will damage the interests of disadvantaged groups and enlarge the social difference.

Banks serve as the intermediate link in the whole industrial chain, being responsible for transmitting resources and providing capitals, they play the role of transmitter. With the improvement of economic development, the role of banks becomes prominent. If enterprises are unable to solve or alleviate the problem of financing constraint, then they will fail to successfully apply loans from banks, and the problem of capital shortage will also impede profiting. This will further slow down the progress and efficiency of investment on new technologies, seriously influence the overall economic development, thus making the global economy in recession.

3.3 Chapter Conclusion

This chapter conducted a comprehensive analysis and study on the financing constraint of SMEs, and discussed over the causes of the financing constraint. Till today, China still hasn’t established a sound and comprehensive economic system. Its economy develops at a slow speed and needs to be improved. Besides, there are various problems in the structure of the financial system, leading to an increasingly serious problem of financing constraint. It is not difficult to see that financing constraint caused by information gap and risk control is a vicious circle, which will not only impede the economic development at present, but also bring negative impacts to the sustainable development of the economy in the future. Theoretical research result shows that in order to solve the problem of financing constraint fundamentally, we should set up risk control theory in the attempt to improve risk control ability on the one hand, and establish and perfect the information exchange mechanism in financing sector under the guidance of social capital theory. The financing constraint of SMEs in China is faced with both opportunities and challenges; it also has injected new vitality to the development of Internet finance, and pushed forward the development of Internet finance.
Chapter IV: Analysis on Internet Finance-Based Financing Models of SMEs

With previous analysis, it’s obvious that there are two major modes of fund raising for SMEs through Internet finance, namely cooperation joint guarantee and P2P online lending. This chapter studies the financing modes of Internet finance.

4.1 P2P Online Lending

P2P is the abbreviation for Online Peer-to-Peer Lending, a process of social loaning from individual to individual. CreditEase and Renrendai are renowned P2P websites in China, supported by Internet technology, to secure and endorse individual loans.

Its name tells that it is an individual-to-individual lending, which requires no collateral and is essentially different from traditional lending except the sociality they share. P2P lending takes Internet as its platform to provide peer-to-peer unsecured lending without applying for loans from banks and finance companies.

P2P is an Internet-based online lending platform, providing service for both borrowers and lenders by using financial service websites to ensure the lending activity. The operation philosophy, methods, models, risk management and credit management of P2P lending vary from company to company, but they share some similarities in terms of lending process and principles.

Based on the study of current P2P lending platforms, it’s easy to find out that by using the platform, borrowers are enabled to post the loan amount, term, intended use, method and time of repayment, loan rate and other information on the websites; lenders can search, browse, check and filter the borrowing information, and decide on the loan rates and loan amount after checking the borrowers’ loan, credit, income and other information as well as considering their personal willingness. P2P lending websites are kind of Internet-based online financial institutions which provide a safe, secure and stable platform for borrowers and lenders to sign lending contract, make payment and conduct lending. They function as financial intermediaries and enable a smooth transaction activity among parties involved. Lending business offered by traditional financial institution can also be carried out through online platform, thus significantly improving the efficiency of lending application and greatly facilitating individuals and businesses who have difficulty with loan application.
4.1.1 Comparison between P2P Lending and Traditional Lending

Referring to the lending procedure and operation principle of P2P lending website, a comparison between P2P lending and traditional lending is made and shown in Table 1.

Table 1: Comparison between traditional lending and P2P lending

<table>
<thead>
<tr>
<th>Comparison Items</th>
<th>Traditional Lending</th>
<th>P2P Lending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content of lending</td>
<td>Loan</td>
<td>Loan</td>
</tr>
<tr>
<td>Amount</td>
<td>Small &amp; Large</td>
<td>Small</td>
</tr>
<tr>
<td>Lending procedure</td>
<td>Complex</td>
<td>Simple</td>
</tr>
<tr>
<td>Collateral</td>
<td>Necessary</td>
<td>Unnecessary</td>
</tr>
<tr>
<td>Loan period</td>
<td>Short-to-long term</td>
<td>Short term</td>
</tr>
<tr>
<td>Interest rate</td>
<td>Set by financial institution</td>
<td>Set by borrowers</td>
</tr>
<tr>
<td>Repayment method</td>
<td>Set by financial institution</td>
<td>Set by borrowers</td>
</tr>
<tr>
<td>Contract form</td>
<td>Paper contract</td>
<td>Electronic contract</td>
</tr>
<tr>
<td>User credit check</td>
<td>Financial institution</td>
<td>Open for check</td>
</tr>
<tr>
<td>Involving parties</td>
<td>Individual (company)—financial</td>
<td>Individual—individual</td>
</tr>
<tr>
<td></td>
<td>institution</td>
<td></td>
</tr>
<tr>
<td>Intermediary</td>
<td>Financial Institution</td>
<td>Online transaction</td>
</tr>
<tr>
<td></td>
<td>platform</td>
<td></td>
</tr>
</tbody>
</table>

Based on the comparison and analysis, it is fair enough to say there is a fundamental change in lending models. With the support of Internet technology, lending is simpler, faster, more efficient and cheaper. Comparing to traditional lending practice, P2P lending websites features:

1. More convenient and flexible publication of lending information

Borrowers can post their profiles on the websites and set the loan amount, term, time and method of repayment, loan rate on their own, greatly facilitating borrowers with a simpler lending procedures and quicker publication of lending information.
2. Simpler and cheaper lending procedures

The lending transaction can be conducted on the websites with simpler procedures. The platform alone enables the transaction, notably shortens the lending cycle, improves the lending speed and efficiency, and reduces the lending cost as well.

3. Borrower’s profile and credit open to check and comparison

Lenders have a comprehensive understanding of the borrowers by checking their personal information, economic strength and lending information on the website. This allows lenders to decide on loan amount, period and rates reasonably and minimize financial risks notably through investment diversification after considering personal willingness.

4. Electronic loan contract

Compared with traditional lending, P2P lending websites adopt electronic loan contract. Electronic contracts are stored within the website system, making time and geographic locations not restrictions for borrowers and lenders any more. The new contract facilitates the establishment of credit relations among strangers and provides more financing channels for loan seekers.

It is also found that P2P possesses unsurpassable advantages than traditional lending. P2P lending is the product of financial innovation, growing on the basis of Internet and traditional loan business. P2P lending affects the lending model and the credit trading pattern. P2P lending is more efficient than the traditional loan system. As a financial intermediary, P2P lending website provides all kinds of service needed in the transaction. It is the substitute of financial institution as it breaks the limits of time and space so that each Internet user can be a borrower or a lender and smooth transactions are ensured accordingly. In addition, credit management of P2P websites, evolving from the traditional financial institutions, is featured as free, open, transparent and fair. Strangers can complete lending transactions via Internet, facilitating both borrowers and lenders. Discussion above indicates that P2P lending website has injected vitality to lending industry and has a vast potential.

4.1.2 Origin and Main Development Models of P2P Lending

4.1.2.1 The origin of P2P lending philosophy

Bangladeshi banker and economist Dr. Muhammad Yunus first proposed the concept of Grameen Bank and put it into practice in Bangladesh. This successful application is the initial model of P2P online lending. P2P lending websites evolves from the basis of Internet and bank lending business.
Dr. Yunus established Grameen Bank in 1976 to provide loans to the rural poor, also the initial form of microcredit. Since its establishment, Grameen Bank has issued loans worth 5.1 billion USD and processed 5.3 million loan applications. Grameen Bank provides guarantee for loan application by forming solidary groups in which members of the group share the responsibility of loan repayment. The method secures a repayment rate of 98.89%. The success of Grameen Bank has played a key role in growing lending business.

In current financial system, institutions provide lending business in which lending transaction will not be completed without credit assessment and security guarantees. Thus it’s impossible for those institutions to loan money to people with low income, no fixed assets or collateral. Grameen Bank provides loan and financial support to the poor because of the settlement of financing channels and repayment methods. The poor is enabled to get loan from Grameen Bank through social network, distinguishing Grameen Bank from traditional financial institutions.

Grameen Bank shows the strength and value of social network and brings awareness to the importance of social network. The model of microcredit develops, evolves and transforms from the basis of Grameen Bank. P2P lending puts the microcredit model online with the help of Internet technology. The fundamental feature of P2P lending is that Internet enables lending.

4.1.2.3 Main models of P2P online lending platform

P2P online lending has, through its advantage in market information communication, added vigor and vitality to the financial industry while exerting enormous impact on the traditional lending model. Financial institutions like banks begin to transform one after another. And a large number of profit-making and non-profit P2P websites come to being. This chapter compares and analyzes the non-profit model and the profit model.

1. Non-profit model

Grameen Bank has not only shown the strength and value of social network and brought awareness to the importance of social network but also laid a solid foundation for the development of P2P lending platforms. Nonprofit platforms like WeBank and Kiva based in the USA are funded and taken charge by NGOs and other organizations for public welfare. These platforms help the poor by providing them microcredit, donation and grants. By using P2P lending model, Kiva provide loans to enterprises with low revenue and low economic benefits. The large loan is collected from several lenders with each of them contributes some money to the total (proportion may vary). With full consideration of risk level, business type,
location and other factors, lenders can decide how much to lend according to their own needs, 25 dollars at least. Kiva transfers the money to its partners through PayPal instead of the borrowers after raising enough fund. Then its partners take the responsibility of loan payment and repayment. The repayment, once settled, is repaid to Kiva via PayPal and then to lenders’ account. Lending transactions are thus completed.

2. Profit model

Most lending platforms adopt profit model in its lending operations. Although P2P online lending model is able to complete non-profit lending, its profitability remains the focus of many companies. Zopa UK is the first P2P online platform in the world, followed by Lending Club and Prosper in the USA. They conduct credit operations with the network platform and make profit from the business. In the profitability management model, the most distinguishing feature of P2P online platform is the transaction intermediaries who, based on network system, provide loan business and make profit from the business and charge the service they provide. The lending transactions observe the principle of free trade. Borrowers are enabled to publish the information online and set the amount and time of borrowing, loan rate, term and method of repayment according to their own requirements. This remarkably simplifies the procedures of borrowing money, greatly facilitating the borrowers as they are able to publish the borrowing information timely and rapidly. Borrowers can check the personal information, economic status and borrowing information of the borrowers on the website to have a better knowledge of lenders’ real situation, social network, personal experience, credit rating and field of career, and set the amount, term and interest rate of the loan more properly. This allows borrowers to diversify their investment after considering personal wills, reducing the financial risk and offering reference for bids and auctions. Prosper is able to prioritize different loan projects after integrating bid information and pick out lenders with relatively low interest rate, thus ensuring the lending transaction P2P will charge service fee and profits made and bring greater economic benefits to companies (Zhu Xiaopeng, 2013).

Lending Club platform was put into operation in 2007. With the promotion of the society and social network, the platform managed to foster a highly efficient, smooth and safe lending platform by integrating the borrower and lenders in social networking sites like Facebook. Borrowers are required to strictly observe the specifications stipulated by Lending Club and pass credit authentication. They will be rated from A to G according to the requirements of credit authentication. A flexible range of the loan term, time, loan rate and repayment method should be set and borrowers’ basic information, loan information and credit rating requires to be reviewed. Only those pass the review are entitled to send borrowing application and
information directly to the website. Lenders are enabled to check the personal information, economic strength, borrowing information of borrowers and have a better understanding of lenders’ real condition, social networking, personal experience, credit rating and field of career, providing reference and help for lending transactions (Xinxian, 2011). Lending Club’s lending model fully shows the advantage of socialized lending. Improving personal credit by society and social networking based on Internet technology is the focus of P2P online lending. More progress will be made in this aspect for sure.

Because of the similarities it shares with its global peers, P2P online lending in China has learned and introduced the successful practices across the world. Most P2P online lending companies adopt the profit-making model and carry out lending business through P2P network platform. PPDAI is the first in China to offer online lending, developing from the basis of Prosper (USA). The two companies have similar transaction procedures and methods. Borrowers publish their needs and information on the website and lenders offer the loan through bidding. PPDAI clearly imposes restrictions on loan rate. The risks of breaking related laws will be avoided unless interest rate goes beyond the range. PPDAI makes profits from the transaction and charges service fee from borrowers. PPDAI has introduced society and social networking to online lending and fostered a set of credit ratings by integrating brank credit, financial situation, personal status, friends and social networks. These practices help enhance user stickiness and encourage more users to use to the products and service provided by PPDAI.

CreditEase is a chain intermediary of IKEA. It absorbs the merits of Lending Club and Zopa, sets interest rate according to credit rating (not a fixed rate) and carries out lending transactions on the website. The platform allows users to publish information, sign business contracts and complete the lending procedures. Users are enabled to have direct communication with CreditEase as the company integrate the offline and online lending. It has now developed into one of the major P2P lending companies in China.

In general, only a few P2P online lending platforms in China are nonprofit. Qifang, a website based on Kiva and providing student loans, is one of the few nonprofit P2P lending websites. However, without sufficient financial support, it declared bankruptcy in 2012.

4.1.3 Problems and development trends of P2P online lending

The introduction of P2P online lending injects vigor and vitality to the growth of financial sector. With a promising prospect ahead, it poses great impact on traditional lending. Despite these merits, there are problems facing P2P online lending as follows:
1. Establishment and management of user credit

Credit is the core and key of P2P online lending model, a critical safeguard that ensures smooth credit transactions. Compared with traditional financial institutions, user of P2P online lending management and evaluation is cyperspeak, different from users in the real life. And Internet, as a high tech, its safety, reliability and stability remains to be examined. The management and evaluation method needs improvement based on more accumulation and practices in the long run.

2. Laws and regulations

Clear laws and regulations on P2P online credit are unavailable. Financial transactions are conducted by providing financial service under less perfect and mature legal supervision system. The gap in the legal system increases the risk of credit transactions.

3. Risk control and management

Neither object nor content of financial institution regulation includes P2P online platform, leaving data and information from the platform unsupervised as well. Corresponding mechanism for supervision and risk control has not been established. Loopholes allow lawbreakers to take advantages.

4. Platform fraud

Comprehensive strength of P2P online lending providers varies. A less sound supervision and legal system creates opportunity for individuals and companies to engage in deception and fraud.

With increasingly sound risk prevention and monitoring system, P2P online lending will take a smooth and broader path despite insufficient guarantee in its security, reliability and stability and a less clear direction for its future development. The atmosphere in the industry will be more harmonious as well. As it grows in both number and scale, P2P online lending platform possesses huge potential to grow. According to statistics, in 2015, the top 10 Chinese P2P online platforms ranked by turnover saw a total of 434.4 billion RMB turnover, providing large volume of fund for borrowers. Detailed loan amount is shown in Table 2.

Table 2: Amount of Loan Issued by China Top 10 P2P Online Lending Platform

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Company</th>
<th>Loan Amount (billion RMB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LU.com</td>
<td>147.2</td>
</tr>
</tbody>
</table>
Then, the data of world Top 10 P2P Online Lending Platform (without China) is collected.

Table 3: Amount of Loan Issued by World Top 10 P2P Online Lending Platform

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Company</th>
<th>Country</th>
<th>Loan Amount (million USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OSCAR</td>
<td>USA</td>
<td>6.19</td>
</tr>
<tr>
<td>2</td>
<td>wealthfront</td>
<td>USA</td>
<td>5.173</td>
</tr>
<tr>
<td>3</td>
<td>Funding Circle</td>
<td>USA</td>
<td>5.029</td>
</tr>
<tr>
<td>4</td>
<td>Kreditech</td>
<td>Germany</td>
<td>4.345</td>
</tr>
<tr>
<td>5</td>
<td>Avant</td>
<td>USA</td>
<td>3.198</td>
</tr>
<tr>
<td>6</td>
<td>Atom</td>
<td>UK</td>
<td>2.297</td>
</tr>
<tr>
<td>7</td>
<td>Klarna</td>
<td>Sweden</td>
<td>1.459</td>
</tr>
<tr>
<td>8</td>
<td>Our Crowd</td>
<td>Israel</td>
<td>0.897</td>
</tr>
<tr>
<td>9</td>
<td>Robinhood</td>
<td>USA</td>
<td>0.724</td>
</tr>
<tr>
<td>10</td>
<td>Square</td>
<td>USA</td>
<td>0.548</td>
</tr>
</tbody>
</table>

(Data Source: P2P-Banking.com)

From the comparison, it is not hard to find that since the government gives great support and the financial market has huge potential, the P2P platforms in China saw a rapid growth at the
very beginning years. The business scale has already overstepped Western countries. On the other hand, however, we must know that the time of development of P2P platforms in China is rather short. Such fast progress also reflects incomplete laws regulating the investment channels. For the overall status of the industry, risk management and financing capability are still at beginning stage, demonstrating obvious instability and lacking of international recognition. Although the business scale is large, the international compatibility is insufficient. Most of the businesses are focused on domestic or even regional financial market. Many platforms have not changed its status as subordination in mainstream financial system.

Now with a significant increase of P2P lending service users, fund raised from P2P online lending is adding as well, indicating that P2P online lending possesses a promising future. With the reform and optimizing of economic system and the fostering of a sound legal system, P2P online lending will gain growing compatibility with social network, and, unavoidably, traditional lending will be seriously impacted and influenced. In addition, P2P online lending in China features late start, less rapid growth and scale enterprise being relatively small. There exists a huge gap between domestic P2P companies and their famous global peers. Besides, due to the absence of a third party credit rating institution, an effective, accurate and comprehensive user credit rating mechanism fail to be fostered. A less sound supervision and makes it harder to grow P2P online lending in China. The establishment of credit system and legal binding requires prolonged accumulation, exploration and practice rather than being accomplished overnight. P2P online lending will inevitably grow in a sustainable way. Research on P2P online lending offers a guide to the operations in the field.

4.2 Mutual Aid Financing

There is no clear definition on mutual aid financing either in the academic circle or among practitioners. It is mainly about raising funds for borrowers through diversified methods. According to the distinct features, mutual aid financing basically has two forms. One is a group of solidarity borrowing. The companies within the group apply for loans from banks collectively and group members shoulder joint responsibility of repayment. The other is a mutual guarantee model with a third party as the intermediary to engage in financing activities. The former can be divided into two models according to different financing methods and grouping ways, Internet-based financing and chamber of commerce (industry association) –based financing. The biggest difference between mutual guarantee model and solidarity borrowing model is that the borrower of mutual guarantee financing is only responsible for the limited liability of his/her own loan. Yet, the borrower of solidarity borrowing needs to shoulder unlimited joint repayment obligation for every group member.
4.2.1 Mutual Guarantee Model

Companies joint together and contribute to a mutual guarantee fund. It will be managed and operated by professional bonding agencies to provide financing guarantee to member companies in financing need. Member companies and the mutual guarantee fund in the final analysis are to provide financing support without commercial purposes.

4.2.1.1 Development of mutual guarantee model and its status

Mutual guarantee institution is a major way in credit guarantee scheme. It is commonly used for helping small firms financing worldwide. Mutual guarantee financing model took shape in the mid 20th century in Italy. At that time, many Italian small companies could not meet banks’ loan requirements and thus they were unable to get loans from banks. Therefore, small firms in financing need for progress were helped by industry associations to become a small group of a certain scale. The group jointly created a syndicated fund. By doing so, the credit of small companies was improved, enabling them to borrow money from banks, and the development of the companies supported, promoting fast growth of the local economy.

The successful experience of mutual guarantee model of financing in Italy was widely learnt and applies by many European countries. This model plays a vital role in helping small companies trapped by lack of funds. According to statistics, by the end of 2015, guarantees from companies received by mutual guarantee agencies among European countries totaled at 6.1 billion euros, which could obtain around 55.1 billion euros loan, number of guarantee reached 1.5 million.

4.2.1.2 Operation procedures of mutual guarantee model

(1) Mutual guarantee institutions

Mutual guarantee financing has a history of over 60 years. The successful financing model with its sound effects has been recognized worldwide. Particularly, Italy, the first country applied such model, has formed a complete and mature operating system. Mutual guarantee institution is non-profit. Its mainly comprises government, chamber of commerce (industry associations) and member companies. The source of the fund involves co-financing in proportions from the government, chamber of commerce (industry associations) and member companies. The raised fund is then deposited into the bank of cooperation. Additionally, the fund also needs a secondary guarantee from other bonding agencies or government. Therefore, the mutual guarantee fund is created by the bank, chamber of commerce, local or central government and member companies. In practice, a mutual guarantee institution can conduct
loan applications with several banks and tries to win the most favorable loan policies for companies that need credit.

Although countries have different national realities and their law, finance and social environment are various, mutual guarantee institutions have some common, yet essentially same features.

Firstly, external entities play an important role in mutual guarantee financing. Chamber of commerce (industry associations), banks and member companies have a close and mutual complementary relationship. For instance, in Italy, industry associations are of significant importance. They are irreplaceable in mutual guarantee institutions’ financing model. In France, mutual guarantee institutions are merely tools used by banks to reduce credit risks. Banks are the focus in mutual guarantee financing.

Secondly, mature mutual guarantee institutions have perfect organization. As the below graph shows, such institutions normally have many departments taking charge of different sections. For example, the general assembly, comprising all members, functions as the shareholders’ meeting in joint stock companies. Department of administration and supervision is in charge of daily routines. Technical management department is responsible for investigation, verification and analysis of loan applications to see whether they are true and feasible, and for project risk assessment. Credit committee is the decision-making department including banks and member representatives. These departments form the general structure of a mature mutual guarantee institution. The cooperation between these departments not only improves efficiency of the institution but also ensures authoritativeness and independence of decision-making.

Figure 1: Organization of mutual guarantee institution
(2) Operation procedures of mutual guarantee model

Mutual guarantee fund is the basic requisite for composition and operation of mutual guarantee financing. Member companies, banks and government jointly create the fund and contribute in proportion. The raised fund is then deposited into the bank so as to provide guarantee to companies that need funds. Meanwhile, it can help companies to negotiate with banks and get more preferable loan conditions as well as to obtain loan as fast as possible.

Generally speaking, the operation of mutual guarantee financing contains the following procedures: 1. Companies, banks and government and chamber of commerce (industry association) jointly contribute to the fund and deposit in in bank. 2. When member companies need funds for development, they can apply loan from mutual guarantee institutions and coordinate with technical management department to verify the purpose and feasibility of the loan. 3. Loan applications that approved by the technical management department will then be submitted to credit committee for a second time approval. 4. If the application is approved, it will be transferred to bank by the credit committee and the bank will conduct the final approval. 5. Applicants will get the loan if the bank approves. Companies should, according to regulations, give a certain amount of commission to the institution. Then, the financing activity is completed.

4.2.1.3 Evaluation of mutual guarantee model

(1) Advantages

First, mutual guarantee institutions are complete and mature. The perfection of such institutions is the prerequisite and fundamental assurance of successful mutual guarantee financing. Without such institutions’ negotiation and coordination with banks and companies, the single-sided and unorganized mutual aid financing model among companies will not last long and be effective. The mutual guarantee institutions, taking organizational structure of limited liability company as reference, are featured with perfect structure, clear division of labor of departments, professionalism and management expertise. These characteristics make the institution irreplaceable and significant in mutual guarantee financing model.

Second, mutual guarantee institutions help companies get funds and lower financing cost. The institutions are very professional and have a clear division of labor. The institutions understand not only companies’ operation status and financing needs, but also the operation regulations of banks. Therefore, the institutions are good for reducing information asymmetry between banks and companies, helping which acquire more favorable loan policies, reducing the financing cost.
Industry intensive business parks are more suitable for establishment of mutual guarantee institutions by chamber of commerce (industry association). These parks usually are the home to manufactures of similar businesses, having the same location, similar products, markets and equipment. Mutual guarantee institutions within these parks are more understanding about the profile and financing needs of the companies. Besides, the institutions enjoy geographical advantage that they can be more precise about financing project’s feasibility and risk assessment. Therefore, they can better the communication with banks and facilitate reviews and thus accelerate financing to be completed. Because of the geographical advantage, the institutions will be more familiar with processing loan applications, more precise about the prospect of financing projects and more accurate about risk assessment and identification. After the financing activities completed, it will be more convenient for the institutions to supervise the member companies.

Third, member companies only need to shoulder limited liability. Different from solidarity borrowing model, mutual guarantee financing does not require member companies to be obliged to unlimited liability, which means the companies only need to repay loans of their own. If any companies do not repay the loans as agreed, banks will debited the amount of money from mutual guarantee fund. The bank does not recover the loan from other members and they do not have the obligation to repay the loan for that company.

Fourth, banks have a low credit risk. Model of mutual guarantee financing is triple guaranteed—companies in financing need are guaranteed by bonding agencies that are guaranteed by national bonding agencies that are guaranteed by government or public bonding agencies. This model minimizes credit risks of the bank and protects bank’s interests. The table below is the guarantee system set by Italian government. It clearly reflects that the system has multi-channels and multi layers.

Table 4: Italian Guarantee System

<table>
<thead>
<tr>
<th>Type</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-channels</td>
<td></td>
</tr>
<tr>
<td>Mutual Guarantee Institution</td>
<td>Small companies jointly contribute to establish a fund, share risks, increase borrowing capacity.</td>
</tr>
<tr>
<td>Commercial Guarantee agency</td>
<td>Banks or other financial institutions provide guarantee to small firms directly.</td>
</tr>
<tr>
<td>Public Guarantee Scheme</td>
<td>Mutual guarantee institutions take charge of communication between banks and small firms and</td>
</tr>
</tbody>
</table>
help the later access to favorable loan conditions.

<table>
<thead>
<tr>
<th>Multi-layers</th>
<th>1st, Mutual Guarantee Institutions</th>
<th>Mutual guarantee institutions take charge of communication between banks and small firms and help the later access to favorable loan conditions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd, Mutual Guarantee System</td>
<td>Mutual guarantee system mainly relies on industrial cluster. The risks are concentrated. Institutions of different industries joint together to set up a second guarantee to provide those institutions with reinsurance or counter guarantee and share risks.</td>
<td></td>
</tr>
<tr>
<td>3rd, Public Guarantee Scheme</td>
<td>If the first and second guarantee cannot pay the debt, then public scheme will satisfy the liability.</td>
<td></td>
</tr>
</tbody>
</table>

Fifth, single guarantee body’s credit risk is lowered since multiple credit bodies share the risk. To be specific, mutual guarantee fund is the co-financing of member companies, banks, chamber of commerce (industry association) and the government and they share the risks together.

(2) Disadvantage

Firstly, management fee is high. Mutual guarantee institutions have complex yet complete organizational structure. The operation needs funds to be maintained. Because the institutions are non-profitable, the cost will be transferred to member companies, chamber of commerce (industry association) and the government.

Secondly, companies’ financing cost is increased. Mutual guarantee fund is jointly established by member companies. They not only need to pay for the establishment of the fund but also need to pay commission to the institution after loan is obtained and to pay extra guarantee fees. If the total cost excels the financing cost of the company’s own financing activities, default is highly likely to happen and credit risk is created.

4.2.2 Solidarity Lending Model

In 1970s, in order to tackle rural poverty in Bangladesh, Prof. Muhammad Yunus launched a pilot program. He gave $27 as loan to each 42 households, marking the birth of solidarity lending. Not long after the pilot, Prof. Yunus founded Grameen Bank. He grouped the 42 households and each of them was regarded as a credit body. If a member household did not repay the loan as scheduled, then credit of all group members would be affected and lost eligibility to apply loans from the Bank. Since the credit of group members was highly
relevant, members formed good habit of mutually supervision and on time repayment. The commercialization of Grameen Bank saw great results. Its repayment ratio is as high as 98.89% and has 2223 branches and 6.5 million customers. The overall operation is promising.

The success of Grameen Bank makes solidarity lending be recognized by the world. In 1997, China began its solidarity lending pilots in several rundown areas with the aim to alleviate poverty and help farmers. Before 2000, such financing model in China was mainly low lending rate or even interest free. Lending bodies included agricultural bank, rural credit cooperatives and private agencies. Sources of financing were interest subsidy from the government and foreign aid. The goal was to improve situations in poor areas and support poverty alleviation projects. Farmers of the supported areas were than main customers of the solidarity lending.

Solidarity borrowing refers to that a borrowing group formed by several borrowers applies loans from the bank without any collateral. Once a member has a default or delay of payment, other members should share the liability together. This model is suitable for SMEs and individual businesses since it is very flexible. Because the borrowing body is a group, instead of an individual, mutual help among members joint liability are the features of this model.

In this model, a third party is introduced and currently, operations based on the Internet and on chamber of commerce are the two successful methods. One is called Internet based solidarity borrowing and the other chamber of commerce (industry association) based solidarity borrowing. The former’s third party is e-commerce platform. Internet businesses voluntarily form a borrowing body and apply loans together. Members shoulder unlimited liability. If one or several members has/have default or delay of payment, then other members are obliged to shoulder the liability. Chamber of commerce (industry association) means that after enterprises apply and become members of chamber of commerce (industry association), they apply loans from banks as chamber members. In this model, member companies share unlimited liability and chamber of commerce is in charge of negotiation with banks.

4.2.2.1 Online solidarity lending mode

ICBC, CCB and Alibaba are the three participants for online solidarity lending mode, which is a new type of cooperative Internet financing mode. The borrower is consisted with no less than three enterprises. They apply loans from banks without guaranty and repay fund together. This is the basic form of online solidarity lending. Risk sharing is the basic characteristic of this financing mode. If member of the group has difficulty in repaying, the other members must take the responsibility for principal plus interest. If enterprise is incapable of repaying,
legal body of enterprise carries on repayment obligation, has unlimited liability.

The operating procedure

(1). The loan group that proposed loan application to Alibaba could be formed freely. The loan group is formed in three ways: close business partners, close friends and relatives, and unfamiliar companies. Business partners and close friends/relatives belong to group which featured by close relationship and high commitment, thus loan group could be easily formed. Due to lack of acquaintance and mutual trust, unfamiliar companies find it hard to form loan group to apply loan with joint guaranty and solidarity. In order to solve this situation, Alibaba sets up a special column, which aims to help companies finding partners. The set up of this column provides convenient information inquiring condition, which accelerates mutual familiarization of unfamiliar companies, enhances success rate of the formation of union of unfamiliar companies. As group members have unlimited liability of repayment, each company’s financial status, business condition, and style of leadership should be cautiously learned and examined. Without trust, there is no way for group formation, joint loan application and mutually take liability of repayment.

(2). Submit voluntary group formation application and sign Consortium Agreements together.

(3). Submit application of loan and take audit. Using field study, familiarize each member’s economic capacity within loan applying group, knowing their ability and willingness of loan repayment. The main points of field study are as following:
   a) Hours of operation of each enterprise in the loan applying group
   b) Personal information of the people in management, including CV, personal assets, etc.
   c) Financial, credit and operation status each enterprise
   d) The profit margin, cash flow and reasons for applying loan of each enterprise

The biggest difference between Internet joint guaranty and syndication of loan and traditional finance’s joint guaranty and syndication of loan is that as long as e-businessmen or enterprises who are applying loans become the member of Alibaba’s Chengxin Tong, Alibaba will actively provide banks with member’s transaction information, which could be taken as the basis of data for the decision of lending. Similarly, the member of China Gold Supplier would also enjoy this kind of service.

(4). If the loan group passes bank’s review, it will get bank’s loans; if not, it could only fight for another opportunity.
(5). The level of enterprise’s credit depends on whether it can repay the loan on time. The level of credit determines whether the enterprise could get bank’s loan in the future. Hence, each enterprise in the group would extremely value the credit level of its own, consciously supervises the repayment situation of other members, and prevents other member from sabotaging its own credit record. Once one member of the group cannot repay the loan and other members refuses to take the liability of repayment, Alibaba will punish the whole loan group by closing all shops and accounts in the websites that are owned by Alibaba, publish its negative information about failing repayment of loan on all websites that Alibaba holds a share, and disclose the names, registered addresses, products and personal information of legal person of all members in the loan group.

2. The characteristics of online solidarity lending

Combining the advantages of traditional financial service and modern E-commerce, online solidarity lending has following six characteristics:

Firstly, loan application procedure is simplified; it can be processed online, providing more convenient and faster service for loaners. Different from tedious loaning procedure of traditional finance, using E-commerce platform as a media, loaners could register and apply through online banking, namely all the procedures such as application, review, and loan granting of traditional finance could be accomplished without going to bank. In this way, working efficiency is enhanced and labor cost is saved.

Secondly, rely on mutual trust among members; risk of unlimited liability for repayment could be mutually shouldered. As the mode of online solidarity lending does not require any collateral, members who form the group should sign Consortium Agreements together; voluntarily take the responsibility for unlimited liability for repayment of each other.

Thirdly, the gist of loaner’s credit rating depends on its online transaction records. Each member of Alibaba who does real transaction will have his own credit profile establish by Alibaba, which is used for credit rating and stored in Alibaba’s credit database. The criterion for Alibaba’s credit rating is set up by referred to bank’s credit evaluation criteria. Thus banks could use this credit rating to decide whether to approve loans or not.

Fourthly, set up “risk pool”. “Risk pool” is set up jointly by funds of banks, government and Alibaba, which is a special deposit used to prevent bank loaning risks and compensate bank’s loss caused by non-performing loan.

Fifthly, punish members who cannot repay loan on time by “disclosure of Internet
information”. Alibaba will adopt “disclosure of Internet information” to punish enterprises who cannot repay loans in full amount. Alibaba will close all shops and accounts in the websites that are owned by Alibaba, publish its negative information about failing repayment of loan on all websites that Alibaba holds a share, and disclose the names, registered addresses and contact information, products and personal information of legal person of all members in the loan group.

Sixthly, implement dual examination mode, namely combining enterprises mutually review of each other with the review of every enterprises by bank.

3. The assessment of online solidarity lending

(1). Merits

a. Bank’s credit risk is lowered. Since the basic characteristic of Internet joint guaranty and syndication of loan is that the members within the joint guaranty group would mutually take responsibility of unlimited viability of repaying loans. Therefore, members within loan group will autonomously supervise each other in order to prevent its credit crisis and economic loss from other member’s default behavior. This mutual restriction not only lowers bank’s credit risk, but also increases loan repaying rate.

b. Convenient, fast and low cost. The operation platform for the financing mode of Internet joint guaranty and syndication of loan is an Internet financial channel, not a traditional one. Loaning procedure is characterized by simpler, more convenient and faster. As the financing mode of Internet joint guaranty and syndication of loan is an cooperation between e-commerce and bank, it has advantage in lower cost in promotion, more effective and easy to operate.

c. Alibaba’s enormous Internet influence and its way of sanction default have active guaranty effect on increase loan repayment rate. Alibaba adopts “disclosure of Internet information” which is used to punish enterprises who cannot repay loans on time. By using its enormous Internet influence, Alibaba will implement “disclosure of Internet information” to those within the loan group who overdue the loan. Alibaba will close all shops and accounts in the websites that are owned by Alibaba, disclose the names, registered addresses and contact information, products and personal information of legal person of all members in the loan group. Releasing negative information increases enterprises’ default cost, forces them to obey the contract, enhances greatly enterprises’ willingness to repay loans on time, secure relative high repayment rate.
d. Banks decide whether to grant loans or not based on enterprises’ credit profile that is established by E-commerce. E-commerce uses its own transaction platform to give banks the enterprises’ transaction records and credit ratings, which are used as the referential foundation for deciding whether to grant loans or not. Through the cooperation between E-commerce and banks, the bank’s labor cost is reduced and working efficiency is enhanced.

(2) Disadvantage

a. Relevant laws and regulation is imperfection, which restrains the development of the financing pattern of online solidarity lending. As this pattern is relatively new, government does not constituted corresponding laws and regulations to systematically regulate and define this pattern. Hence affected by the change of national financial policy, the validity of this financing pattern might face a certain of risk.

b. Relative low access system could easily lead to certain credit risk. The access criterion of the financing pattern of Internet joint guaranty and syndication of loan is relatively low; some enterprises that have bad management or credit may enter, which increases the credit risk of E-commerce and banks. In addition, joint guaranty group is formed voluntarily, which may lead to joint loan fraud and collective fraud. Together with the depression of whole macro economy, the rate of purposely defaults by members within liability group increases.

c. Our country’s E-commerce is still not well developed. The financing pattern of Internet joint guaranty and syndication of loan is operated based on well-developed E-commerce platform. The development of E-commerce in our country is still not well enough, there is a big difference between western part and eastern part. It needs quite a long time to promote and popularize this financing pattern. Besides, to get examination and approval of loans needs close cooperation between E-commerce and bank, including auditing loaning goal by enterprises, enterprises’ credit rating, and online application for loan. When gaining profits, credit risk should be carefully prevented. The more advanced and safer products should be actively researched and developed, which reduces risks, enhances gaining profits, achieves all-win situation by the close cooperation between E-commerce and banks.

4.2.2.2 C&C (industrial association)’s syndication of loan

1. The operating procedure of C&C (industrial association)’s syndication of loan
Different from online solidarity lending, the loaning subjects of C&C (industrial association)’s syndication of loan are enterprises who are the members of industrial association. Enterprises who join industrial association, could form joint guaranty group freely, the member should take responsibility of unlimited liability of repayment from other members. It is C&C (industrial association), rather than enterprises who apply for loans, that communicate with banks within this financing pattern.

2. The characteristics of C&C (industrial association)’s syndication of loan

Firstly, C&C (industrial association) directly communicate with banks. The cooperation between C&C (industrial association) and banks is achieved through real communication and contact.

Secondly, members of loaning group take responsibility of liability of repayment for each other. The financing pattern of joint guaranty and syndication of loan is characterized by that members of loaning group take responsibility of liability of repayment for each other. The characteristic of syndication of loan are shared by C&C (industrial association) and Internet financing. Once members in group could not repay loan to bank on time, other members in the group are obligated to repay the loan to bank, and recover arrears by themselves. If members of group could not repay the loan accordingly, the whole group would no longer get loans from bank.

3. The assessment of C&C (industrial association)’s financing pattern of joint guaranty and syndication of loan

(1) Merits

a. The threshold for access is high, the quality of members is guaranteed. As C&C (industrial association) adopts membership system, the members of joint guaranty group have high quality under such financing pattern, the credit risk is low. Enterprises who want to join C&C (industrial association) should meet certain conditions to obtain qualification for application. Meanwhile C&C (industrial association) will conduct investigation on enterprises, checking the feasibility of their application. After becoming members, enterprises need to select members of group by will to form joint guaranty group. After which C&C (industrial association) will conduct auditing and review one more time. After all information is checked and approved, C&C (industrial association) will recommend them to bank, get pass loan application.

b. Bank’s credit risk is relative low. Due to members in joint guaranty group would take
responsibility of liability for repayment, there is a pattern of mutual supervision could be automatically formed, which aims to prevent the damage of economic and credit loss from the default repayment of loan by individual member. As for banks, this financing pattern greatly reduces bank’s credit risk.

c. Financing cost is low. Member enterprises do not need to pay guarantee fee to C&C (industrial association). They only need to pay mutual aid fee to gain the qualification for financing, thus the cost of financing is low.

d. Maximize the function of government funds. C&C (industrial association)’s financing pattern of joint guaranty and syndication of loan changes the situation that in the past government provide enterprises with welfare supporting funds. This financing pattern makes full use of the advantage of market operation, integrates overwhelming recourses, increases loan amount, help enterprises to solve difficult financing issue. Maximize the supporting function of government funds to enterprises.

(2) Disadvantages

a. When there is a depression on macro economy, the liability among members will lead to a bigger mess. When there is an overall economic downturn, when it is relatively difficult to maintain the balance of income and expense, once the situation of substitute repayment that is caused by liability responsibility happens, the whole group will be dragged down, making bigger and more serious loss and difficulty.

b. Unitary funding resource leads to the financing capacity of this pattern is not high. Under C&C (industrial association)’s financing pattern, the main funding resource comes from government supporting funds and mutual aiding fee paid by member enterprises. Hence, to certain extent, it is impossible to apply more loans from banks, which will exert negative impact upon attracting more members of C&C (industrial association).

c. Banks take less risk while enterprises take more risk. Due to the basic characteristic of financing pattern of joint guarantee and loans is every members in the group would take the responsibility of liability of repayment. By this way, banks’ credit risk is dramatically reduced, the risk of repaying loan is largely transferred to every small enterprises within the group, which forms uneven risk share. This kind of uneven risk share also affects the promotion and popularization of joint guarantee and loan pattern

d. Lack of professionals leads to bad operation effects. Selecting members of joint guaranty group is an advanced professional competence, yet C&C (industrial association) does not
have this kind of professionals. It is unable to use financial knowledge and technique to do specific combination of members. Most of joint guaranty groups are formed freely by members. The prediction and judgment of risk as well as communications and cooperation between banks would face difficulties due to lack of professional technical knowledge. These elements restrain the development of C&C (industrial association)’s financing pattern of joint guaranty and syndication of loan.

4.3 Chapter Conclusion

This chapter mainly focuses on the discussion of using Internet finance as platform for financing activities; the development, theories as well as advantages and disadvantages of Internet finance and financing pattern. It is not difficult to see that the key of financing modes innovation in Internet finance lies in better information exchange between lenders and borrowers as well as risk control during the financing activities. Therefore, the financing mode of Internet finance can provide effective measures for SMEs to solve their financing challenges.
Chapter V: The Value Analysis of Internet Finance in SMEs

The emergence of Internet Financing has its unique historical background, which brings convenience to the financing of small to medium sized enterprises. The financing model of Internet loan is closely associated with the concept of social network. A maximized utilization of the circulating social capital within the social network while integrating it into the Internet platform becomes a feasible way to promote Internet financing. Moreover, a thorough understanding on customer behavior and demand provides necessary reference information for both financing parties. At the same time, by accumulating transaction date through the Internet platform and establishing credit system, it helps to avoid unnecessary risks and offers more advantage to small to medium sized enterprises to finance through the Internet.

This essay will demonstrate systematically both domestic and international research on Internet financing. Some of these researches examine the user behavioral analysis of online loans and considers ‘soft information’ a positive influence on lending activities; ‘soft information’ is more effective in reflecting information on users’ social network and social capital. At the same time, through analyzing investors’ awareness on risk and preventative behavior, it shows that users are more concerned with potential risks of the financing platform. Based on the two previously mentioned issues, this essay will conduct systematic analysis on the influencing factors of the financing model of small to medium sized enterprise.

5.1 The Value of Social Capital in P2P Online lending

5.1.1 The Relationship Between Social Network and Social Capital

Social network is one’s circle of interpersonal relationships. It is a topological network structure that uses individuals as the node while treating interpersonal relations as its form of connection. Such connections demonstrate itself through friendship, kinship and capital. Social network adopts a relatively concrete network structure to describe interpersonal relations. It lays down a solid foundation for the understanding of complex social relations, such as ones that are interpersonal and inter-organizational, and also the ones between people and organizations.

In order to discuss the relationship between social capital and social network, we can first consider social capital as a type of social network that demonstrates itself through the form of connection within the network. In turn, the formation of such network depends on the concept of social capital, and the larger the value of social capital, the more stable this structure becomes. At the same time, social capital is also a type of relationship resource that circulates
and transfers within the network. One’s ability to control this resource might vary, depending on the node to which it circulates. There are three layers of connotation of social capital. First of all, it is a form of capital that expresses itself as structural dimensions within the network. Secondly, it is a form of capital that has a relationship oriented capital dimension in terms of resources. Last, it is also a manifestation of a cognitive social capital dimension that forms through consciousness. Therefore, social capital is a type of network structure and resources. Social network is the external expression of social capital. While they are interconnected with each other, they are also quite different. To be more specific, this difference is reflected in the aspects of origins, research objects, operating mechanism and objectives. However, in order to fully comprehend the concept of social capital, it requires a clear understanding on the idea of social network. In other words, the research on social capital relies heavily on the analysis of social network.

5.1.2 The Form of Existence of Social Network within the P2P Lending Platform

In analyzing the form of existence of social capital, BianYanjie has suggested in 2004 that, “social capital is embedded in the interpersonal relationship network; it is a convertible resource that exists within the social network. Moreover, such resource has the property of ‘coexistence’, which means the individual does not have exclusive ownership towards the social capital. The individual has to participate within the social network, in order to develop, accumulate, transfer and transform the resources”.

In the case of P2P lending platform, the financing party and the investors have to register as members of the platform respectively; it allows both parties to communicate and trade through this platform and to initiate an ongoing discussion through the forum of this platform (typically, Prosper in America and CreditEase in China). Furthermore, users could join different discussion groups according to their own interests, or they could seek partners based on mutual demand (for example, Prosper). This type of communication and trade activity has already formed prospective relationship network, such as trade relationship networks, interest-oriented networks and user group networks. Other than that, some of the Internet lending platforms are established on social websites. For instance, the largest social website is Facebook, and Facebook has established ‘Lending Club’ within its own website. It takes full advantage of the social network resources of its website that ultimately fosters the development of Internet lending service.
Based on this previous analysis, social network that exists on the P2P platform is not a singular network structure. Instead, it is a hybrid network structure where multiple social relationships overlap.

The formation of this hybrid network is caused by the ‘embededness’ of social relations. American sociologist Granovetter conducted systematic research on the characteristic of embededness of social relations. The characteristic of embededness exists in any given individual’s relationship network, such as the trade relations within professional relationship network and business relations in social relationship network. Due to the existence of such characteristic, the model in the field of social economics is not the ideal one that is established by economists. This is because previous practices have shown that people are vulnerable towards the influence of social relations and personal feelings. Moreover, because of the existence of social network, an absolute state of free competition is not accessible under the conditions of market economy. To be more specific, people are more willing to trade with someone within their own social circle or kinship. Even if the trade cost is not the lowest, they are still willing to so and is likely to form long-term cooperation. As a result, instead of a simple trade relationship network, there are more intricately embedded relationship networks on P2P platform.

**5.1.3 The Functions of Social Network in P2P Lending Activities**

As indicated above, there are more complicated hybrid networks that exist on P2P lending platform, which bring more difficulties to the user behavioral and relationship analysis. Continuing with our discussion on the influence of social network on P2P Internet lending platform, they are summarized into the following major points:

1. Social network is the basic condition for the emergence of P2P online lending platform. P2P Internet Lending is a product of financial innovation. It is an effective addition to the banking system that moves an offline peer-to-peer loan service to its online platform. Not only does this provide great convenience to both financing parties, it also increases vitality within the financial market. This financial innovation owes its success to the Internet and its technology; moreover, the associating social network applications also provides P2P platforms with powerful support.

The integration of social relationship network within the platform is essentially an incorporation of user value. An Internet lending platform thoroughly utilizes such value and forms a platform user value, which allows users to complete credit transactions over the platform. This is precisely the constructing benefit of P2P Internet lending platform. On the other hand, Professor Muhammad Yunus has a profound understanding towards the
application of social relations within financial transactions. The Grameen Bank he had established in Bangladesh is based upon this very concept. The success of ‘Grameen Bank’ demonstrates the possibility for poor people to raise money through social networks. To fully exploit and utilize the value of social network is a leading business model. The application of the Internet has speed up the exploitation of social network values; through the further development of social network services and building newer business models, the financial market has official welcomed its new Internet era.

2. Social network is an external factor that affects the model selection of P2P online lending

P2P Internet lending is an innovative application of the Internet model. It is a re-development and supplementation to the traditional financing industry with social network services as its driving force. Due to a variety of different forms of social network, there are two development patterns for the platform. While the first pattern is a self-based social network platform, the second one is a social network model bases primarily on the third party. The following is a brief analysis of these two models.

(1) Third party based social network

Founded in 2007, Lending Club is a prime example of this social network model. This website is embedded in the world famous website Facebook; it takes full use of the network resources within its website, from which it attains a rapid spread of information and public transactions. By attracting borrowers and investors from social networks through the platform, it gathers both parties in this platform in order to complete transactions. At the same time, it determines the interest rate and the term of borrowing of personal loans according to one’s credit ratings on social websites. The borrowers can post their loan information through social websites while others can browse through these information and selected preferable candidates. As a result, Lending Club has risen to its prominence quickly by providing financing and investment services to the public.

(2) Self-based social network

Within the current network environment, the majority of websites (e.x.weibo, renren) are not open to applications, and under this condition, P2P online lending platform can only resort to building its own network platform. Specifically, it bases itself on social websites and builds a platform system that conforms to its actual conditions, such as Prosper and PPDAI. Generally speaking, these platforms rely on social networks for its development while using the network to build its online user credit model. In the case of Prosper, it gathers groups effectively through mutual interests. Moreover, it improves the relationships between users within the same group through endorsement. On the other hand, in the case of PPDAI, it mainly uses a
series of incentive measures that encourages its users to recommend the websites to their friends and families. This platform also bases its credit system on their users’ Taobaoscores. Therefore, in choosing P2P online lending platform model, the change in the form of social network becomes an important referencing factor, as different forms of network and resources usually affects the selection of models.

3. Social network is an internal factor of P2P online lending and affects the lending transactions.

The basic use of social networks in P2P online lending activities demonstrates itself through the sufficient internal use of social capital. While studying P2P online lending, many scholars categorize the factors that affect members’ behavior into two types: one is hard information and the other is soft information, and soft information is not available for direct measurement. Scholars from all around the world have conducted in-depth researches on the issue of information and have had impressive results. In 2007, Kumanz has indicated in his research that in a group situation, the leader’s endorsement will effectively improve the trust level among group members, and as a result, it helps to obtain a more preferential interest rate when applying for a loan. However, there is no evidence in the study that links such behavior with the probability of default. In 2008, Everett pointed out that if a group member forms a personal relationship with the borrower, it helps to improve the performance of the borrower. On the other hand, Lopez and the others believe, if the borrower can effectively recommend other members to participate in the group, then it is more likely for the borrower to be granted with a loan. In 2009, Greiner discovers through research that if the credit status of the borrower changes, the effect social capital has on the borrower will also change. However, in normal situations, the more capital the borrower has, the better chances he/she has in obtaining a loan with lower interest rate. Similar to Greiner’s findings, Lin suggested that within social networks, members who have healthy social relations usually get lower interest rate with their loans. Moreover, if the majority of the borrower’s families and friends have lower default rate, then default rate of this particular borrower also lowers. At the same time, social networks can effectively reduce the information asymmetry phenomenon. According to the research findings of Colliers and the others in 2010, for members with lower credit ratings, they can improve their level of trust through communicating with other group members and participating in group activities. Based on the cultural differences and differences in social capital between China and the West, XuSiyuan. et al (2011) has researched on Prosper and PPDAI respectively, and with a comprehensive analysis on the research results, Xu has pointed out that the Chinese cultural environment pays more attention towards relationships,
therefore, within a lending relationship, social capital is able to generate larger influence than it would have being in America. With references to the statistical data from PPDAI website, Li Anyuan et. al (2012) have used the bidding volume from both the friend of the borrower and a friend of the borrower’s friends as variables in the analysis of the borrower’s social capital variable, and through their research, they discovered that all variables have the potential to improve the success rate of a loan for the borrower.

Furthermore, Iyer has carried out an extensively research in 2010 on the influence that social capital has on the borrower’s credit ratings. Iyer’s research tested whether online lending platforms can successfully select borrowers with healthy credit ratings during the screening process. The results show that through the combination of both soft and hard information, borrowers’ credit ratings can be effectively evaluated.

In summary, within lending behaviors, whether a loan would get approved, the default rate of the borrower and even the interest rate of a loan are all affected by the concept of social capital. Social capital also affects the credit status of members within social networks or whether endorsements exist within the group. Drawing from the observations above, social network is an internal factor within P2P online lending platforms, and it is associated with all members’ behavior to a certain extent.

4. Social network is a composing element of P2P online lending risks; it plays a role in the risk prevention.

A detailed analysis on user credit ratings can be carried out through the analysis of the user’s transaction history with others. In general, the form, size and even density of the social network have the potential to affect the amount and strength of the user’s relationships. In addition, not only are we able to determine each member’s status on social capital through the aforementioned factors, it also affects the credit ratings of its members.

Social network is intimately associated with the online credit rating system; it is precisely this association that positions social network in a crucial part of the trust mechanism of P2P online lending platform. Therefore, the changes within the social network will in turn affect this trust mechanism. Also, it determines whether the member’s credit rating is in fact reliable. Through the examination of the changes within social networks, we can access the amount of trust that members have towards the P2P platform. Thus, this interdependent relationship between the platform and its users reflects the connection between the social network and potential risks of P2P platforms.
In conclusion, social network is both the composing element and the foundation of P2P online lending platforms; it is the base that helps establishing credibility for its members while having a profound influence on their interpersonal relationships. Therefore, the discussion on social network will lay down a solid foundation for the future studies of the P2P platforms.

5.2 Social Capital Value in Mutual Aid Financing

5.2.1 Social Capital Facilitates the Formation of Mutual Aid Financing

In the current credit market, credit activities of small and medium-sized enterprises usually fall into the category of information intensive industry. Under this environment, when banks conduct credit activities with small and medium-sized enterprises, the phenomenon of information asymmetry will come into being. For example, when banks grant credit products to SMEs, they are usually faced with the problem of relatively high cost for identification and supervision, while SMEs are usually unable to provide banks with valid mortgage required. Therefore, such an information asymmetry directly leads to financing difficulties for SMEs, or the phenomenon of adverse selection. In order to solve this problem effectively, social capital comes into being, and has effectively offset the boundary of the credit activities between bank and SMEs. This is mainly embodied through three aspects, namely independent choices, peer monitoring, and social sanction. What’s more, the emergence of social capital has also facilitated the execution of the loan project whose liability is jointly shared by group members. And this promote the effective cooperation among all the participants within the group, being helpful to alleviate the default risk of the borrower, and being beneficial to the materialization of mutual aid financing.

In general, the functions of social capital are different to a certain degree during different stages of mutual aid financing. During early stage, the main function of social capital is set a criterion on all the members of mutual aid financing alliance; during mid-term stage, it mainly plays a supervisory role, group members practice mutual supervision so as to drive borrowers to receive profits by their own efforts; during the last stage, it mainly exerts its influence through social punishment, by setting up some punishment measures, it will warn borrowers to honor their agreements on time so as to reduce the default risks.

5.2.1.1 Peer choices made by participants in mutual aid financing of social capital

In mutual aid financing, all members are closely connected to each other, the behavior of each member will to some extend exert certain influences over other members. Similarly, each individual member’s interest will also be influenced by the interest of the alliance as a whole. For example, when investors go into default, they often need other members to share the
responsibility to repay the debt; while whether members can obtain debts in the future is to some extent depended on the overall repayment situation of the alliance group. Therefore, when other members shoulder the joint liabilities for the defaulter, they will take the cost of repayment of themselves into consideration, and always expect the minimized costs. Under this premise, members will usually conduct relevant evaluation on all the participants before the establishment of the group, so as to choose partners that share symmetric information with them to form a group. Generally, investors of high-risk tolerance are often characterized by relatively higher risks of failure when making project investment, so members of this kind will be prone to choose investors of low risk tolerance as alliance members, and this tendency rises, to some extent, as the success probability of the investors themselves increases. However, investors of low risk tolerance, in order to reduce their losses to the uttermost, often need investors of high risk tolerance to pay the high fees required, only on this basis, the group can be established. Once collusion are not allowed among group members, investors of low risk tolerance will usually expel those investors of high risk tolerance by means of certain recognizing measures, so as to strike a balance between the risks of group members, thus ensuring group members share the same quality to some extent. When banks discriminate between risk types of a group, they can just identify the quality of a particular member and then do the further work without evaluating all the group members. In this way, banks’ costs on identifying credibility of the group have been greatly cut down, and at the meantime, the problem of adverse selection may be solved effectively.

In mutual aid financing, the peer choice mechanism is usually established on the basis of joint liability and private information. On this basis, group members will usually choose investors of low risk tolerance as their own partners with a consideration of their own interests. Because this can not only lower its own risks on shouldering the joint liabilities but also transfer those liabilities to other members when they suffer from investment failures, and then reduce to the uttermost the possibility of being rejected due to their own defaults during their second financing by taking advantages of the security of other members. In this case, all group members will by all means get command of other members’ information in a comprehensive manner, so as to effectively decide whether the participant is of low risk tolerance.

Referring to the risks of project investment, group members can be divided into the following two kinds, one is secure borrower (S), the other is risky borrower (R). In common cases, the capital that S invested in a company will bring a benefit of \( R_s \left( R_s, f \right) \), which is often a definite number, yet the benefit brought by the investment of R often features great uncertainties, here we assume its probability of success of investment is \( P, P \in (0,1) \), rate of
return is $k$, then the probability of failure will be $1-p$, the return under a failed circumstance usually is 0, then the expected return of $S$ is $pR$. The loan interest rate of banks over the same period is $i$.

Meanwhile, we can assume the information of all group members are completely transparent, each member has a good command of and control over other partners, and knows clear its partners’ risk types, under this situation, all members can choose their own partners according to their own will, so as to ensure that they can obtain greater returns, and that it will be more smooth for them to apply loans at the same time. If there are only two members in a group, namely Borrower No.1 and Borrower No. 2, then the game cooperation of the two members can be embodied through the following matrix.

Table 5: Matrix of the Game Cooperation Between Two Kinds of Borrower

<table>
<thead>
<tr>
<th>Borrower No.2</th>
<th>Secure Borrower S</th>
<th>Risky Borrower R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure Borrower S</td>
<td>(1) $R_s$, $R_{ss}$</td>
<td>(2) $R_r$, $R_{sr}$</td>
</tr>
<tr>
<td>Risky Borrower R</td>
<td>(3) $R_r$, $R_{rs}$</td>
<td>(4) $R_r$, $R_{rr}$</td>
</tr>
</tbody>
</table>

First, when the risk type of Borrower No. 1 is secure, then the risk type of Borrower No. 2 can be the following two types:

1. If the risk type of Borrower No. 2 is secure, the returns of the two borrowers can be: $R_s = R_s (1-i)$

2. If the risk type of Borrower No. 2 is risky, then Borrower No. 1 will in most cases be exposed to the risk of shouldering joint liabilities, leading to uncertainty of returns. This can be analyzed in the following two situations:

Assume the probability of success for Borrower No. 2 on project investment is $P$, then Borrower No. 1 will not be subject to the risks of shouldering joint liabilities, what he need to pay is only his loans and its interests. So the return can be $R_s R_s (1-i) R_s$.

Assume the probability of failure for Borrower No. 2 on project investment is 1-$P$, then Borrower No. 1 will be subject to the risks of shouldering joint liabilities, in order to obtain opportunity for financing in the future, Borrower No. 1 needs to pay $R_s R_s$ for Borrower No. 2, and at the same time pay its own loans and its interests. So the return can be $R_s ((1-i) - R_s R_s)$. 

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From the above analysis we can see that when borrower is $S$, expected return would be:

$$R_{sr} = pR_s (1-i) + (1-p)[R_r (1-i) - R_r i]$$

By calculation we can come to:  \(R_{sr} = R_s (1-i) - (1-p)R_r i\)

From \(p \in (0,1)\), \(R_{ss} - R_{sr} = (1-p)R_r i\) we know that:  \(R_{sr} \neq R_{sr}\)

From the above calculation we can expect that if information between the two borrowers are transparent, $S$ will usually choose the same type of borrowers as partner. This choice is made considering expected interests and risks associated. If $R$ wants to join the group, it normally needs to pay a transfer fee higher than \((1-p)R_r i\) to other members.

Secondly, when borrower 1 is $R$, borrow 2 also may come in the following two types:

1. When borrower 2 is $S$, the other borrower normally does not have liability to shoulder. It only needs to pay borrowing fees of its own. In this situation, expected return should be: \(R_{ss} = p(R_r - R_r i)\)

2. When borrower 2 is $R$, expected return of the both is:

$$R_{sr} = p^2 (R_r - R_r i) + p(1-p)(R_r - 2R_r i) = p^2 R_r i + pR_r - 2pR_i$$

Hence \(R_{ss} - R_{sr} = p(R_r - R_r i) - \left(p^2 R_r i + pR_r - 2pR_i\right) = p(1-p)R_r i\)

Since \(p \in (0,1)\) we know:  \(R_{sr} \neq R_{sr}\)

From the above calculation we can expect that if information between the two borrowers are transparent, if transfer fee required by $S$ is lower than \(p(1-p)R_r i\), then $R$ also tends to choose $S$ as partner to maximize its return.

However, by analyzing the aforementioned situations it can be found that the minimum transfer fee $S$ requiring $R$ to pay is \(p(1-p)R_r i\), usually higher than the amount $R$ can bear. In such situation, collusion is not likely to happen\(^1\). Therefore, $R$ will have to choose other $R$s as partners.

Therefore, borrower usually prefers those whose information is easy to access and understand and avoids unfamiliar partners. As such, a phenomenon of “birds of same feather flock together”\(^3\) emerges, leading to groups of the strong and groups of the weak. Generally speaking, the self-selecting mechanism among borrowers is performed upon how much social capital they have.

\(^{1}\text{Zhang Weiguo, Ran Hui, Chen Susu: 中小企业群体贷款的博弈分析 (translated as Game Theory in SMEs Group Borrowing), System Engineering, 2010 (5): 25-29}$$
5.2.1.2 Supervision and sanction against participants of mutual aid financing in social capital view

(1) Peer supervision

Since the establishment of a financing alliance, the participants will choose efficient cooperation in order to maximize self-interests. First, participants will share information, promoting operation strategies and explore new sales channels. Second, within the group, members are closely linked with each other, sharing unlimited liability in borrowing activities, which is conducive to effective peer supervision and avoiding high-risk investment or default. Thus, mutual benefits are safeguarded. Generally, if supervision cost among members is low, the mutual aid model can improve members’ work effectiveness and increase individual repayment rate. On the other hand, if supervision cost much, members will lower their supervision standards, or reach a consensus of no supervision, in consideration of minimizing cost and protecting self-interests. Internal supervision can largely cut cost as compared with external supervision.

Ran Hui and Zhang Weiguo et al. (2011) proposed a microcredit model based on game theory, targeting SMEs group lending. We assume that in the group, level of supervision of members is $\pi_i \in (0, 1)$, with a marginal cost of $\varphi$. Hence, supervision cost should be $S = \varphi \pi^2_i / 2$. Of course, when there is no supervision cost, the level of supervision should be the highest, which means $\pi_i = 1$. As such, supervision will be in time and comprehensive. Once default occurs, the borrower will face strict sanction. On the contrary, if there is supervision cost, then group members will compare the expect returns of supervision and no supervision, and choose the one that could bring a better outcome.

The supervision not only can effectively avoid default, but also can decrease risks of potential liability, which means $p^2 (1 + \theta)i$ is saved. Accordingly, liability shared by other member is $\theta \in (0, 1]$. If the amount on repayment date is $i$ and there is $V$ loan to be obtained, then other members’ supervision against the borrower is expected to see a return of:

$$E_s = p^2 (1 + \theta)i + V - \varphi \pi^2_i / 2.$$  

If the members are not involved in supervision activities or there is no collusion, the members would not be able to know if the fund is repaid or not. If the borrower defaults, he/she is not allowed to borrow again. However, in the group, when the debt is not fully paid, and

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possibility of borrow again is $\beta \in [0,1]$. Under this condition, the expected return for other members is $E_s = \beta V$.

Members involvement in supervision and mutual constrain condition is $E_s \not= \overline{E_s}$, that is:

$p^2 (1+\theta)i + V - \varphi \pi_i^2 / 2 ^? \beta V$

By calculation we can come to:

$\pi_i = \sqrt{2 \left[ p^2 (1+\theta)i + (1 - \beta)V \right] / \varphi}$

Within the alliance, the guarantor’s supervision to the borrower is

$\pi_i = \sqrt{2 \left[ p^2 (1+\theta)i + (1 - \beta)V \right] / \varphi}$. In the meanwhile, the supervision cost $S = p^2 (1+\theta)i + (1 - \beta)V$. Ensure that during the supervision, the expected return is greater than that without supervision. In this way, the supervision is encouraged and the borrower’s behavior is regulated. And the default risk is avoided effectively. In another aspect, the cost of peer supervision is much lower than the direct supervision from the bank, which benefits resources allocation.

5.2.2 The Credibility Mechanism of Mutual Aid Financing

In social capital, credibility is the most basic while specific from of social capital. Credibility plays a significant role in mutual aid financing. In finance market, no matter is regulated...
financial activities or unregulated activities, credit is the crucial basic. At present, credit is expressed by guaranty. In China, the credit carriers include:

1. Material object: In Chinese financial market, no matter is regulated financial activities or unregulated ones, the lender does not possess adequate information on the borrower. The lender has to take guaranty to against the overdue risk. And for in cases, the credit carrier is tangible object.

2. Money/fund: In china, the mutual aid association usually takes money/fund as the credit carrier. When the SMEs join the association, they have to pay certain amount of money as the guaranteed fund. In the financing activities, the member takes the guaranteed fund to exchange for financing credit.

3. Relationship. In non-governmental financing, it is normal that the borrower obtains funds through personal relations. For example, borrow money from relatives is taking blood relations as the credit carrier. And borrow money from friend is taking non-blood relations as the credit carrier. In the market, people tend to remain close relationship within their own network. When the borrower defaults, it is hard for him/her to borrow fund again from other acquainted people.

4. Financial intermediary. In the rural area, the non-governmental lending has operated for years. In order to solve information imbalance, the financial intermediary is established to bridge the borrower and the financial institutions. The borrower is charged a certain amount of money in case of default. The financial intermediary bears the lending risk. And in rural areas, it is called endorsement.

5.2.2.1Borrower’s Credit identification mechanism

In the current financial market, there are various forms of credit that could be taken to prevent risk. Nevertheless, in order to ensure the borrower obey the rules, a smart credit mechanism ought to be constructed.

(1) Contract

Contract originates from unregulated individual financing activities. Contract constrains people’s behaviors and prevents risks. Contract has been used by financial institutions for quite a long time.

Generally speaking, contracts bound the borrowers and give them pressure. Once the contract is taking effective, the borrower has to pay the money back on the due date. Otherwise, they will be fined by suspension of the loan or other penalties. The contract protects the borrower
and their behaviors’ are supervised by the lender. And the contract ensures the benefits and returns of the lenders.

（2）Acquaintance, collaboration and trust

In mutual Aid financing, the credit identification system is the basic. And the crucial elements are acquaintance, collaboration and trust. In the SMEs’ alliance, all the members are familiar with each other. They understand each other’s financial situation such as financial information, owner’s characteristics and production capability etc. The internal supervision mechanism formed and prevents risks from happening.

The emergence of mutual aid financing solves the financing difficulties for SMEs. In the alliance, each member is familiar with each other. And through objective analysis, their operational capability and cooperation capability thoroughly studied. And they know if the members are capable of paying the debt. The trust is then established and the risk is reduced. Luman (2005) proposes that the enterprises make judgment base on their own experiences and once they obtain more accurate information of other companies, they can make better judgment. By doing so, the risk is reduced.

（3）Reputation and repeated game

In SMEs financing, it is quite often that the guaranty they provided to the banks are not qualified. Under this situation, in the alliance, their company reputation can be considered as guaranty.

Generally speaking, reputation is crucial element in mutual financing Aid. The reason is good reputation guarantees a priority to the alliance. And within the alliance, other members also can help each other to improve reputation, which is an important byproduct in the alliance. So the win-win situation can be achieved.

From a long-term perspective, in the alliance, members are in a long and steady relations. Even the there is a term of the alliance operation; the long and repeated relation is established. In the alliance, each member is dependent on each other. So the cooperation is the ultimate choice. If the members give up cooperation, their long-term interest will be damaged.

In the alliance, the game is repeated among the members. Under this situation, reputation is significant for all the members. If one member misconducts, the member will be isolated. And the damage to them is permanent and irrecoverable. Turning bad word of mouth to the reputation will cost them much.
If one member breaks the rules, the company be warned once. In the alliance, members’ game repeated. Members’ relations are enhanced by helping each other out. So members are doing great job in self-discipline.

The following show how reputation and games are represented:

Assume: borrower and guarantor for payment forms the alliance. Guarantor will act upon borrower’s behavior, which is dynamic game.

When the borrower repays, the return of the company is . At the same time, the guarantor does not need to shoulder any obligation and with no guarantee fee. And the return to guarantor is 0; When defaults, the repayment is , and with guarantee fee K, and gains reputation :M. Borrower’s return.

G: Stage game, repeating T times: . If , which called infinite repetition of game. On contrary, if T finites, we call it finite repetition of game. In , is ’s discount factor (Yu Weisheng, 2007).

Generally speaking, social capital based mutual aid financing is infinite repetition of game, which can ensure steady situation. When member defaults, the repetition of game becomes finite. Members pay the total discount factor in .

Table 6 shows the optimized solution:

<table>
<thead>
<tr>
<th>t</th>
<th>1</th>
<th>2</th>
<th>......</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guarantor</td>
<td>repayment</td>
<td>repayment</td>
<td>......</td>
</tr>
<tr>
<td>Borrower</td>
<td>repayment</td>
<td>repayment</td>
<td>......</td>
</tr>
<tr>
<td>Borrower’s return</td>
<td>R-A(1+i)</td>
<td>R-A(1+i)</td>
<td>......</td>
</tr>
</tbody>
</table>

Base on that, the borrower needs to pay:

\[
R - A(1+i) + (R - A(1+i))\delta + (R - A(1+i))\delta^2 + L \cdot \frac{R - A(1+i)}{(1-\delta)}
\]

when the member default, their reputation lost and be isolated by others in the alliance. Table 7 shows the staged returns as default occurs.

Table 7: Staged returns as default occurs

<table>
<thead>
<tr>
<th>t</th>
<th>1</th>
<th>2</th>
<th>......</th>
<th>k</th>
<th>k+1</th>
<th>k+2</th>
<th>......</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Guarantor</th>
<th>Repayment</th>
<th>Repayment</th>
<th>……</th>
<th>default</th>
<th>default</th>
<th>default</th>
<th>……</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrower’s return</td>
<td>R-A(1+i)</td>
<td>R-A(1+i)</td>
<td>……</td>
<td>R-A(1+i)</td>
<td>-M</td>
<td>-M</td>
<td>……</td>
</tr>
</tbody>
</table>

Calculating from $K$, Borrower’s return:

$$R - A(1+i) + A - M - K - M\delta - M\delta^2 - M\delta^3 + L = R - A(1+i) + A - M - K + (-M\delta)/(1-\delta)$$

If the payment is not overdue, game can be repeated. In order to achieve that we have to ensure the return of repayment is greater than the return of default:

$$\delta \leq (M + K - A + Mi)/(M + K + Ai - R)$$

calculate:

$$R - A(1+i))/(1-\delta) \geq R - A(1+i) + A - M - K + (-M\delta)/(1-\delta)$$

We can conclude that if the borrower fails to pay back on the due date, the game theory can be applied for infinite time in mutual finance. If a company is going to pursue certain interest and default in $k$ phase, the borrower is going to lose the qualification for refinancing and get reputation punishment. Under this circumstance, the borrower will suffer from loss. From the above analysis, we can generate that Pareto optimality results could be realized.

In the mutual finance, during creditability identification process, members tend to choose the one that they are familiarized with as their partners. In order to assure the lending process, members are applying contract to protect their own interests and bind each other’s behavior. Contract usually refers to a voluntary binding agreement between two or more parties. It specifies obligations and rights of each party while gives punishment to unfulfilled responsibilities. Generally speaking, reputation or the word of mouth plays a significant role. In mutual finance, these factors affect each other and formulate a credible system.

### 5.2.2.2 Improve credibility of the borrower

From above description we could find out that when SMEs are conducting mutual financing activities, credit recognition is achieved by the basic interpersonal trust. At current stage, social transition has gained tremendous development. Luman once pointed out that in the current stage, our society is still characterized by its complexity, which is continuously strengthened. From homogeneity to heterogeneity, the development of value identification is changed from singular pattern to diversified pattern. Meanwhile, social stratification is constantly prominent. These elements make people’s behavior featured by significant...
complexity. In regard of this circumstance, the credit structure is changing as well, which means credit promoting system should be constituted at present stage.

When SMEs are conducting mutual financing activities, traditional credit mechanism should be broke, changed to modern credit mechanism which is constituted accordance with relevant requirement of system. From the following picture, we could tell that such mechanism is built from basic system. Normally, traditional trust only exists in a certain region, which is formed by the long term contact of people. The modern mechanism of trust is not limited to region-wise condition; it relies on relevant system of norms or criterions to restrain people’s behavior. This is a relatively objective and extensive constraint mechanism, beyond the existence of region or individual. Normally it is presented in certain social environment or professional field, which is a form of contracts that is commonly recognized by people.

![Figure 2: Credibility identification and improvement mechanism](source: materials sorted by author)

(1) Contracts and Standards

Contract usually refers to a voluntary binding agreement between two or more parties. It specifies obligations and rights of each party while gives punishment to unfulfilled responsibilities. Generally speaking, contract is a way to establish trust.

The credit mechanism needs contract to maintain and improve in SMEs mutual aid financing. Usually, signed contracts must be based on national laws and regulations so that the contract is executed according to law and situations like seeking favor through social networking or collateral could be effectively avoided. Accordingly, both parties are entitled with equal rights. Generally, contract gives both parties an objective trust and eliminates uncertainties between them. By making rights and obligations clear and setting up punishment mechanism, contract can effectively compensate the loss happened to either of the parties. Contract can also avoid risks brought by information gap between parties and such transparency constrains the
behavior of borrower, averting breach of contract. Therefore, we can see that contract in fact is a precaution against risks and it is the most important foundation for the existence of credit mechanism.

（2）Joint contract guarantee

Lacking of effective collateral is common in loans of SMEs. Under such situation, SMEs can group together and pay security deposit (K) to bank. Such microfinance security plan is relatively stable to collect loans back. In this way, every member of the group has relation with one another because whether a member can get loans or not, to some extent, depends on the credit of the other members. If any breach occurs, deposit K may be lost, which put pressure on group members and such pressure can effectively promote the team’s credit. Within the group, members usually are familiar with each other and information transparent, which is helpful for mutual surveillance and can avoid breach. In such case in discussion, the point of guaranty lies in the transparency among members. Meanwhile, each member must be clear about its purpose of joining in the group. Hence, information transparency, cooperation and mutual surveillance provide an effective guarantee for loaning in this model.

Scholars in other countries and regions have pointed out that joint guaranty, to some extent, is one kind of guarantee. Usually, the relation between lender and borrower is not only in financing but also in other markets. For example, in goods trading, contract signed during two parties’ financing activity usually contains all of their relations, which not only enables the lender to understand information about the borrower but also restrains the borrower through other aspects so that the risk of breaching is lowered since once the borrower break the contract, not only the reputation and deposit will be damaged, trades going on in other fields also face losses. Therefore, the lender has one more kind of safeguard.

（3）Pressure From Market Punishment

From the modern contract theory we can find that it also holds a view that if contract cannot solve disputes between two parties effectively, a third party will intervene. Generally speaking, the third party means individual, organization or judicial department. The third party commonly uses peaceful methods such as negotiation or even adopts more violent ways. It can also resort to law for coercive settlement. Yet, this is not the only way to conduct credit mechanism. By utilizing market force, the same aim can be reached.

From another hand, some scholars think the specialized leasing is a special cost in the marketing mechanism. The outcomes can be realized in two ways. 1) Government directs it and legal ways ensure its process. 2) Marketing mechanism directs it. If the company defaults,
the company will be punished and warned. When defaults occur, increase the punishment and lower their reputation.

We assume that a company borrows A amount to invest with return \( R \) and interest \( i \). In this investment, the cost of the project is \( C \). Say the success possibility is \( P \), market punishment is \( W \). When it returns the fund, the return is \( E_1 \), and if it defaults, the expected return is \( E_2 \), then:

\[
E_1 = P(R - A(1+i) - C) + (1-P)(-A(1+i) - C)
\]

\[
E_2 = P(R - A(1+i) - C + A - W) + (1-P)(-C + A - W)
\]

Under the strict penalty system, the actual return is higher than defaulted return can guarantee the company obeys the contract:

\[
P(E_1 - A(1+i) - C + (1-P)(-A(1+i) - C) \geq P(R - A(1+i) - C + A - W)
\]

\[
+ (1-P)(-C + A - W)
\]

We can get:

\[
W \geq A(1+i) - PAi
\]

From the equation we can generate that severe punishment mechanism can ensure the borrowing enterprise can repay on time. Marketing punishment mechanism includes reputation damaging, failure of borrowing lending.

In an alliance, if a company losses its reputation, which will affect their partnership with other members. Or even be excluded from the alliance. The mutual finances mechanism can punish companies who default and monitor them to pay back on time so that improve their reputation. Once the company defaults, their operations will be damaged and excluded from the alliance.

Under the P2P lending mechanism, social capital can help SMEs to acquire information at a lower cost and build a mutual trust. Social capital concept supports the innovation of refinancing. Base on that, we have made three assumption:

**H1:** Can the credit system be established? Will the credit system brings huge impact on Internet financing’s social capital?

**H2:** Can the information be exchanged effectively?

**H3:** How Internet financing’s social capital level affect SMEs innovation on Financing?
5.3 The value of risk control in P2P online lending

Generally speaking, P2P online lending model is faced with the credit risk of individual companies, yet it also faces other risks, which will be illustrated in the following.

5.3.1 Technical risks of P2P financing model

P2P financing platform is established on the basis of the Internet, thus, the operation of such online platforms associates itself closely with the Internet. In the present stage, Internet safety is facing great challenges, such as online fraud, hackers and phishing websites etc. As an innovative financial platform, it could easily become the target of Internet crimes. Based on the statistical research of the “Anti-Phishing Alliance of China”, within the first two quarters of 2013, there have been more than 2000 phishing websites, and the majority of these hacked websites are related to online payment or finance. At the same time, the research statistics also involves many major banks, for example, there is an 82.62 percentage this year that involves the Industrial and Commercial Bank of China, China Construction Bank, Bank of China and TAOBAO. On the other hand, hackers usually invade these types of online platforms in order to steal client information with the intention of fraud. However, the P2P online financing platform approaches the issue of capital circulation differently from the banking system. The bank usually places capital within its internal network, yet the P2P platform’s capital flow relies on the Internet, which results in serious capital insecurity. Once the hackers are targeting the funds within the platform, whether it is to temper or to leak client information, it will have a significant impact on the operation of this platform and its clients.

In the meantime, along with the rise of online financing platforms, many of which have launched ‘deposit’ as a security measure in order to attract more clients. In the event of repayment difficulties, the financing platform will advance the funds instead and settle the account with the borrower independently. This kind of situation is likely to cause great pressure for the platform to put in the advanced funds. At the same time, once the financing party refuses to fulfill their obligation, it will cause significant financial loss for the platform, which will lead to its possible bankruptcy. Moreover, P2P online financing platforms usually involve a large number of funds and these payments are not administrated directly by either financing parties. Specifically, the borrowing party provides the fund to the platform and the payment is carried out through a third-party account that is opened by the platform. Under such circumstances, it is easy to have loopholes that result in the misappropriation of the funds or even illegal fund-raisings. This is not an uncommon phenomenon and one can easily obtain relevant information from Baidu.
5.3.2 The legal and policy risks of the P2P online financing model

5.3.2.1 The main forms of expression of the legal and policy risks of the P2P platform.

In the present stage of our country, along with the continuous development of network information technology, the network financing industry has also been advancing quickly. Although the online financing industry has formed a considerable scale since its birth, there are also notable limitations within this it.

(1) Likely credit risk for the financing individuals

P2P online financing platforms evaluate the credit ratings of both financing parties based on the information or documents that are provided by responsible individuals, such as personal identification cards, proofs of property or payment records. These kinds of information are usually easy to forge. Even if the provided documents are true and reliable, they are not sufficient enough for the financing organizations to conduct an objective credit evaluation.

In order to avoid this limitation, some financing platforms have launched a submitting process for personal credit reports. However, it only requires the responsible individuals to submit scanned copies, which is also easy to forge.

(2) Once there is a problem with the operating model, it can easily result in illegal fundraising

Within recent years, some P2P online financing platforms have launched cession of bond as the new financing model, which has attracted many people’s attention. However, as the deputy director of the Financial and Economic Committee of the NPC, Ms. Wu Xiaoling has conducted detailed research on this model, she pointed out that this financing model embodies certain qualities of illegal fundraising and therefore, it is to be considered cautiously.

Normally, the transferring process of this model is operated through personal accounts, thus eliminating the third-party approach of the traditional P2P online financing platform. As a result, under this financing model, the P2P platform no longer plays the role of an intermediary agent; instead, it becomes a capital transaction channel for both financing parties.

Generally speaking, the cession of bond is in fact the securitization of assets; it divides up the bonds according to its term and amount in order to recombine them based on the specific needs of the creditor. Yet this is precisely why it is easy to confuse this financing model with illegal fundraising.

(3) It is difficult to confirm the source of the funds
Within this platform, the majority of its funds come from the idle cash of its lenders, yet it is relatively hard to identify the sources of these funds. Moreover, there are certain limitations to the platform’s auditing system. In this case, it is easy to cause money laundering activities and usury within the platform.

(4) No guaranteed security for the transaction of funds

In general, P2P online financing platforms usually involve a large amount of funds, and these payments are not administered directly by either financing parties. Specifically, the borrowing party provides the fund to the platform and the payment is carried out through a third-party account that is opened by the platform. In this case, it is easy to cause the misappropriation of the funds or even illegal fund-raising.

(5) No effective supervision on the follow-up use of funds

In the current stage of our country, there is no satisfying laws or regulations that can clearly delimit on the specific use of loans and its tracking issues. In “Suggestions made by The Supreme People’s Court on the Court Hearings of Loan-related Cases”, it has only made general introductions on lending activities in which it points out that the sponsors only bear certain assurance responsibility. As a result, the online platform is only legally obligated to assist on recollecting funds in a risky financing situation.

(6) Difficulties in providing effective protection for information of both financing parties

As a trading platform, the website usually acquires personal information from its users and these kinds of information are mainly used in the following two aspects: first it provides referencing proofs for its clients and secondly, it is used in credit evaluations. However, once there is a breach in the system (i.e. hacking or Internet virus), all the client information can be easily leaked, thus creating difficulties in protecting private information of the clients.

5.3.2.2 The reason of the legal & policy risks of P2P online financing platforms

(1) No clearly defined supervising party

Due to its uncertain nature, there is no specific supervising party for the P2P online financing platforms, as a result, there has not been an effective supervising measure for its operation. In the cases of the Wen Zhou area of Zhe Jiang province, the local office of Finance usually oversees the operation of such platforms. However, whether the office of Finance has the right to carry out legal supervision on this issue remains unclear. On the other hand, the business operation of an online financing platform has to be approved by the Telecommunication Authority with formal registrations; in conducting business activities, it
has to comply with the management regulations issued by the administration. Moreover, this platform mainly provides online loans to people and its operation usually involves funds, therefore, it is absolutely necessary to ensure an effective monitoring measure in order to maintain a smooth business operation.

(2) Imperfect credit system

In comparison to the credit system of developed countries in the West, China’s is yet to form a development mechanism for its credit system and there is a serious lack of appropriate legal regulations. Within the financial market, a lot of illegal organizations are acquiring information in the name of credit investigation, which will seriously interfere with the normal market order. Furthermore, the current credit investigation industry has yet to form a more unified development plan, instead of conducting credit investigations separately among various departments. On the other hand, the P2P financing platform has not formed an appropriate mechanism in terms of its credit system. To be more specific, the P2P platform evaluates credit ratings through the information provided by both financing parties, which results in the lack of objectivity and accuracy in credit evaluations.

(3) Unclear market access standards

Under the general market access standards, the P2P online financing platforms share similar requirements with regular companies, that is, to register and be approved through the Bureau of Industry and Commerce according to the “Company Registration and Management Regulations”. It also needs to accord with the standard of both “Internet Information Service Management Approach ” and “Internet Website Administration Regulations” with proper registration and record. It is also for this reason that the current quality of participators within this industry is relatively chaotic, which causes serious impact on the legitimate rights and interests of the financing parties.

(4) No unified standard and regulation

The P2P online financing platforms are registered under the category of “Internet Information Services”. Among all different types of websites, the P2P platform merely counts as a website that provides financial services that is no different than other websites. Therefore, there is no unified legal regulation that is appropriate to this industry specifically. As a result, it brings certain risks to the operation of such platforms, as there is no effective measure to ensure the legal rights and interests of the financing parties. Moreover, due to the lack of legal regulations in the field of network supervision, the range of Website operations is relatively wide and is loosely organized, thus exposing the financial platforms to potential risks.
(5) imperfect system of withdrawal

There is no legal regulation to guide and monitor the process of withdrawal in online platforms and P2P online financing platforms are no exception to this situation. In this case, it is crucial to attach great importance to building an effective managing system for online platform withdrawals, so as to ensure the legal rights and benefits of all financing parties.

With the continuous economic development of our country, the financial system is experiencing rapid reform and development. Within this general market environment, the P2P online financing platform is an economic innovation that coincides with the market demand. The core value of this platform is credit management, which provides the basis for a sustainable future development for such platforms. At this current stage, it is particularly important to focus on building and perfecting this core value.

5.4 The value of risk control in mutual aid financing model

It is a common practice to set up certain mechanism to prevent potential financing risks, yet such mechanism has been proven to be ineffective in reality. Thus, it is important to pay more attention to the cause of these risks through detailed analysis on the financing parties. In addition, in order to prevent risks from its roots and to minimize damage, it is also important to categorize these risks with its pertinent characteristics and carry out targeted control. In the process of mutual financing, the strict supervision within each link is the only solution to effectively prevent and control potential risks.

5.4.1 The risks of mutual aid financing faced by SMEs

The mutual financing model differs from the P2P loans, it usually involves three participating parties: one is the financing party, the second is the insurance party and the third is the bank. Generally, the banking system is faced with two major risks, namely the neutral risks and malicious risks. While neutral risks usually refers to the default behavior that is caused by unforeseen investment failure of the financing party, malicious risks is merely a corresponding concept and can be illustrated in the following two aspects. One of which refers to the intentional arrears under pretext from a financing party with full payment capability; on the other hand, it involves risks that are caused by a change in the nature of the mutual financing alliance into financial speculation and even gambling. Based on Zhao Jinghua’s 2010 research, the following analysis will focus on examining the causes of such malicious risks.

5.4.2 The deduction of the risk forming mechanism in SMEs
5.4.2.1 Model hypothesis

(1) Assuming \( B_1 \) and \( B_2 \) are the two financing allies that obtained same of amount loans from the bank with unit I. Through a series of investment activities, they have the success output of \( (Y_1^H, Y_2^H) \) respectively with a same failure output of zero. At the same time, all information is relatively balanced between these two, thus if the member has a output of zero during investment activities, then this member will be excluded in the next round of investment.

(2) We also set the member’s primitive capital as I with the corresponding capital recovery of \( X (X f I) \)

(3) In addition, we set \( V \) as the amount of future re-lending that is obtainable by the member with a discount factor of \( \delta \in (0,1) \).

(4) We also assume that the source of repayment mainly comes investment output.

(5) \( S \) will be defined as a function of social restriction, when default behavior occurs, \(-S \) will represent its negative effect on the financing party.

5.4.2.2 Model deduction

1. The forming mechanism of Constructive risks

When investment failure occurs for all financing parties, it means there is now a neutral risk that leads to an inevitable default behavior. In general, neutral risks lead to the loss for the lending organization while affecting the status of profit and cash flow of the organization. We can analyze the causes of these risks through the following factors:

First of all, there are neutral risks caused by the financing organization itself. Many financing organizations lack the ability in recognizing the risk of default on payment, thus they often fail to take effective measures to restrain and make up for potential damages. Moreover, many credit products designed by the financing organizations do not cater to the client’s specific demand, and in combination with a lack of thorough understanding on client selection, these are the common causes for credit risks. In this case, it requires the loan officer to expand the targeted clientele and seek potential clients with reliable credit ratings. The lack of administrative ability of the loan officers can also cause credit risks during financing activities.

Secondly, there are neutral risks caused by clients. In this case, it is usually due to investment failures caused by poor management, with the outcome of payment default and even bankruptcy.
Thirdly, there are also other force majeure, such as natural factors and National macro-economic Control.

2. The forming mechanism of malicious risks

The first type of situation: both $B_1$ and $B_2$ have succeeded with their investments.

1) both $B_1$ and $B_2$ have obtained general success in their investments, which is $X \leq Y_1^H$, $Y_2^H \leq 2X$. In this situation, due to the information transparency of both financing parties, it usually reaches a state of static game. It means that when both parties obtain the same benefit and one of them chooses to default, the other will also choose to default. On the contrary, if one of them chooses not to default, the other will do the same. Such relations will be illustrated in the following form.

<table>
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<tr>
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<th>Default</th>
<th>Non-default</th>
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<tr>
<td>Default</td>
<td>$B_1$'s expected income can be presented as: $EU_1 = Y_1^H - X + \delta V_1$</td>
<td></td>
</tr>
<tr>
<td>Non-default</td>
<td>If both parties choose to not default, $B_1$'s expected income can be presented as: $EU_1 = Y_1^H - X + \delta V_1$</td>
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Thus the balance between the two types of expected income above is: $\delta V_1 + S_1 - X$.

As a result, whether a financing party chooses default depends on $\delta V_1 + S_1 - X$.

2) If $B_1$ has obtained great success in its investment, specifically $2X p Y_1^H$, while $B_2$ has only obtained a general success of $X p Y_2^H \leq 2X$.

Under this circumstance, once $B_2$ chooses to default, due to a limited benefit from its investment, $B_1$ will also choose to default. However, if both $B_1$ and $B_2$ choose not to default, then their expected income can be calculated as $EU_2 = Y_2^H - X + \delta V_2$. On the other hand, $B_1$'s expected income can be presented as $E_2' = Y_2^H - S_2 + \delta V_2$ if $B_2$ chooses to default. Therefore, whether $B_1$ chooses default depends on $S_2 - X$.

Similarly, if $B_2$ chooses to default, the joint liability of $B_2$ will be X and $B_1$ needs to bear 2X of responsibility. In this situation, whether $B_1$ chooses to default in lending activities actually
depends on the numerical value of S, X and $\delta V_1$. Generally speaking, if $B_1$ chooses to fulfill its obligation during lending activities, then $B_1$ usually do not need to bear the corresponding liability.

The Second type of situation: only $B_1$ has succeeded during investment.

a) $B_1$ has obtained general success during its investment, which is $0 \leq Y_1^{\prime\prime} \leq 2X$, in this case, due to the relatively low profit, $B_1$ will usually choose to default.

b) $2X > Y_1^{\prime\prime}$, if $B_1$ chooses not to default, then its expected income would be $EU_i = Y_1^{\prime\prime} - X + \delta V_1$. On the other hand, if $B_1$ chooses to default, then there will be different situations. One of which would be partial default and this financing party would only cover its own debt. The other situation is a complete default and the expected income would be $EU_i^{\prime\prime} = Y_1^{\prime\prime} - S_1 - X$ and $EU_i^{\prime\prime} = Y_1^{\prime\prime} - S_1$. And because $EU_i^{\prime\prime} f EU_i^{\prime\prime}$, in this case, the financing party $B_1$ usually chooses to default completely.

Furthermore, if we compare $EU_i$ and $EU_i^{\prime\prime}$, we will arrive at the formula of $EU_i - EU_i^{\prime\prime} = (\delta V_1 + S_1 - 2X)$, and within this formula, if $EU_i - EU_i^{\prime\prime} = (\delta V_1 + S_1 - 2X) \leq 0$, normally, $B_1$ would not choose to default and would also bear $B_1$’s joint liability. Under this circumstance, the loan capital within this mutual financing group will be fully repaid, and if otherwise, then both financing parties will choose to default.

Based on the analysis above, if the financing party is in fact successful during investment and is capable of bearing the joint legal liability of the others, then the possibility of default of this financing party will depend entirely on S, X and $\delta V_1$.

According to our deduction, it is determined that joint liability, credit value and even social restraint are the potential causes for malicious risks.

(1) Joint Liability

In general, many financing individuals have a sincere willingness to repay their loans. However, during the mutual financing activity, these financing individuals would usually choose to default in a situation of investment failure because of the heavy joint liability. In this case, the financing parties would only focus on assessing their loss at the moment if they were to fulfill the repayment obligation, while choosing to ignore any future damage.

(2) Credit Value

Through the analysis of the limitations of mutual financing, under normal circumstances, the capital limit of mutual financing usually increases gradually from low to high. In other words, the first-time loan limit is usually quite low and when the borrower is able to repay this loan
on time, its financing limit would increase accordingly, and so on and so forth. However, once a default or arrears occur, the borrower would be excluded out of the possibility for another loan. This is to restraint borrowers with credit value and is usually an ongoing incentive process. However, if this kind of restraint fails to implement penalty effectively, then it is likely for the financing parties to default.

(3) Restraint of Social Capital

Social capital also applies certain restraints on malicious default. Specifically, the developing process of SMEs usually accumulates a certain amount of social capital, and when these social capital forms higher restraint mechanism, it will effectively regulate the lending activities in SMEs and supervise the repayment process. The SMEs are unable to afford the repercussion brought by default behaviors and it would interrupt their entire business operations. Aside from the three factors above, there are others that would also cause malicious risks.

(4) Expanding the scale of the financing alliance requires an increase in capital demand.

A sufficient amount of funds is the basis for a better and more far-reaching development of the enterprises. Such premise applies to all financing allies, and the majority of them are willing to acquire more financing with higher amount guaranteed. Secondly, the increasing number of allies. The SMEs face considerable difficulties in acquiring capitals, if the companies can form an alliance and cooperate with each other, it would help them to obtain more benefit and welcome more participating members into the alliance. However, once there is a breach in trust among allies, it will threaten the stability of this particular alliance and increase the possibility of risks for their business operations. Moreover, the continuous expansion of alliance would likely to cause the collapse of the repayment mechanism; some of the financing capital would be misappropriated illegally through gambling or speculation. In other words, if there is a rupture in the capital chain, the financing parties would seek to join other alliances in hopes of repairing the rupture, which would eventually lead to a complete chaos.

(5) Changes in the relationship between allies.

There are usually certain geographic, networking or business relationships between the allies. An increased number of allies will challenge the stability of the alliance with conflict of interests. The problem of asymmetric and incomplete information commonly exists among the system, which in turn increases the probability of fraud and the rupture of capital chain.
In summary, an increased number of mutual alliance members are likely to increase the possibility of malicious risks. The majority of previous researches share the following premise: members of the venture alliance share more joint liability than members of the safety alliance. It is only under this circumstance, the banks are able to distinguish the borrowers based on the difference of contracts. Therefore, based on Zhang Ruyi’s 2008 game model of both union and individual loans, which assume that the joint liability that the union borrower undertakes fluctuates according to the change of its scale, it would in turn increases the possibility of malicious risks.

First of all, to assume there are only two members within the alliance

Both Security Alliance and Venture Alliance are the important elements in forming an union. Yet in fact, a situation of joint liability only occurs when only one of the two members fails. Assuming the members within the security alliance have a success rate of \( s \), a certain borrower would then have the joint liability with a rate of \( L_s = p_s(1 - p_s) \). Aside from this, if members of the venture alliance have a success rate of \( r \), a certain borrower would have the joint liability with a rate of \( L_v = p_v(1 - p_v) \). All researches at the current stage have \( p_s + p_v \leq 1 \) as a restraint condition, thus \( L_s - L_v = (p_s - p_v)(1 - p_s - p_v) \) always holds. In other words, it is more likely for the members of venture alliance to bear joint liability.

Secondly, assuming there are more than two members in the financing alliance:

Assuming there are three members within the financing union, and each member of the security alliance has a success rate of \( s \) while each member in the venture union has a success rate of \( r \). Then \( L_v = p_s(1 - p_s)^2 + 2p_s^2(1 - p_s) \), \( L_v' = p_v(1 - p_v)^2 + 2p_v^2(1 - p_v) \), with the result of \( L_v' - L_v = (p_s - p_v)[1 - (p_s^2 + p_v^2 + p_s p_v)] \). Under the restraint of \( p_s + p_v \leq 1 \), it is impossible to determine the polarity of \( L_v' - L_v \). There is no fixed interrelation between members of venture alliance and safety alliance, thereby increasing the possibility of risks.

(6) A change in business objectives. The initial goal in establishing the mutual aid alliance is to provide SMEs with a more efficient financing method and to provide capital assistance to members, however, once certain members choose to exploit the loans illegally, it will become the means for speculation.

(7) The alienation of mutual aid network and is expressed in the following ways. First of all, it is a vertical extension of the alliance, which is a pyramid structure of the members \( \rightarrow \) small union \( \rightarrow \) middle sized union \( \rightarrow \) the entire union; the second is a horizontal extension of the alliance, which means members either simultaneously join two different alliances or have formed inseparable connections with other alliance through market behaviors. It is precisely
due to the complexity of such crisscross structure, a rupture in one of many links can leads to a total system collapse.

Through the analysis of point (6) and (7), we discover that when the mutual alliance group begins to degenerate or alienate, it will automatically increase the chances of undertaking risks for its members. In order to prove such conclusion, with a hypothetical increase of risks of one member due to the illegal use of funds or its participation in another union, the success rate of this member will likely decrease as well. Assuming the success rate is $p_i \left( p_r p_r p_i \right)$, then the other member would have a $L_r^* = p_i \left(1 - p_r\right)$ chance of undertaking liability with an undetermined polarity of $L_r^* - L_r = p_i \left(1 - p_r\right) - p_r \left(1 - p_i\right)$. This aforementioned hypothesis cannot hold, thus concludes a higher risk for alliance loans.

5.4.3 Phased risk analysis on mutual financing

Based on previous analysis, there are four phases of the risks and solutions for mutual financing.

(1) The screening phase. This phase marks the beginning of the execution of mutual financing. While a lot of companies are in urgent needs for a loan, due to their inherent limitations and the restraints of financial regulations, it is difficult for an individual company to obtain financing, and this predicament ultimately encourages the companies to join the alliance. Since all members share joint liabilities, the existing members of the alliance will conduct rigorous assessment on potential candidates, in order to avoid the pitfalls of adverse selection through screening.

(2) Investment Phase.

At this point, the lending party is faced with the ex ante moral hazard, namely the risks of ineffective utilization of funds or of investment in projects with low efficiency and high risks. Theoretically speaking, forming a supervising mechanism would provide a partial solution to this issue. Similarly, a mutual supervision can also help avoid ex ante moral hazard.

(3) Profiting Phase

During this phase, system risks caused by a degenerated objective and network alienation make it more difficult for the investors to profit, which will also lead to investment failure. As a security measure, joint liability can effectively solve this problem, since members with sufficient funds can help repay loans for the members in need.

(4) Execution Phase
The subsequent moral hazard after the investment profits is the main risk during the execution phase. Specifically, it is the risk of certain members exploiting the repayment funds. Contract restrictions and the mutual restriction among members can effectively prevent the subsequent moral hazard.

According to previous examination, the cause of mutual financing risks includes the risk of participating individuals, the risk of forming a credit alliance, as well as the credit risk of bank credit alliance.

(1) The difficulties and problems in forming a credit alliance. It is hard to form a credit alliance quickly based entirely on the individual strength of SMEs. Moreover, financial institutions, government agencies and credit rating organizations all play an indispensible role in forming a credit alliance, and there are five major issues in its constructing process.

i. A clear division of labor among different institutions. For example, the issue of defining the rights and obligations of each credit alliance member, as well as the issue of determining the lead organization and to which degree would the government provide support.

ii. The source of start-up capital. There should be a detailed plan to illustrate the source and amount of funds. It is also crucial to have a proper distribution plan in which decides whether to apportion funds according to member status or through unilateral government aid.

iii. How to construct incentive and restraint mechanism with high efficiency. An effective mechanism of incentive and restraint plays a crucial role in maintaining alliance stability and sustainability. It involves the regulations of member withdrawal, information sharing and a penalty system.

iv. The level of information transparency. Establishing trust among members is the key to the success of a credit alliance. This level of trust is based entirely on a mutual honesty, thus an authentic and efficient process of information sharing is the foundation of a functional credit alliance.

v. How to share benefits and risks among different institutions. A sensible arrangement of both benefits and risks is particularly important to the smooth operation of a credit alliance. It can effectively ensure benefits for all members while urging them to undertake their responsibility.

(2) Credit risks of Bank credit alliance
After the formation of the credit alliance, there are still inevitable risks, such as system risks, deposit fluctuation risks and regional risks. First of all, system risk is an inherent risk due to the nature of the credit alliance’s business operation. Generally speaking, companies that are geographically close to one another or are in similar businesses would have stronger influence on each other. When the macro and microenvironment of foreign markets or the conditions of financial cluster fluctuate, an internal credit alliance with the cluster, as its cornerstone will be exposed to devastating system risks. Secondly, a large margin of fluctuation in bank deposits. The majority of members are in the processing or manufacturing industry, these are the industries based on a large amount of people employed, which produces products with low added value and low technical content. These industries are also in the imitation phase of its production cycle with a lack of innovation.

The industrial similarities result in the change in market demand in association with the seasons and the market itself. A change in market demand would also cause the change in capital demand, thus leading to a large margin of fluctuation in bank deposits that will in turn affect the amount of loans available.

Thirdly, there are regional financial risks. To build credit alliance based on kinship, geographic relations and similar operation mechanisms, although members have a strong connection with one another, there is a lack of transparency in information sharing. Under such circumstances, once an individual company encounters a problem in its business operation, the issue of credit ratings will spread its effect quickly to other members, and it may cause both financial and credit crisis for the entire alliance.

Through these previous researches, both mutual financing model and P2P online lending model require a long-term, efficient and steady control of risks, moreover, their risks can all be analyzed through three different perspectives:

a) Micro-perspective: mutual financing alliance and P2P online lending platforms both have the lending risks of individual enterprise as their micro-unit. This type of risk is likely to come from moral risks or the risks within business operation. On the other hand, it helps to evaluate the venture value of Internet financing objectively.

b) Meso-perspective: technical risk is the main issue of P2P online lending platform, and it is important to determine whether there is an emergency security measure that would ensure both information and capital safety. On the other hand, not only does mutual financing alliance value a higher cooperation among its members, it also pays close attention to market demands, in order to ensure its stable development.
c) macro-perspective: risks from a macro perspective focus on achieving a seamless connection between the fictitious economy and the real economy. Policy and legal risks are major existing risks of P2P online lending platform, China’s economy is in its transitioning period, where an efficient regulating policies are particularly important; on the other hand, from the perspective of mutual financing, when the macro-environmental fluctuation occurs, it is important to ensure the alliance is fully capable to take effective measures to avoid possible risks.

Thereby we can make the following four hypotheses:

H4: For Internet financing platforms, risk control from a micro-perspective has a significant effect

H5: For Internet financing platforms, risk control from a meso-perspective has a significant effect

H6: For Internet financing platforms, risk control from a macro-perspective has a significant effect

H7: For Internet financing models and the innovative evaluation model of the SMEs, the level of control of the online financing platforms has a significant effect

5.5 Chapter Conclusion

This chapter has mainly focused on the analysis of two different models of Internet financing, specifically by using both mutual financing platforms and P2P online lending platforms as the theoretical basis. Moreover, this chapter also studies in-depth on the great importance of these two financing models in the aspects of credit insurance and acquiring social capital information. Through a comprehensive examination on risks of both financial models respectively, it indicates the functioning variable that affects the financing outcome during the financing model innovations of the SMEs, particularly during its use of the Internet financing platforms, thereby it provides the possibility for a more in-depth future analysis. The assumption can be summarized by the following chart:
Figure 3: The influencing factors of SMEs’ Financing Modes Under the Backdrop of Internet Finance
Chapter VI: The Empirical Analysis of the Influencing Factors of SMEs Internet Financing Mode

Based on previous chapter’s assumption, various reason affects the innovation of internet financing. And the features are: multi-dimension, multi-levels, multi independent variables and dependent variables. Structural equation is suitable for empirical studies. This chapter is going to construct SEM structural equation, which can be used to conduct in-depth analysis of the influencing factors of SMEs financing.

6.1 Questionnaire Design

Taking risk control and social capital theory into consideration, according to the scale constructed by XU Yun (2011) and YAN Jianhong (2011), the questionnaire is thoroughly and rationally designed. The questionnaire contains four parts:

a) Basic information of the studied enterprises
b) If the studied enterprises are familiarized with the Internet finance platform.
c) The extent to which the enterprises understand the risk control function of the Internet finance platform.
d) The degree of utilizing the Internet platform

After sorting out and studying a large number of literatures, the questionnaire is rationally and objectively designed. Meanwhile, after consulting with scholars and professionals, the structure and content of the questionnaire is thoroughly modified. Besides, combining with the suggestion made by other colleagues and professor, further amendment is made and any redundant content is deleted. The researcher added more questions, which can better address the issue.

In addition, the researcher conducted in-depth analysis of the studied companies and communicated with relevant people. The researcher talked with people work in finance department, senior management and grass-root employees, and tried to grasp their understanding of Internet finance, which in return, improves the objectivity of the study. Furthermore, two questions require more in-depth study: 1. If the research approach is rigorous. Test the consistency of the actual solution with the research solution; 2. Test the effectiveness and rationality of the research model. Gradually complete the content and the structure of questionnaire. After the study, minor adjustment has been made to make the questionnaire more scientific and more reasonable.
The researcher piloted the questionnaire with the master students in management from Tsinghua University, EMBA and DBA students, the objectivity, rationality and effectiveness of the questionnaire is justified. Furthermore, the reliability analysis and factorial analysis are added to testify the credibility of the questionnaire’s structure. Through all the steps, a scientific and reasonable questionnaire was formulated, which laid a solid foundation for evaluation.

6.1.1 Data collection procedure

There are two requirements of choosing respondent: firstly, the respondent must be in management position or executives in finance department. As they have direct and indirect contact with financing business; secondly, they must understand and apply the Internet finance and financing platform. The researcher adopted two channels to send out and collect the questionnaires: 1. The researcher worked closely with Entrepreneur Association and sent out 428 questionnaires, among which, 148 returned with valid response. 2. Relying on the researcher’s own network, interview were conducted with targeted enterprises and 157 valid responses were collected. Totally there were 305 valid questionnaires.

6.1.2 Define Variables and indicator selection

- The level of information exchange

According to YAN Jianhong (2011), the Likert scale- 7 level is applied to rate the level of information exchange. The indicator is accurately measured by three criteria: 1. (A1) whether the alliance or platform could respond effectively to the fluctuating lending market? 2. (A2) when the alliance or platform is responding, whether the relevant information is accurate? 3. (A3) when the information is false or is hard to make a judgment if the information is right or not, could the alliance or platform correct it rapidly?

- The level of credibility

The Likert scale- 7 level is applied to evaluate the level of credibility. YAN Jianhong (2011) proposed two questions that require to be measured:

1. (B1) when new enterprise join the alliance or platform, how to judge its credibility?
2. (B2) whether the alliance or platform can exclude the opportunist out of system rapidly?

- Micro-risk control

In evaluating micro-risk control, XU Yun (2011) fully analyzed the Likert scale method and also proposed two questions to evaluate the micro-risk control: 1. (C1) whether it is able to
fully control the credibility loss caused by one enterprise? 2. (C2) whether the alliance or platform can fully bear the risk?

- Medium-risk control

XU Yun (2011) fully analyzed the Likert scale method, the micro-risk control can be evaluated by three questions: (D1) whether the alliance or platform can achieve steady operation? (D2) whether every member in the alliance or platform is active enough? (D3) whether each part of the alliance or platform can achieve seamless connection?

- Macro-risk control

Two questions is proposed to evaluate macro-risk control: (E1) whether the alliance or platform is over-centralized; (E2) whether the alliance or platform can respond effectively to the risk of policy and regulation?

- The level of social capital

To evaluate the level of social capital, based on the Likert scale, YAN Jianhong (2011) proposed two questions: (F1) whether the alliance or platform can attract the new members? (F2) whether individual enterprise has faith in the financing activities led by the alliance or platform.

- The level of risk management

To evaluate the level of risk management, based on the Likert scale, XU Yun (2011) fully analyzed the Likert scale method, the micro-risk control can be evaluated by three questions: proposed two questions: (G1) whether the members are confident about the security of the capital? (G2) whether the members trust the alliance or platform’s ability of prevent and resolve risk?

- Innovation of financing mode

When evaluating the innovation capability of SMEs in Internet financing, there is no a scientific scale used right now. After analyzing literatures, we adopted Lin (2009)’s scale, which is designed to study the decision-making of individual investor in Internet investment. Lin’s scale shares some similarity with the research objective of this thesis. Based on Likert scale, Lin evaluates innovation and proposes two questions: (H1) whether members are satisfied with current service provided by the alliance or platform? (H2) whether enterprises plan to get further involved in using the Internet platform?
6.1.3 Data analysis

Narrative statistical data is generated after analyzing the returned questionnaires.

As the size of enterprises varies, their needs for financing are different; hence sample size’s homogeneity of variance should be tested first. According to the characteristics of the samples, 92 enterprises that their number of employees is less than 50, taking 30% of the total samples; 102 enterprises that have 50-100 employees, taking 33%; 111 enterprises that have 100-500 employees, taking 37%. Table 9 for details:

<table>
<thead>
<tr>
<th>User-reprehensive</th>
<th>Sample number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 50</td>
<td>92</td>
<td>30</td>
</tr>
<tr>
<td>50-100</td>
<td>102</td>
<td>33</td>
</tr>
<tr>
<td>100-500</td>
<td>111</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>100.0</td>
</tr>
</tbody>
</table>

6.1.4 Test for Equality of Means and analysis of variance for combined data analysis

The gender of sample may cause appearance of systematic differences. In order to avoid this situation, ANOVA analysis of variance was adopted, and THV Test for Equality of Means is used to process and screen the data. Analysis of variance could be used to test diversity between values. Test for Equality of Means could be used to analyze and test variance accuracy of data.

- The analysis of size difference of samples

In regard of the relative analysis of pattern innovation evaluation, Table 10 presents Levene test results of the data of different gender samples. Taking 5% significance level as norm, all data past the test. Hence, we noted that when we are evaluating pattern innovation, data from different-sized samples indicated homogeneity of variance. From the perspective of pattern innovation, data from different-sized samples presented variance (see Table 11). Taking 5% significance level as norm, T-Value is qualified for testing. Hence, under the condition of evaluation of pattern innovation, data from different-sized samples showed no big difference.
Table 10: Homogeneity of variance test for samples by size

(GM: to group samples by scale)

<table>
<thead>
<tr>
<th></th>
<th>GM 1</th>
<th>GM 2</th>
<th>GM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levene Statistic</td>
<td>0.736</td>
<td>0.652</td>
<td>0.681</td>
</tr>
<tr>
<td>df1</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>df2</td>
<td>299</td>
<td>299</td>
<td>299</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.569</td>
<td>0.636</td>
<td>0.528</td>
</tr>
</tbody>
</table>

Table 11: ANOVA analysis by size

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM 1</td>
<td>Between Groups</td>
<td>28.024</td>
<td>5</td>
<td>4.258</td>
<td>2.996</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>275.331</td>
<td>299</td>
<td>1.032</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>303.355</td>
<td>304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GM 2</td>
<td>Between Groups</td>
<td>27.581</td>
<td>5</td>
<td>4.338</td>
<td>3.279</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>252.102</td>
<td>299</td>
<td>1.004</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>279.683</td>
<td>304</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GM 3</td>
<td>Between Groups</td>
<td>23.172</td>
<td>5</td>
<td>4.382</td>
<td>3.528</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>271.337</td>
<td>299</td>
<td>1.295</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>294.509</td>
<td>304</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.2 Reliability Test and Validity Test of the Financing Innovation Factors

A high quality research is achieved by accurate and comprehensive data. And the empirical study also built on subjective data. Research outcome accuracy relies on the credibility and validity of the data. So the reliability and validity have to be tested.
6.2.1 Reliability Test

According to Wang Chongming (1990), the purpose of reliability test is to verify the credibility and accuracy of the data. Higher the reliability, the impact of the error to the item is smaller, which represents negative correlation. Cronbach $\alpha$ is used to measure the reliability. And higher the Cronbach $\alpha$, better the internal consistency of the set of variables/items. Nunnally (1978) requires that the reliability should be 0.70 or higher and the factorial coefficient should be 0.35 or higher. The Result of reliability test is shown in Table 12. In the table, the coefficient of most variables to all the variables is above 0.6. The factorial coefficient is 0.35 or higher and the Cronbach $\alpha$ 0.70 or higher.

<table>
<thead>
<tr>
<th>Item</th>
<th>Item</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information exchange</td>
<td>1</td>
<td>5.62</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4.27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>5.32</td>
<td>0.889</td>
</tr>
<tr>
<td>Establishment of credibility</td>
<td>1</td>
<td>6.95</td>
<td>0.823</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4.27</td>
<td></td>
</tr>
<tr>
<td>Micro-risk</td>
<td>1</td>
<td>5.29</td>
<td>0.851</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4.96</td>
<td></td>
</tr>
<tr>
<td>Medium-risk</td>
<td>1</td>
<td>4.25</td>
<td>0.859</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>5.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>6.08</td>
<td></td>
</tr>
<tr>
<td>Macro-risk</td>
<td>1</td>
<td>4.57</td>
<td>0.835</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>5.13</td>
<td></td>
</tr>
<tr>
<td>Social capital</td>
<td>1</td>
<td>5.37</td>
<td>0.829</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4.55</td>
<td></td>
</tr>
<tr>
<td>Risk</td>
<td>1</td>
<td>4.77</td>
<td>0.769</td>
</tr>
<tr>
<td>management</td>
<td>2</td>
<td>5.38</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Innovation of financing mode</td>
<td>1</td>
<td>4.21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>5.56</td>
<td>0.829</td>
</tr>
<tr>
<td>Total scale</td>
<td></td>
<td>0.877</td>
<td></td>
</tr>
</tbody>
</table>

### 6.2.2 Validity test

Validity test is used to analyze the validity of the variables. Since this research is involved a large number of data, the validity of data must be tested otherwise the estimation error will damage the result. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) are used to test the validity.

- **Exploratory Factor Analysis**

  There are lots of ways of measuring variables while EFA is based on the common factor model. EFA is a to identify the underlying relationships between measured variables. The measured variable is different from common factor, which cannot be directly observed or measured. The common factor influences two or more measured variables. Based on modern algebra, the researcher further categorizes down the measured variables and extracts the common factor. In the same category, the variables share one common factor, which means strong correlation exists between variables and common factor. And the scale is constructed base on that. In Bartlett's Test, test value =0. Take 0.01 as reference, the reference matrix is non unit matrix. The value of KMO equals to 0.933, which locates in reasonable range.

<table>
<thead>
<tr>
<th>KMO and Bartlett's Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</strong></td>
</tr>
<tr>
<td><strong>Bartlett's Test of Sphericity</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>df</strong></td>
</tr>
<tr>
<td><strong>Sig.</strong></td>
</tr>
</tbody>
</table>
Based on correlations

The factoring analysis ensures the validity. Base on Eigenvalue=1, Through SPSS13.0 analysis, 7 common factors are found. Total Variance Explanation of Common factor is shown in Table 14.

Table 14: Total Variance Explanation of Common factor

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>21.47</td>
<td>4.351</td>
<td>3.875</td>
<td>3.127</td>
<td>3.022</td>
<td>2.81</td>
<td>2.293</td>
<td>2.055</td>
</tr>
<tr>
<td>Explained</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance %</td>
<td>35.633</td>
<td>8.441</td>
<td>7.252</td>
<td>6.174</td>
<td>5.331</td>
<td>4.128</td>
<td>3.532</td>
<td>3.173</td>
</tr>
<tr>
<td>Accu.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>explanation %</td>
<td>35.633</td>
<td>44.074</td>
<td>51.326</td>
<td>57.5</td>
<td>62.831</td>
<td>66.959</td>
<td>70.491</td>
<td>73.664</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>12.289</td>
<td>3.097</td>
<td>2.865</td>
<td>2.157</td>
<td>1.825</td>
<td>1.227</td>
<td>1.132</td>
<td>1.007</td>
</tr>
<tr>
<td>Explained</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance %</td>
<td>35.228</td>
<td>6.993</td>
<td>6.177</td>
<td>5.674</td>
<td>5.032</td>
<td>4.189</td>
<td>3.876</td>
<td>3.225</td>
</tr>
<tr>
<td>Accu.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>explanation %</td>
<td>35.228</td>
<td>42.221</td>
<td>48.398</td>
<td>54.072</td>
<td>59.104</td>
<td>63.293</td>
<td>67.169</td>
<td>70.394</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3.76</td>
<td>3.28</td>
<td>3.19</td>
<td>3.07</td>
<td>2.98</td>
<td>2.56</td>
<td>2.15</td>
<td>2.06</td>
</tr>
<tr>
<td>Explained</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accu.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>explanation %</td>
<td>9.996</td>
<td>19.823</td>
<td>29.615</td>
<td>39.198</td>
<td>48.527</td>
<td>57.701</td>
<td>65.976</td>
<td>73.956</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.

Table 15 shows that 8 common factors can explain 73.956% total variance, which is under 80% ideal level, but over 50% standard level. One common factor can explain 35.228% total variance. The common deviation is found, which means the data set is good to use for future studies.

Under the maximized variance, 14 Orthogonal rotationmatrix.
Table 15: Orthogonal Rotation Matrix

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>.699</td>
<td>.003</td>
<td>.048</td>
<td>.189</td>
<td>.176</td>
<td>.142</td>
<td>.089</td>
<td>.176</td>
</tr>
<tr>
<td>B</td>
<td>.828</td>
<td>.168</td>
<td>.052</td>
<td>.133</td>
<td>.212</td>
<td>.235</td>
<td>.021</td>
<td>.158</td>
</tr>
<tr>
<td>C</td>
<td>.581</td>
<td>.215</td>
<td>.134</td>
<td>.179</td>
<td>.152</td>
<td>.190</td>
<td>.135</td>
<td>.032</td>
</tr>
<tr>
<td>D</td>
<td>.267</td>
<td>.045</td>
<td>.207</td>
<td>.202</td>
<td>642</td>
<td>.008</td>
<td>.321</td>
<td>.136</td>
</tr>
<tr>
<td>E</td>
<td>.159</td>
<td>.282</td>
<td>.017</td>
<td>.212</td>
<td>733</td>
<td>.077</td>
<td>.112</td>
<td>.024</td>
</tr>
<tr>
<td>F</td>
<td>.126</td>
<td>.203</td>
<td>.825</td>
<td>.233</td>
<td>.126</td>
<td>.057</td>
<td>.209</td>
<td>.273</td>
</tr>
<tr>
<td>G</td>
<td>.216</td>
<td>.034</td>
<td>870</td>
<td>.152</td>
<td>.276</td>
<td>.211</td>
<td>.144</td>
<td>.129</td>
</tr>
<tr>
<td>H</td>
<td>.158</td>
<td>870</td>
<td>.106</td>
<td>.127</td>
<td>.300</td>
<td>.029</td>
<td>.123</td>
<td>.038</td>
</tr>
<tr>
<td>I</td>
<td>.109</td>
<td>643</td>
<td>.204</td>
<td>.216</td>
<td>.107</td>
<td>.155</td>
<td>.183</td>
<td>.155</td>
</tr>
<tr>
<td>J</td>
<td>.152</td>
<td>532</td>
<td>.107</td>
<td>.113</td>
<td>.224</td>
<td>.135</td>
<td>.056</td>
<td>.007</td>
</tr>
<tr>
<td>K</td>
<td>.102</td>
<td>.282</td>
<td>.115</td>
<td>719</td>
<td>.179</td>
<td>.126</td>
<td>.133</td>
<td>.115</td>
</tr>
<tr>
<td>L</td>
<td>.121</td>
<td>.168</td>
<td>.092</td>
<td>824</td>
<td>.211</td>
<td>.134</td>
<td>.022</td>
<td>.204</td>
</tr>
<tr>
<td>M</td>
<td>.205</td>
<td>.111</td>
<td>.212</td>
<td>.068</td>
<td>.234</td>
<td>.217</td>
<td>759</td>
<td>.105</td>
</tr>
<tr>
<td>N</td>
<td>.023</td>
<td>.102</td>
<td>.180</td>
<td>.221</td>
<td>.137</td>
<td>.215</td>
<td>542</td>
<td>.096</td>
</tr>
<tr>
<td>O</td>
<td>.122</td>
<td>.188</td>
<td>.145</td>
<td>.257</td>
<td>.083</td>
<td>639</td>
<td>.158</td>
<td>.043</td>
</tr>
<tr>
<td>P</td>
<td>.167</td>
<td>-.008</td>
<td>.090</td>
<td>.170</td>
<td>.033</td>
<td>788</td>
<td>.266</td>
<td>.147</td>
</tr>
<tr>
<td>Q</td>
<td>.132</td>
<td>.172</td>
<td>.288</td>
<td>.155</td>
<td>.080</td>
<td>.119</td>
<td>.305</td>
<td>825</td>
</tr>
<tr>
<td>R</td>
<td>.138</td>
<td>.190</td>
<td>.133</td>
<td>.180</td>
<td>.153</td>
<td>.125</td>
<td>.281</td>
<td>697</td>
</tr>
</tbody>
</table>

a Rotation converged in 4 iterations.

> = 0.71 is the ideal result, =>0.63: merit, >=0.55: good, >=0.45: acceptable, <0.32: not pursued. Under this standard, all the factor analysis is rated above “good”. And all of them are highly correlated with the items, which means this is an ideal model.
Confirmatory Factor Analysis (CFA)

It is used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that construct (or factor). As such, the objective of confirmatory factor analysis is to test whether the data fit a hypothesized measurement model.

Steps of CFA is shown in Figure 4:

![Diagram of CFA model]

Figure 4: Simulated CFA

Table 16 shows CFA simulated results, among which \( \hat{\chi}^2/d.f \) value, GFI, AGFI, NFI, CFI, IFI, RMSEA are simulated indicators.

<table>
<thead>
<tr>
<th>Simulated indicator</th>
<th>( \hat{\chi}^2/d.f )</th>
<th>GFI</th>
<th>AGFI</th>
<th>NFI</th>
<th>CFI</th>
<th>IFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simulated effect value</td>
<td>1.0375</td>
<td>0.96</td>
<td>0.93</td>
<td>0.91</td>
<td>0.97</td>
<td>0.94</td>
<td>0.041</td>
</tr>
<tr>
<td>Reference</td>
<td>&lt;3</td>
<td>≥0.9</td>
<td>≥0.8</td>
<td>≥0.9</td>
<td>≥0.9</td>
<td>≥0.9</td>
<td>≤0.05</td>
</tr>
<tr>
<td>Satisfy the assumption or not</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>
(GFI: Goodness of Fit; AGFI: adjusted goodness-of-fit index; NFI: Normed Fit Index; CFI: comparative fit index; IFI: Incremental Fit Index; RMSEA: Root Mean Square Error Of Approximation)

Result shows all the factors reach the standard. Table 17 shows the estimation of regression parameters. Under the significance of 5%, the measured variables' critical value is above 1.96, and the standard deviation is above 0. It is found that the measured variables are accurate, reasonable and effective.

Table 17: the estimation of regression parameters

<table>
<thead>
<tr>
<th>Variable←factor</th>
<th>Estimated value</th>
<th>S.d</th>
<th>Critical value (t value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1← Information exchange</td>
<td>0.55</td>
<td>0.052</td>
<td>10.58</td>
</tr>
<tr>
<td>A2← Information exchange</td>
<td>0.68</td>
<td>0.075</td>
<td>9.07</td>
</tr>
<tr>
<td>A3← Information exchange</td>
<td>0.77</td>
<td>0.064</td>
<td>12.03</td>
</tr>
<tr>
<td>B1← Establishment of credibility</td>
<td>0.59</td>
<td>0.058</td>
<td>10.17</td>
</tr>
<tr>
<td>B2← Establishment of credibility</td>
<td>0.43</td>
<td>0.077</td>
<td>5.58</td>
</tr>
<tr>
<td>C1← Micro-risk</td>
<td>0.86</td>
<td>0.082</td>
<td>10.49</td>
</tr>
<tr>
<td>C2← Micro-risk</td>
<td>0.83</td>
<td>0.089</td>
<td>9.33</td>
</tr>
<tr>
<td>D1← Medium-risk</td>
<td>0.66</td>
<td>0.047</td>
<td>14.04</td>
</tr>
<tr>
<td>D2← Medium-risk</td>
<td>0.58</td>
<td>0.053</td>
<td>10.94</td>
</tr>
<tr>
<td>D3← Medium-risk</td>
<td>0.77</td>
<td>0.064</td>
<td>12.03</td>
</tr>
<tr>
<td>E1← Macro-risk</td>
<td>0.85</td>
<td>0.061</td>
<td>13.93</td>
</tr>
<tr>
<td>E2← Macro-risk</td>
<td>0.61</td>
<td>0.059</td>
<td>10.34</td>
</tr>
<tr>
<td>F1← Social capital</td>
<td>0.72</td>
<td>0.068</td>
<td>10.59</td>
</tr>
<tr>
<td>F2← Social capital</td>
<td>0.68</td>
<td>0.071</td>
<td>9.58</td>
</tr>
</tbody>
</table>
6.3 Innovation influencing factors: SEM model analysis and result

6.3.1 SEM model and testing

In the conceptual model, the parameters correlation is studied and shown:

By Lisrel8.7 software, structure equation is studied. There are 8 measured variables. The fitting value and the estimation of parameters are shown in Table 18.
Table 18: SEM The fitting value and the estimation of parameters

<table>
<thead>
<tr>
<th>Structural equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H = 0.42<em>A + 0.59</em>B + 0.41<em>C + 0.39</em>D + 0.62<em>E + 0.43</em>F + 0.45*G$, $E.var. = 0.66$, $= 0.69$</td>
</tr>
<tr>
<td>(0.033) (0.072) (0.059) (0.077) (0.069) (0.071) (0.069)</td>
</tr>
<tr>
<td>2.95 2.93 2.89 3.21 3.15 2.71 3.56</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>indexes of fitting (partial)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degrees of Freedom = 304</td>
</tr>
<tr>
<td>Minimum Fit Function Chi-Square = 732.58 ($P = 0.0010$)</td>
</tr>
<tr>
<td>Normal Theory Weighted Least Squares Chi-Square = 775.32 ($P = 0.0011$)</td>
</tr>
<tr>
<td>Root Mean Square Error of Approximation (RMSEA) = 0.034</td>
</tr>
<tr>
<td>Normed Fit Index (NFI) = 0.97</td>
</tr>
<tr>
<td>Comparative Fit Index (CFI) = 0.98</td>
</tr>
<tr>
<td>Incremental Fit Index (IFI) = 0.98</td>
</tr>
<tr>
<td>Relative Fit Index (RFI) = 0.97</td>
</tr>
<tr>
<td>Standardized RMR = 0.049</td>
</tr>
<tr>
<td>Goodness of Fit Index (GFI) = 0.83</td>
</tr>
<tr>
<td>Adjusted Goodness of Fit Index (AGFI) = 0.82</td>
</tr>
</tbody>
</table>

Table 18 shows that under 304 degree of freedom, the min. Fit function chi-square is 732.58. The test is conducted under 5% significance. NIF, IFI, CFI, GFI provide references. RMSEA: 0.034, < 0.05 slightly. All the indicators achieve the standards. The model is well constructed and all the measured variables are accurate, reasonable and effective.
6.3.2 Hypothesis testing and result explanation

Table 19: the correlation of measured parameters, Standardized path coefficient, T value and conclusion.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relation</th>
<th>Standardized path coefficient</th>
<th>T Value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>social capital ←information exchange</td>
<td>0.42</td>
<td>2.95</td>
<td>Support</td>
</tr>
<tr>
<td>H2</td>
<td>social capital ←Establishment of credibility</td>
<td>0.59</td>
<td>2.93</td>
<td>Support</td>
</tr>
<tr>
<td>H3</td>
<td>Mode innovation ←social capital</td>
<td>0.43</td>
<td>2.71</td>
<td>Support</td>
</tr>
<tr>
<td>H4</td>
<td>Risk control ←micro risk</td>
<td>0.41</td>
<td>2.89</td>
<td>Support</td>
</tr>
<tr>
<td>H5</td>
<td>Risk control ←Medium-risk</td>
<td>0.39</td>
<td>3.21</td>
<td>Support</td>
</tr>
<tr>
<td>H6</td>
<td>Risk control ←Macro-risk</td>
<td>0.62</td>
<td>3.15</td>
<td>Support</td>
</tr>
<tr>
<td>H7</td>
<td>Mode innovation ←Risk control</td>
<td>0.45</td>
<td>3.56</td>
<td>Support</td>
</tr>
</tbody>
</table>

The tests found that the following factors affect SMEs’ decision on choosing the financing channels: 1. Credit system and information exchange affect the level of social capital 2. Evaluation of risk control on all levels. The researcher has to point out that there is preference over one another: risk control is preferred over social capital, which contradicts with Lin (2009)'s conclusion. According to Lin, the profitability is preferred over safety. Chinese economy is in the period of transition. Chinese legal system is incomplete and lacks enforceability. And the credit information system suffers from safety issues and the system itself is incomplete. Capital safety should be taken into consideration. Strategy formulation should go hand in hand with enhanced risk control.

In order to verify conclusions made through the test, the author interviewed some Internet finance workers or participants in person on relevant core issues in the study specifically.

Interviews were conducted by focusing on core issues of this study and asking questions that
fit tightly with the interviewees’ working background.

Q1: Why do you choose Internet finance platform to raise funds?

Interviewee S001 Wu Lili, 35 years old, CEO: to be frank, it is because that banks ask for too many certificates and licenses, or require companies to set their real property on mortgage. While for small companies like ours, we haven’t paid much attention to property. The office of our company is rented, which is not our property. Yet when the company needs capital turnover, we can turn to Internet finance platform, which may bring higher cost but it is still a better choice than usury.

Interviewee S002 Pan Xiangdong, 43 years old, General Manager: survival is essential for enterprises, the whole industry is in recession, with account period being much longer than before, and capital chains being in greater tension. We feel it is such luck if we can raise funds successfully, as long as it is within our limits, any plan is selectable. P2P platform is convenient and can really solve problems for us in some cases.

Interviewee S001 is a CEO of a startup company, while interviewee S002 is a general manager of a medium-sized company. At present, the biggest challenge they are facing with is still the cost of raising funds. On the one hand, risk control in traditional finance system brings in difficulties for small-sized companies in providing valid mortgages; and on the other, the relatively tedious borrowing formalities also increases the costs of borrowing money from traditional finance system. Under the background of economic downturn, internet finance service that featured by low threshold and simple procedures is definitely an excellent choice that can cure the “pain point” of enterprises who are seeking for on-going operation.

Q2: Will you conduct financial transactions through Internet finance platform?

Interviewee S003 Chen Zhigao, 28 years old, employee: there are a variety of internet finance products with a comparatively transparent price and service, which are more convenient than bank products. I will certainly choose relatively formal Internet finance products that are based on large-scale companies and with certain brand popularity, like Yuebao (a financial products of Alibaba Group).

Interviewee S004 Zhang Haiyan, 37 years old, finance supervisor: Our company has a relatively conservative financial management, which gives much emphasis on mobility and security, basically, we will not resort to unreliable investment channels. We have business contact with Internet finance platform, and cooperated with some of them, but we only choose several platforms with greater stability.
Interviewee S003 is an employee while interviewee S004 is a financial supervisor. It can be seen from their answers that Internet finance awareness has been acknowledged by the market. Yet customers are still seeking balance between convenience and security due to the fact that the whole industry is not mature enough, with credit risks still existing in particular. So they always prefer to choose platforms with greater brand popularity or those frequent partners, and this is also an important trend for the development of Internet finance.

Q3: What concerns you most on the operation of Internet finance platforms?

Interviewee S005 Xu Gang, 29 years old, CEO: in my view, risks and profits go hand in hand in the paths of investment. As long as platforms can make in-time and clear operation updates, and ensure we can get feedback on our investment timely, I think it is reasonable to take some risks. After all, profits made through Internet finance platforms are much better than that through banks.

Interviewee S006 Li Mengru, 42 years old, director of operations: I have worked on internet finance for more than 3 years, which qualifies me as a relatively senior practitioner of this industry. Generally, I think we are now living in a society where you can get information easily and find a great variety of Internet finance products. I often hear my customers complaining over being disturbed, yet I insist that we should send immediate updates on the products to our customers on the premise of not disturbing them. Furthermore, I think new products or investment and financing information should be put under greater exposure, because we need keep effective contacts no matter it is used for brand promotion of the platform or advantages display of new products. And this is the key point of operation.

Interviewee S005 is the CEO of a company while interviewee S006 is the director of operations of an internet finance platform. It can be seen from their interviews that both the supply side and operation side of Internet finance platform hold obvious demands on customers’ close information interaction with them. The only difference is that customers pay more attention to the accessibility of information while operators attach greater importance to better facilitating their information interactions with customers so as to further advance the brand values.

Q4: What will be the top priorities while choosing Internet finance platform?

Interviewee S007 Qin Meijuan, 32 years old, accountant: Our company once used internet finance platform, which is said to be recommended by our boss’s home fellow, they have years of business dealings with each other so there is a reliable credit system between them. Previously, we often put surplus capital into Chamber of Commerce for lending, which
generates good profits with higher interest rates but often faces with the problem of delaying. Later on, we adopted internet finance platform, which not only can ensure great information transparency between the lender and borrower so that they can trust each other, but also can avoid such problems as employees having difficulty in coordinating between the lender and borrower on some trivial yet sentimental issues. From this perspective, Internet finance is a good choice. Therefore I think the top priority while choosing Internet finance platform is to know where the capital goes to and whether it is operated in a formal procedure.

Interviewee S008 Jiang Guoqiang, 53 years old, Business Director: normally I don’t use any Internet financial platforms that I am not familiar with except that some relatively well-known platforms have promotions or subsidy. I tend to use those that I know well because their operation procedures are transparent and information disclosure of the borrower is good enough. But I heard recently that many of the online lending websites closed down. I think if a platform offers high interest rate, it is not reliable. So, for the platforms, they need stable operation to build trust.

Interviewee S007 is a financial manager and No. S008 is a business director. From the interviews we can see that neither ordinary stuff nor leaders in a company put yield in the first place. Instead, they value more about if a platform can establish trust with them. So, visionary Internet financial platforms not only focus on high interest rate, but more on successful projects through full information disclosure so as to build up trust with costumers, fueling its sustainable competitiveness.

Q5: What are the risk factors that will make you concern in using Internet financial platform?

Interviewee S009 Wang Jie, 38 years old, Marketing Director: from the view of risk, I think I will consider carefully not only when I am using it but also before using it. The biggest risk is whom the platform is investing. This is the fundamental source of our benefits as investors. It can be a great task for a platform to select good project. The current macro economy is not good, but there are still many investment opportunities in some innovative industries. Whether the platform can seize the opportunities will be crucial for the risk management about project settlement.

Interviewee S010 Tang Lanfang, 36 years old, Operation Director: generally, I only choose Internet financial products that have strong profiting ability, such as products of Alibaba or Tencent. They can ensure sufficient funds. On the contrary, I am worried about the problems caused by hackers or technological holes of platforms. If such problems occur, it would be fatal for the platform and the whole Internet financial industry. Currently, many platforms use
distributed cloud computing technology, which reduces operation costs yet increases the risk of technological holes and this will be a potential issue.

Interviewee S009 is MD and Interviewee S010 is OD. Both of them are from the same company but different departments. It can be seen that for the MD, he is more sensitive to the operation of market chain and his recognition about risks of Internet financial platforms is also limited to such level. While for the OD, she is more sensitive about Internet financial products or technical problems. Under the backdrop of new technology and modes widely being used, the laws and regulations in China are still incomplete. Whether we can control the hacking on technological holes is an important aspect of risk management for Internet financial platforms as a part of the whole financial industry.

Tested by the empirical study, we can see that whether SMEs can solve financing problems by resorting to Internet finance platforms actually depends on how well the features of the Internet finance platform could meet the demand of SMEs. To be specific, it is because Internet finance platforms can gather information about both debtors and creditors, SMEs financing costs are possible to be lower. However, for the platforms, if they cannot carry out effective risk control after financing SMEs, which may endanger capital safety, the platform itself could turn out to be a pool without source and is unable to promote changes in SMEs financing modes. Therefore, social capital building and risk control is not only the key for Internet finance platform but also an important aspect for SMEs to consider when using the platforms to invest and fund-raising.

6.4 Research Conclusion

Base on Literature review and empirical study, the following conclusion can be drawn:

1. There is no conflict between traditional financing channels and Internet financing. However, Internet financing has its own advantages. Internet financing can bring convenience for both sides, with lower cost and shorter processing time. It can solve company’s financing issue with shorter time and collects fund in a large scale so that it can benefit each investor at the platform. And lower transaction cost complements the drawback of traditional financing channels. Traditional approaches are difficult to collect fund in short time with high interest.

2. Compared with traditional ways, Internet financing can be widely adopted. Chinese regulatory mechanism limits the development of finance industry. Because of the low transaction cost, the Internet financing platform can be accessed by more and more companies such as SMEs. These SMEs can finance on the platform and at the same time, they can lend their money out on the platform.
3. The feature of internet finance is “internet +/- internet plus”. Internet reduces transaction cost and breaks the barriers of conventional Finance, which can attract more SMEs to get involved. In this process, social capital plays a vital role. Information acquisition and trust building interact well. Information technology facilitates information collection and acquisition in the investment market. And information collection and acquisition build the ecological system. Transaction history and credit record are stored in the platform, which can expedite the process and optimize transaction environment.

4. Take into account the micro risk brought by Internet finance. Even investment channels enlarged and transaction process speeds, the risk and main feature of finance industry remain. Some of the hidden risks are not fully disclosed. With the popularity of Internet finance, the risk is likely to be enlarged. And some of the participants hide their professional risk and gain profit at the unsystematic information. Generally speaking, opportunism of one or two companies would lead to crisis. The micro risk needs to be managed properly. It’s each investor’s responsibility and mission to assess the micro risk.

5. The regulation and compliance in Internet finance are very crucial. A number of Internet finance platforms have emerged in the past 10 years. So that Internet finance and traditional finance industry could complement with each other and also keep its competitiveness. Especially when technological issues occur, information and fund should be protected and secured. For SMEs, technical capability and industrial level should be attached great importance.

6. Form a long term perspective, how internet finance should be aligned and adjusts with the real economy and risk avoidance should be taken into consideration. Regulation and supervision are not matured in this sector. And lack of regulation makes this sector difficult to combat risks. The Internet finance should be regulated in term of value assessment, risk hedging, product design and accountability. And if the risk could deterred is crucial for SME’s application of Internet finance.

6.5 Chapter Conclusion

Taking literature as the theoretical foundation, questionnaire is used to sort out the variables that affects SMEs’ financing under Internet finance. After collecting the questionnaire, the validity of the variables is tested. Though analysis, under the background of Internet finance, when SMEs are choosing the financing channels, they are more concerned with risk control than social capital theory. This conclusion lays a solid foundation for future study.
Chapter VII: Possible Solutions for Improving Internet Finance Platforms in China

From the previous study we can see that as a brand new tool, Internet finance provides an alternative option for SMEs to raise money. The essence of finance platform has two connotations: one is “capital” and the other is “circulation”. If the platforms want to make “circulation” easier, the financial market information must be acquired at low costs. In order to gather “capital”, the lenders, borrowers and platforms must have effective risk control. In such procedure, the Internet, as a new way, can lower communication costs and make quick information exchange between lenders and borrowers. Yet, the potential risks demand certain measures to be controlled. Therefore, the key for SMEs using Internet finance platforms to get capital is how to capitalize on information and trust to advance fundraising by platforms and how to control risks at micro and macro levels by mechanism design. Specifically, to improve Internet finance platforms in China and create opportunities for SMEs to raise money we can do from the following aspects.

7.1 Countermeasures to Internet financing platform (Micro-level)

Internet financing platform should bear two responsibilities, which are: Firstly, it should prevent investors from using this platform for money laundry; secondly, it should protect investors’ interests and rights. For protecting investors’ interests and rights: 1. Internet financing platform should promote investment knowledge and teach the investors with technical analyzing methods; cultivate investors awareness of risk avoidance; help investors to make investment decisions by combining individual judgment which is based on platform’s rating. Secondly, “do not put all eggs in one basket”, namely do not put all fund into one project or give to the same fund-raiser. By this way, investor’s risk will be diversified. When investors lose due to the unexpected accident that results in risk enlargement, Internet financing platform should reduce and compensate promptly and rapidly to the investors’ risk and loss. For instance, ppdai.com will pay investors a certain proportion of extra fees that is charged for fund-raiser’s contract breach. In this way the loss reduction is achieved. For those fund-raisers who overdue the contract and have been reminded by P2P platform for many times, yet still do not repay their loans, the platform could appeal to the court, seek legal aid to look into investors’ accountability and reduce investors loss. However, relevant legal system in our country is still not promulgated yet, the relevant cases could be processed by certain terms and conditions in the contract, as well as relevant regulation in regard to private lending. Hence, at present, law formulation and regulation enforcement are very urgent
mission.

At present, Internet financing platform in our country is still immature; there is no complete operating mode that could be learned for lessons. Yet, we could draw lessons from the operating mode from commercial banks’ financing. When we are working hard on developing business, exploring and taking market share, we should apply reasonable system to control financing risks, eliminate business crimes such as money laundry. When choosing investors, we should constitute scientific and rigorous rating system and establish professional team of risk control. Aiming at long-term development of this business, constructing decent environment for investment and financing, we should avoid the appearance of bad debt at very source and the occurrence of certain fraudulent conducts. At the same time, the new security technology should be continuously developed; in order to secure Internet financing platform works in a safe and steady environment. We should prevent customer information disclosure.

7.2 Industrial standard (Medium level)

Due to incomplete legislation in Internet finance and lack of supervision in China, Internet financing platform suffers from various issues. How does Internet financing platform obtain public and government bureau’s support for the sake of avoiding failure? The researcher believes that it is important to have government supervision and complete legal system. Meanwhile business self-discipline is very crucial. The intermediate level of the society is the vital force to realize business self-discipline. It usually means: “main body distinguishes from government or the market, but bridges government and the market.” To be specific, within Internet finance this intermediate level represents the trade association that is constituted by many Internet financing platforms. It should be noticed that the operation modes and management standards of existing Internet financing platforms are uneven. There is CreditEase, a large Internet financing platform that values billions dollars, but there are many fake petty loan companies either. For the sake of well development of this business, it is necessary to formulate and enforce industrial norms, which will clean the environment for business development entirely.

Furthermore, establishment of multi-level financial service system is another key solution. Such multi-level financial service system can effectively meet different sized companies’ demand in term of financial service. By this way, the channel for companies to obtain funds could be expanded, meanwhile, financial market’s risk could be effectively reduced, and the healthy financial market could be promoted.
It is good to notice that while government has conducted supervision on Internet finance industry, the financing platforms themselves are actively formulating industrial self-discipline norms. According to the director of CreditEase, Mr. TANG Ning, at a recent Internet finance industry annual meeting, a consensus has been reached by dozens of key financing platforms to solve this issue. They are planning to establish industry association for P2P Internet financing platform, and the industrial norms are under constituted. This industry association, just likes others, is a self-discipline organization with agency function. It is formed by a large number of P2P Internet financing platforms. All member platforms would be regulated by the agreement signed once the association established.

7.3 National policy (Macro-level)

7.3.1 Differentiation license management under various categories

License management system is vigorously implemented nationwide. To a large extent, it shows that Chinese government has a serious supervision attitude toward finance industry. In order to standardize Internet financing industry, our government implements a control system over issuing licenses, by which the overall Internet financing could be developed under legal framework. By comparing all the Internet financing platforms, we could easily find that ppdai.com and CreditEase have different operation pattern, for such phenomenon government should implements differentiation management over issuing and supervising license. PPdai.com’s primary business is Internet online petty loan, and then the supervision of Internet information service industry is likely to lead to risk. Hence, business certificate of Internet information service industry should be issued to companies that are similar to ppdai.com. CreditEase’s primary business is offline P2P petty loan, then offline risks should be addressed. In respect of CreditEase’s business, to some extent it is not only a petty loan mode, it functions like commercial banks, to absorb deposits.

7.3.2 Define regulatory body and promulgate laws and regulation urgently

At present, there is no regulatory body for Internet financing business. This is because non-governmental financing agency is not clearly defined. We believe that whether Internet financing activity is either regulated by existing regulatory body or establishing a regulatory body for it. Anyhow, We should end this non-regulated situation.

Define regulatory body for Internet financing industry from legal perspective. The regulatory body ought to control risks for the industry. For the enterprises that take Internet online business as the main channel of credit and loan, we propose that government could draw the experience of supervision of Airpay: The regulation is formulated by regulated directly by
People’s bank of China (PBOC) and the supervision is carried out by CBRC (China Banking Regulatory Commission) and Internet Supervision Commission. For the petty loan enterprises that focus on offline business, their businesses are similar to traditional banks. Hence the existing financial regulatory bodies could exert supervision on the petty loan enterprises. Besides, lawmaking for Internet financing industry has vital implications for effective supervision over this industry. For instance, Debtor ordinance, which is under discussion, among which many clauses could be implemented in Internet financing industry. Even though Debtor ordinance is not directly regulating this activity, it still exerts on the business.

7.3.3 Construct complete individual credit system

In regard of individual credit system, different regions are of great differences. At some regions, customers could retrieve and print out their credit information and record; however, in some regions, such information could not be disclosed to customers. This situation usually leads to illegal activities. For example, some customers cannot obtain their own credit information through legal channels, so they may rely on Internet scalper, which may result in information leakage.

As market develops, system is improved as well. At present, some regions and individuals could retrieve and inquiry individual credit information through credit system from PBOC. If this platform could be implemented nationwide, then customer’s personal credit information could be easily obtained by P2P platform. In this way the fault credit report could be avoided to some extent, meanwhile, the moral hazard of fund-raiser could be reduced as well.
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Distinguished Ladies/ Gentlemen:

The objective of this questionnaire is to understand the influencing factors of financing in SME and the extent of effect. It will take you 5 minutes to fill the blanks. Your contribution would be very helpful for our research. We promise that your answer will be kept confidential. I would like to extend my gratitude.

1. Questionnaire

7 indicates totally agree, and 1 indicates totally disagree. Please rate each question from 7-1.

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<thead>
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<th>Question</th>
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<td>Q1 For the fluctuation in the lending market, can the alliance or the</td>
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<td>Q3 Can the alliance or the platform identify or correct wrong information?</td>
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<td>Q4 When a new member registers, is its credibility verified by the</td>
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<td>Q5 Can the alliance or the platform exclude the opportunities?</td>
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<td>Q6 Can the loss of credibility of single enterprise be controlled well?</td>
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<td>Q7 Can the alliance or the platform bear the micro risk?</td>
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<td>Q8 Can the alliance or the platform realize a stable operation?</td>
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<td>Q9 Are the members active in the alliance or the platform?</td>
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<td>Q10 Can all the processes in the alliance or the platform be seamless?</td>
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<td>Q11 Are industries in the alliance or the platform highly concentrated?</td>
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</table>
Q12 Can the alliance or the platform successfully combat regulatory and legal risks?

Q13 Can the alliance or the platform attract new members?

Q14 Is the individual enterprise confident about the activities organized by the alliance or the financing platform?

Q15 Is the member confident about the fund security?

Q16 Is the member confident about the risk bearing and risk solving capacity of the alliance or the platform?

Q17 Are you happy with current service provided by the alliance or the platform?

Q18 Do companies intent to deepen the use of internet platform?

2. Individual information (Please tick in the blank)

Gender: □ Male □ Female

Degree: □ senior high □ Undergraduate □ Post graduate □ PhD

Age: □ ≤ 30 □ 31-40 □ 41-50 □ ≥ 51

Working period: □ ≤ 1 year □ 1-3 years □ > 3 years

Which department are you in: □ Technology □ Marketing □ Administration

In Management position or not: □ Management □ Non-Management

Scale of the company that you work at: □ below 50 □ 50-100 □ 100-500
DECLARATION

I solemnly declare: the submitted thesis is the result of independent research work under the guidance of my supervisor. To the best of my knowledge, unless already noted the contents of references, the research results of this thesis does not contain any copyright content enjoyed by other people. Other individual and collective, who contributed to the research work of the thesis, have been clearly indicated in the document.

Signature: ______________ Date: ______________
RESUME

Xiang Chaoyu was born in Wuhu, Anhui province in 1981. He holds a master’s degree. As a certified accountant, he holds China Certified Public Accountant, Chinese Certified Tax Agents and Certified Internal Auditor. Currently, he is a senior manager in an investment company specializing in SMEs financing, foreign investment, financing guarantee and consulting services. The member companies have a total assets value of several billion yuan, providing various non-bank financial services for hundreds of SMEs every year.

Working experience:

Early 2009 – now: DGM at Shanghai Zhengyi Investment Company taking care of foreign investment, assets management, capital operation, capital gains, and business consulting services.

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2004 second half year – 2007: Manager at the Finance Dept. in Anhui TRUCHUM Investment Group;

Education background:

2012 second half year – 2016: studied at Tsinghua - Paris Dauphine Doctoral Program of Executive Doctorate in Business Administration;

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