Research Report

Inclusive Finance with Use of Internet Finance in China

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Contents

Certification Page

I, CAO Shuang (Student ID 51216607) hereby declare that the contents of this Master's Research Report are original and true, and have not been submitted at any other university or educational institution for the award of degree or diploma.
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Abstract

Inclusive finance has been gaining more ground in China since The Plan for Promoting the Development of Inclusive Finance (2016–2020) formally released on December 31, 2015, which stressed the importance of developing inclusive finance. Under the pilot program 100% internet banks were established in China in 2014, with the original target of inclusive finance. This decision was based on the rapid development of internet finance in China. Issuance of licenses to internet banks is proof of confidence in internet finance by the government. The Pareto principle, the 80/20 rule, describes this common pattern of sales concentration. However, information technology and internet markets have the potential to substantially increase the collective share of niche products, thereby creating a longer tail in the distribution of inclusive financial products. (Brynjolfsson, et al. 2011) Internet finance and internet banks in China supplement existing financial institutions in promoting inclusive finance, and aim to serve the long tail. Given the large population size of China, universal coverage of inclusive finance can only be achieved through internet finance and innovative banks like internet banks with unique internet technology; only internet finance is feasible for dealing with inclusive finance in China. Because internet finance could deal with the problem of insufficient credit data, and fill the gap with e-commerce and other credit information, etc.; internet finance is low cost enough to deal with large amounts of concurrent transactions with small demands for funds from customers; inclusive finance is more penetrable to customers with internet finance, with easy accessibility for anyone.

1. Introduction

The idea of inclusive finance came from the International Year of Microcredit (2005), launched by the United Nations (UN) and the World Bank to recognize microcredit's contribution to reducing poverty, and to build inclusive financial sectors to achieve the Millennium Development Goals (UN, 2003). In 2015, the UN gave a more precise definition of inclusive finance as follows: "Financial inclusion is universal access, at a reasonable cost, to a wide range of financial services, provided by a variety of sound and sustainable institutions. Inclusive finance strives to enhance access to financial services for both individuals and micro, small and medium-sized enterprises. In developing countries, access to financial services is crucial to strengthen financial sectors and domestic resource mobilization and can therefore make a significant contribution to social and economic development." (UN, 2015a). According to the Pareto principle, i.e., the 80/20 rule, traditional banking institutions in China are more focused on the high-value 20% customers who control 80% of wealth and resources. The remaining 80% of the general public such as small, micro and medium-sized enterprises (SMEs) and the "Three Rural Issues" (agriculture, rural areas and farmers) are marginalized. As information technology develops, those underprivileged groups have collective share of niche products, creating a longer tail in the distribution of inclusive financial products. (Brynjolfsson, et al. 2011) Given the situation that policy banks, large commercial banks, national shareholding banks, city commercial banks and rural financial institutions in China have all made efforts in promoting inclusive finance in certain ways but have not addressed the long tail. Therefore, the market still needs new players to focus on inclusive finance for the long tail as a core business. After years of research, the China Banking Regulatory Commission (CBRC) decided to permit 100% internet banks named privately-owned banks into the banking sector, with the business strategy of serving SMEs and the general public, and improving the level of inclusive finance (CBRC,2017). The pilot program on internet banks in China started in 2014. This decision was based on the rapid development of internet finance in China. The present study includes a case study of MYbank as methodology, starting from the internet finance of the parent company Ant Financial, and then to internet bank MYbank. The present study discusses the effectiveness of using internet technology in promoting inclusive finance in the following three ways: the obstacles for traditional banks in China face in dealing with inclusive finance; the unique internet technologies that enable inclusive finance in non-traditional and sustainable ways; and the expansion of inclusive finance coverage for SMEs and the Three Rural Issues in China using internet technology.

2. Literature Review

The relevant literature of this study can be viewed in four parts: the shift in the definition of inclusive finance itself; the development of inclusive finance in China; the goal of inclusive finance in China; and the importance of internet technology in inclusive finance.

2.1 Shift in definition

The range of inclusive finance is enlarging. Inclusive finance as a terminology grew from microfinance. It shifted from just microfinance into a broader range of meanings. Many development practitioners and financial institutions support the shifting process from a narrow microfinance to a broader inclusive finance by supporting discrete micro-finance institutions and initiatives to build inclusive financial sectors. Inclusive finance recognizes that continuous financial service providers work to their comparative advantages to serve poor and low-income people and SMEs. In this case, they do this to build inclusive financial sectors including, but not limited to, strengthening micro-finance institutions. (UN, 2005)

2.2 Development indicators of inclusive finance in China

The major banking institutions in China have a long history, such as policy banks, large commercial banks, national shareholding banks, city commercial banks and rural financial institutions. Originally they had differentiated market share and targeted customers, and later diverted to chasing similar customers. To diversify the supply and enable new market players, the central government of China deeply reformed the financial sector in 2005, in the hope that financial services would reach more SMEs, low-income individuals in urban areas, and rural areas. The reform also included introducing some innovative financial products and services for previously marginalized customers. Mainstream approaches are SME financing, microcredit financing and information technology-based products. Some progress in inclusive finance has been made in China.

(1) The UN's indicators of inclusive finance.

According to the World Bank's Global Financial Inclusion (Global Findex) Database, 78.9% of China's adult population (over age 15 years) had a bank account in 2015, and 48.6% owned a debit card. Innovations in mobile banking and third-party-payment systems are promising in developing inclusive finance. (UN, 2015b)

(2) Indicators of inclusive finance used by regulators in China.

From data collected by the CBRC domestically, at the end of March 2017, the balance of loans made by banking financial institutions for SMEs was 27.8 trillion RMB, up by 14.4 percent year on year, up by 1.1 trillion RMB from the beginning of the year, and up by 262.3 billion RMB over the same period. The balance of agriculture-related loans was 29.2 trillion RMB, up by 1.4 trillion RMB from the beginning of the year, an increase of 8.9%. (CBRC, 2017)

(3) Microcredit companies（MCCs）in China.

Regulatory controls over lending and leverage have prevented microcredit companies (MCCs) from scaling up, for the sake of their supervision arbitrage on lower criteria of market entrance. (UN, 2015c) MCC data show that as of June 2016, the number of MCC institutions reached 8810, and outstanding loans from MCCs increased to 936.4 billion RMB. (China Banking Association, 2016) The limitations of MCCs impede their future in developing inclusive finance.

The ruling Chinese Communist Party outlined an ambitious economic and social-reform agenda for the period up to 2020 in November 2013. This agenda proposed that, to develop inclusive finance, it is necessary to open up the banking sector to more private firms. This means that private firms may invest in banking institutions, not as a borrower of funds, but as a stakeholder. Progress is being made, yet China still faces challenges in having an inclusive financial environment. Many financing institutions originally set up to deliver wider access to financial services for underprivileged customers appear to have diverted attention elsewhere, which could be seen as traditional commercial lending. For the time being, marginalized groups still mainly rely on informal suppliers of financial services. The market differentiation status quo is that larger and stable business sectors are appreciated more by financial institutions.

2.3 The goal of inclusive finance in China

Official development suggestions come from the 13th Five-Year Plan for National Economic and Social Development adopted at the Fifth Plenary Session of the 18th Central Committee of the Communist Party of China on October 29, 2015. In this plan, the necessity to develop inclusive finance was specifically laid out for the purpose of increasing financial services offered to SMEs and rural areas, especially poor regions. The Plan for Promoting the Development of Inclusive Finance (2016–2020) formally released on December 31, 2015 stressed the goal of developing inclusive finance, which is to improve the coverage, availability and satisfaction of financial services, to meet the increasing financial demands of the masses. The plan also promoted innovations in financial products and services, education on inclusive finance and protection of rights and interests of financial consumers. (Ba Shusong & Hua Zhongwei, 2016)

(1) Tendency of policy.

Tendency of policy to encourage inclusive finance from the top down. This could help to build an economic environment, opening up opportunities nationwide for possible growing businesses or individuals, usually neglected from traditional banking sectors. The transmission mechanism of inclusive finance for inclusive growth and sustainable development works through several channels, such as SME financing, microcredit financing, agricultural financing, green financing and special financing for vulnerable groups, including women, young people and unbanked people. (UN,2015c) China is planning to vitalize SMEs, tackle the Three Rural Issues and alleviate poverty to achieve inclusive finance using four steps. The first is to establish financial statistical analysis and an assessment system for inclusive finance. The second is to ensure steady growth of issuing SMEs loans, to expand the coverage of SMEs financial services, to improve loan availability, and to strive to achieve the target of "3 not less than" for SME loans. This refers to the effective increase in the amount of loans on the basis of efforts to achieve 1) an SME loan growth rate of not less than the average growth rate of all loans, 2) number of SME loans not less than the number of households in the same period last year, and 3) an acquisition rate of not less than the same period last year. The third is to achieve continued agriculture-related credit growth, and to further improve the physical service network and basic financial services coverage in townships and administrative villages. The fourth is to increase microfinance coverage to alleviate poverty. (CBRC, 2016a)

(2) Building up financial system top down.

Building the financial system from the top down. Financial exclusion in China was caused by economic development strategy, financial institutional arrangement, financial market structure, dominance of social relations, and constraints of risk evaluation. Eliminating financial exclusion and increasing financial inclusion essentially requires that our financial system be equipped with those functions through policy adjustment, institutional innovation and improvement of market rules. (Dexu He. & Miao W. ,2015) One possible way powerful enough to change the financial system in such depth is guidance from the central government. The central government could improve the financial institutional system and optimize the service mechanism from top to bottom. Through the establishment of an inclusive finance department, banking institutions could actively explore Three Rural Issues financial business, professional sub-branches, separate agricultural credit plans, and innovative business models, to continuously improve the Three Rural Issues financial service system. Most banking institutions in China have been engaging in inclusive finance by various means. The Agricultural Bank of China could deepen reforms of the Three Rural Issues service. The Agricultural Development Bank of China could increase long-term agriculture and rural loans. The China Development Bank could further increase agricultural and rural infrastructure construction loans. Rural credit cooperatives (rural commercial banks and rural cooperative banks) could serve the Three Rural Issues through in-depth implementation of three projects to better play the leading role in supporting agriculture financial services: financial services into the village and the community; sunshine credit; and financial innovation for enriching the people and benefiting farmers (Wang Han, 2012). Rural credit cooperatives could integrate services to enrich service capabilities for the Three Rural Issues. The Postal Savings Bank of China could establish a Three Rural Issues department and propel the steady development of small agriculture-related loans business. Other commercial banks could take advantage of their own expertise, to develop agriculture-related business. Furthermore, all kinds of eligible social capital could participate in the establishment of village banks to speed up development within counties, to intensify the establishment of village banks in counties, to focus on the layout of the central and western regions of China, especially poor areas, major food producing areas and areas where agriculture-related small enterprises are gathered, and to steadily improve financial coverage within counties. (CBRC,2016a)

2.4 Importance of internet technology

A growing consensus about the promise of mobile finance was reached at the Mobile World Congress in March 2015, which is that the mobile industry holds the key to achieving the dream of universal financial inclusion, particularly in developing countries. Technology usage is growing but banking infrastructure is limited in developing countries. In this case, mobile banking can offer basic financial services to poor and remote communities at greater convenience where traditional banking services find it hard to reach, at a lower cost than traditional banks.

There is a possibility that mobile financial services could provide a shortcut to financial access for developing countries. In the past, most countries relied on traditional infrastructure such as physical banks. New financial products from non-banking institutions such as third-party payments penetrate deeply into daily life, providing financial services. Developing countries may have a great opportunity to skip the costly and difficult step of building financial infrastructure by using mobile phones to provide financial services. Mobile access is expanding quickly worldwide, and the number of registered accounts ran up to 300 million in 2014. However, the right policy needs to be implemented for further growth. Because it is hard to regulate, given the volume and speed, the governments of each country need to work hard on building suitable regulatory environments to make consumers and providers behave legally.

China has good fundamentals for digital inclusive finance. As of December 2016, the number of Chinese Internet users reached 731 million. The internet penetration rate was 53.2%. At the same time, the number of mobile phone users in China reached 695 million, and mobile Internet users accounted for 95.1%. Mobile Internet could be used to promote sharing of consumption patterns, intelligent equipment and diversity of scenarios. As of December 2016, China's rural Internet users accounted for 27.4%, reaching 201 million, as urban Internet users accounted for 72.6%, reaching 531 million. Numbers of rural Internet users in China continue to increase, but the popularity gap between urban and rural Internet users is still large. (CINIC, 2017) Digital finance expands far beyond mobile money, and online financial services offered by Internet-based providers have grown rapidly. Major players in China such as Alibaba, Tencent, and China Mobile are examples of the huge potential of online financial services, targeting especially the used to be excluded and productive segments of society, with easy access. Technology-based financial services in China could be promising for small businesses with fewer assets, which often have limited access to traditional banking. Mobile operators, banks, and Internet-based companies, once isolated from each other, have formed partnerships to make cheaper financial access for enterprises economically sustainable. (UN, 2015d.)

In the 2015 Report on the Work of the Government, China presented “Internet +” for the first time. China wanted to make technology-based finance a solution for small businesses, because they are very important players in the real economy, despite often having limited access to traditional banking. However, digital finance should have a reasonable profit model. Only when digital finance achieves business sustainability can it really provide inclusive finance. If a digital finance company cannot achieve normal corporate profits, it will easily go bankrupt. At the same time, using big data, cloud computing and other technical means, financial services could provide highly personalized digital financial services. In China, big data and cloud computing have been in the financial industry for some time, in fields such as risk control, operations management, sales support and business model innovation. There is potential in these fields.

3. Current Development of Inclusive Finance in China

Before the establishment of internet banks in China, the financial institutional framework seemed to already cover all walks of life, including policy banks, large commercial banks, national shareholding banks, city commercial banks, rural financial institutions and foreign banks. The financial market structure has formed since then. They are all encouraged by the government to develop inclusive finance. However, intensive competition between them makes the original market segmentation vague. Dominance of social relations has become intertwined with banking institutions' marketing strategy. The problem of homogeneous competition is severe. It is hard for banking institutions to give priority to inclusive finance before considering their own benefit. Therefore, it turns out that people with more social connections or better financial status will have a better opportunity to get funding through the banking sector. Meanwhile, the underprivileged in need of funding to grow business are neglected. The original purpose of establishing internet banks by the central government was to give inclusive finance a chance to expand using this non-traditional business model.

3.1 Internet inclusive finance in China

The concept of internet finance was proposed by Xie Ping, the former deputy general manager of China Investment Co., Ltd., for the first time in the "40th Annual Meeting of Finance" held in April 2012. (Ping & Chuanwei, 2013) The Internet is changing the traditional financial model and strongly penetrates the financial market in China. Since the second half of 2014, Alibaba, the largest online and mobile commerce company in the world, and other internet giants in China have rushed to internet financial markets and introduced many financial investment products (represented by Yu'E Bao which translates as 'left over treasure'), triggering a boom in internet finance in domestic financial markets. (An, J., et al. 2015)

The internet finance is often referred as digital finance or fintech outside of China. (Huang et al. 2016) Digital inclusive finance is not a natural tendency, but world organizations have reached a consensus about its importance for growing inclusive finance. The G20 finance ministers and central bank governors adopted the advanced principles of digital inclusive finance, and encouraged countries to give priority to digital implementation in the formulation of inclusive financial plans in July 2016. On August 26, 2016 at the China Inclusive Finance International Forum, Renmin University of China, the China Inclusive Finance Research Institute announced China's first digital public financial report - "Digital Inclusive Finance practice and exploration". The report reviews the origins of inclusive finance, the meaning of digital inclusive finance, and internet finance, such as Ant Financial. The report also puts forward the idea that digital finance is shared, convenient, low cost and low threshold, all of which are natural advantages in inclusive finance. The new economic norm in China needs to be inclusive. Digital inclusive finance can drive inclusive growth and inclusive finance. To establish a sound long-term mechanism for the development of digital inclusive finance, a top-to-bottom plan is needed to digitize inclusive finance as a national strategy, to encourage marketization and diversification of inclusive financial system, to promote innovation, and to make room for development. At the same time, levels of consumer protection and consumer education must be raised and financial services, technical facilities and incubation mechanism improved. The "G20 Digital Inclusive Advanced Principles" closely fit the State Council's "Promotion of Inclusive Financial Development Plan (2016-2020)", and reflect the essence of G20 digital inclusive finance. Over the years, inclusive finance has undergone four changes: from public welfare to the establishment of a sustainable business model; from local to international; from microfinance to the enlarged whole inclusive financial system (including small loans, savings, payments, wealth management, and insurance); and from manual labor to the realization of digital technology to provide services. The development of digital technology essentially pushes inclusive finance to leap into a digital inclusive finance era. Internet inclusive finance has a great advantage in terms of reproducibility compared with traditional inclusive finance (such as banks or microfinance institutions). Grameen Bank, founded by 2006 Nobel Peace Prize Laureate Dr. Yunus in Bangladesh, has helped millions of rural or poor women get access to banking, since its inception. However, because of the localized and non-standardized traditional microcredit, the Grameen model is not easy to replicate successfully in China. (Huang Yusong, 2016)

3.2 Attitudes of bankers from traditional banks towards inclusive finance

(1) Incentives from government.

Government tries to develop inclusive finance by all means. In March 2017, the Report on the Work of the Government 2017 showed the plan of financial institutions on inclusive finance. China will propel financial institutions to focus on their main businesses and make their services accessible to SMEs, serve the real economy, and prevent them from being diverted from their intended business strategy. In the meantime, China will encourage large and medium commercial banks to establish inclusive finance departments. Large state-owned banks would take the lead in this development. China will differentiate assessment, evaluation measures and policies, and try to address the issue of access loans and higher interest rates by medium, small, and micro enterprises. China will make good use of policy-backed and development-oriented finance from policy banks. China will move forward with the reform of rural credit cooperatives and enhance the role they play in meeting the needs of agriculture, rural areas, and farmers. (The State Council, 2017)

(2) Traditional banks’ efforts on promoting inclusive finance.

Traditional banks’ efforts on promoting inclusive finance. The most representative is the Agricultural Bank of China (ABC). ABC started pilot program of the implementation of the Three Rural Issues financial department reform in 2008. As of the end of March 2015, it had expanded to 19 provinces (autonomous regions and municipalities), all county branches and 20 subordinate branches, covering 72% of the county agencies, 79 % of the staff, 83% of the deposits and 86% of the loans. Outstanding loans reached 2.35 trillion RMB in 20 pilot counties, an increase of 124% before the reform, higher than ABC's loan growth of 27.4 percentage points in the same period. The county loan-to-deposit ratio increased from 34.7% to 49.6%. (ABC, 2015) As of the end of 2015, county branches of ABC had been fully incorporated into the Three Rural Issues financial department management.

Another big player, Industrial and Commercial Bank of China (ICBC), established an inclusive finance department with a “six separate management” plan in April 2017. The first is a separate credit management system, set up an independent credit plan for the SMEs, an independent credit management system; the second is a separate capital management mechanism, including capital measurement, configuration and evaluation policy; the third is a separate accounting system to gradually establish and improve the reporting system for SMEs; the fourth, a separate risk provision and write-off mechanism, set differentiated tolerance of risk and write-off policy; the fifth, a separate financial balance and operation mechanism, approved the special fund plan, included in ICBC's overall planning of assets and liabilities business management; the sixth is a separate evaluation that implements a two-line assessment on branches' inclusive financial business sector. ICBC will strive to set up 300 or so professional service centers in 2–3 years with a professional team, efficient services, SME support, Three Rural Issues support and a poverty alleviation financial business. (ICBC, 2017)

(3) 2016 China Bankers Survey Report.

On February 24, 2017, China Banking Association, PricewaterhouseCoopers Certified Public Accountants jointly issued their 2016 China Bankers Survey Report. This reports on the attitudes of bankers from traditional banks towards inclusive finance. (1) SMEs are the main clients of inclusive finance. 56.3% of bankers said they would focus on inclusive finance by making efforts to promote SME financing. 37.0% of commercial banks' inclusive finance focus is to support the Three Rural Issues. 80.9% of the commercial banks will focus on serving SMEs; and rural small and medium-sized financial institutions will support the Three Rural Issues (80.8%). (2) Banks focus on strengthening innovative financial products when improving inclusive financial Services. At present, 62.4% of bankers mainly improve inclusive financial services through the strengthening of innovative financial products. 40.9% of bankers focus on enhancing internet banking services. Development of inclusive financial services with internet technology could improve efficiency, reduce costs, and manage risk. (3) The biggest problem of inclusive finance is the lack of credit data accumulation. 52.7% of bankers believe that there is a shortage of credit data, and the credit system is not sound. An imperfect credit system greatly increases costs and risks for banks in supporting SMEs and poverty alleviation projects, and discourages banks from carrying out work. 17.2% bankers believe that the construction of financial technology is slow. At present, China's internet financial development is rapid, yet regionally asymmetric. (4) The greater credit risk of clients in inclusive finance. 39.1% of bankers believe that the difficulties in promoting inclusive financial services are generally the lack of relevant information on credit data and no collateral, thus higher credit risk. 27.1% of bankers believe in inclusive finance with higher service costs. 20.9% of bankers believe that big differences in customer demands are one of the challenges in promoting inclusive finance. (5) Reduced inclusive financial cost should be committed to building credit databases and promoting electronic, networked services. The higher cost of working in inclusive finance has become a major obstacle to its implementation and promotion. Specifically, up to 67.7% of bankers said they should establish a sound credit database, improve the credit system, and reduce the cost of collecting information to improve risk-identification ability. 67.1% of bankers said they should vigorously promote electronic networked multidimensional services for financial consumers to provide great convenience and to save time and opportunity costs. At the same time, banks can reduce labor input and labor costs. This is also good for the bank's follow-up statistics of financial information. In the opinion of 58.4% of bankers, banks should continue to improve the electronic trading and reduce transaction costs. (China Banking Association & PWC, 2017)

Attitudes of bankers from traditional banks towards inclusive finance showed a strong tendency of relying on internet technology in developing inclusive finance, due to the concerns about factors such as credit data collecting, credit rating, costs of services, risk management and innovative products. Commercial banks tend to set SMEs as the main clients in implementation of inclusive finance, whereas rural small and medium-sized financial institutions will support the Three Rural Issues. Lack of credit data is a common obstacle for traditional banks in dealing with SMEs and the

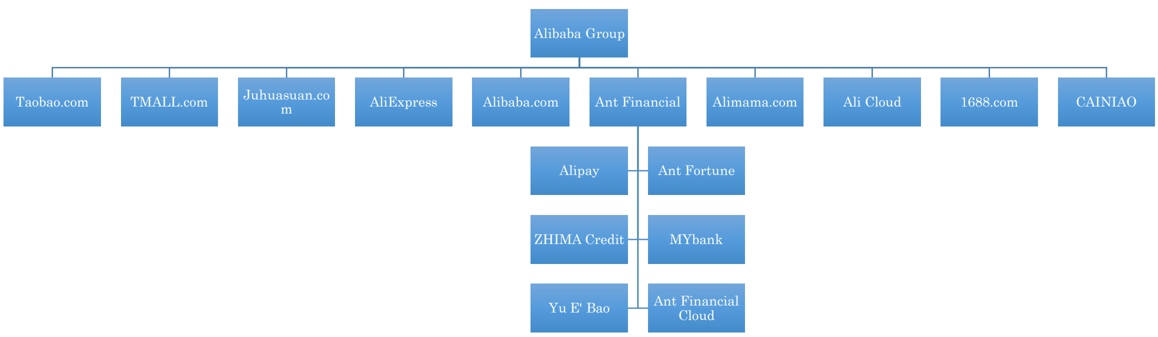
Three Rural Issues in inclusive finance. There is no channel through which traditional banks themselves can acquire useful historical data on the customers to build a credit rating system on, to record, measure and model the credit of customers. Therefore, traditional banks have no base on which to customize the pricing of financial services and lines of credit. When making efforts to promote inclusive finance, traditional banks lack labor efficiency or cost efficiency, and hold high expectations for internet technology to improve finance services in inclusive finance.

4. Case Study: MYbank

4.1 Ant Financial (the parent company of MYbank)

Zhejiang Ant Financial Services Group Co., Ltd. (hereinafter referred to as Ant Financial) originated from Alipay, the world's leading third-party payment platform, founded in 2004. In October 2014, Ant Financial was formally established. It is an associated company of Alibaba Group. Ant Financial sets "bring the world a small and beautiful change" as a vision, and commits to creating an open ecosystem. It provides the "Internet booster plan" to help financial institutions and partners to work towards "Internet + " for SMEs and individual consumers with inclusive financial services. Ant Financial involves in various business, including third-party payment platform Alipay, wealth management platform Ant Fortune, cloud computing service platform Ant Financial Cloud, independent third party credit evaluation system Zhima Credit and online bank MYbank. In addition, Ant Financial, the investment holding company and associated companies, cooperate in business and services to pursue deeper integration of commercial and ecological system prosperity. (Ant Financial, 2017a)

Figure 1. Business structure of Alibaba Group (Alibaba Group, 2017)



(1) Ant Financial’s progress in internet finance.

Breakthroughs in internet technology happen fast. From the 2010 Ali small loan to the later MYbank, Ant Financial-led micro-loans, using an online lending model, have been loaned to more than 400 million small businesses with a combined value of up to 700 billion RMB. (Huang Yusong, 2016) In addition to replication, internet inclusive finance has a huge advantage in terms of availability, affordability and comprehensiveness. In addition to basic payment services, financial, insurance and other services can also be provided through mobile phones. Internet finance rely on technological progress to reduce the service cost, and affordable for more users; thus, it is enough to make these companies self-sufficient. At present, Ant Financial has 450 million real-name users. (Li Dan, 2016) These users enjoy basic payment services, as well as wealth management, insurance, credit, credit rating and other services. In particular, by the end of June 2016, the numbers of Ant Financial’s Three Rural Issues users in the payment, insurance and credit services, reached 150 million, 120 million and 22 million, respectively. As an internet financial company, Ant Financial has become a role model of internet inclusive finance in China. Its service coverage of the customers, and the service depth is quite representative. In 2004, Alipay was established to solve the trust issue in Taobao transactions. In 2010, Alipay launched quick payments, greatly improving the network payment’s success rate, and greatly expanding Alipay's services. In the same year, Ali small loan was launched, to meet the funding demand within the Ali business ecosystem. Ali created the first network loan "310 model" (i.e. 3 minutes for application, 1 second for issuing loan, 0 human interventions in the whole process). It increased efficiency and reduced operation costs. Ali expanded its business range further. In 2013, “Yu E’Bao” was established, and wealth management was connected to consumption, which greatly decreased threshold of financial services for wealth management. It also challenged the traditional banking institutions in a way that traditional banking institutions have to transform into internet inclusive finance. Throughout the development process, Ant Financial accumulated and upgraded big data, cloud computing, artificial intelligence and other technologies, and in turn it has promoted the development of inclusive finance. (Huang Yusong, 2016)

(2) Credit assessment of Ant Financial.

Credit assessment of Ant Financial is different from traditional banks. Ant Financial relies on third party credit company Zhima Credit on credit information. Zhima Credit Points are used for treatment and evaluation of Zhima Credit's comprehensive information, which is mainly composed of five dimensions: user credit history, behavior preference, performance ability, identity traits and personal relationships. Based on Alibaba's electricity business transaction data, Ant Financial data, public security network data and partner data, Zhima Credit data covers credit card repayments, online shopping, transfers, finance, water and electricity bill payments, rental information, address relocation history and social relations. This differentiates Zhima Credit from traditional credit data. Zhima Credit analyzes a large number of online transactions and behavioral data, and conducts credit assessments on customers. Zhima Credit can draw conclusions on whether customers are willing or able to make repayments and decides the line of credit and repayment installments. (Ant Financial, 2017b)

(3) Cashless alliance.

In April 2017, Ant Financial together with the UN Environment Agency launched a cashless alliance to promote the use of non-cash transactions. Each transaction can be converted into data for establishing the credit system, to tackle the lack of credit data on SMEs and individual entrepreneurs, envisioning a green and inclusive cashless society created by Ant Financial and its business partners. (UN, 2017) This program focuses on non-cash transaction, mainly by encouraging customers to use Alipay when shopping. Transaction information can then be recorded and used as credit information in the future when customers want to get services from other companies. For example, when customers want to rent a car from the airport, those accumulated data help to score the customer's credit information, which could be used as a reference for the company to quickly judge the customer's credit. This program is mainly for data collection and accumulation for credit assessment.

(4) Cooperation with traditional banks.

Ant Financial cooperates with traditional banks, pursuing mutual benefits. Ant Financial provides comprehensive internet financial services. The main members of Ant Financial, i.e. Alipay, Ant Fortune, Ant Financial Cloud, Zhima Credit and MYbank, provide financial services not only to SMEs and individuals, but also to banking institutions. Traditional banks are connected to customers through Alipay. Customers transfer money in and out of bank accounts to Alipay to pay for e-commerce or social services such as electricity or gas bills. Ant Financial Cloud customizes cloud computing services for financial enterprises. MYbank introduces customers to traditional banks when they grow and financial demands exceed the limit of 5 million RMB. Ant Financial is not only a financial service provider, but also an intermediary connecting customers and banking institutions in internet finance. Ant Financial enlarges the range of customers traditional banks could reach, even though many traditional banks already have internet banking services for customers. Traditional banks need to join the Ant Financial platform to reach various transaction scenarios which they themselves could not create nor cost-efficiently repeat what Ant Financial has done. On the one hand, traditional banks enjoy the large customer base of Ant Financial; on the other hand, customers enjoy wider choices of banking services from Ant Financial's traditional bank partners.

4.2 MYbank

The nature of internet finance is finance; it is the complement and improvement of traditional finance. Internet finance is only different in the forms of engagement from traditional financial business; that is, the internet platform + traditional financial business = internet financial business. (Guo et al. 2016) Yet, in the case of MYbank, the internet platform enables much more flexibility in dealing with credit, the key element in financing, and goes beyond the range of efficiency that traditional banks could reach. The market welcomes formal licensed internet banks admitted by the government.

4.2.1 MYbank, a new player

MYbank opened in June 2015. It is a 100% internet bank. It is one of the first five pilot privately-owned banks approved by the CBRC. It is called a privately-owned bank in China only because the source of capital is 100% from private sectors. It was founded by Ant Financial as the largest equity holder with an injection of 30% of the capital. MYbank takes advantage of the Alibaba online platform—including Alibaba B2B, Taobao and Alipay Zhima credit—to collect credit and behavior data of customers, and make small amount, short term, unsecured loans to small-and-micro customers who usually cannot acquire loans from traditional banking institutions. By introducing internet data and online credit investigations, with crossing check technology and third party verifying, MYbank can confirm the authenticity of customer information.

Therefore, the behavior information on the e-commerce platform can be mapped onto the credit assessments of customers, better presenting the value and credit of small-and-micro customers. MYbank is China's first bank to build its core system architecture on the financial cloud computing platform. This network has the ability to deal with high volumes of concurrent financial transactions, massive data and flexible expansion. With the advantages of the Internet and big data, financial services can cover more SMEs. MYbank aims to provide financial services for internet businesses, as a pioneer of internet banks and a practitioner of inclusive finance, for SMEs, mass consumers, rural businesses and farmers, and to provide services for small and medium financial institutions. (MYbank, 2017a)

4.2.2 What differentiates MYbank from traditional banks?

From the beginning, MYbank set inclusive finance as its own mission, hoping to use the internet technology, data and channel innovation to solve the problem of difficulty of financing for SMEs, poor rural financial services and other issues, to promote the real economy.

(1) SMEs strategy.

In fact, the difference between internet banks and traditional banks is the difference between big and small. First, the customers of internet banking services are different. SMEs, individual consumers, and rural users are three major target groups of customers of MYbank. Compared with traditional banks, the number of consumers of internet banking services is relatively small, and is usually not paid much attention to by traditional banks. Second, the lending standards are different. Traditional banks tend to enlarge the amount of loans, whereas MYbank only provides services for small-and-micro customers, with an upper limit of 5 million RMB per loan. MYbank would rather target the long tail of internet users than the top 20% customers, considering the 80/20 rule. A creative product designed for SMEs by MYbank is the "trust pay". It is designed by MYbank for SMEs to first get goods, then payment. For first time user it is free, and the follow-up interest rate is as low as 1.25/10000 per day. (MYbank, 2017b) Guaranteed by MYBank, buyers of goods can postpone payment so, even when SMEs are penniless, they can still purchase goods for future sales. The amount of "trust pay" a customer of MYbank can use is calculated according to the credit rating in the system of MYbank. Customers with good credit ratings benefit more from this product. MYbank is trying to transfer visual internet credit into real economic value.

As of the end of October, 2016, the total balance of loans was 25.4 billion RMB in MYBank. Total assets of MYBank reached 53.8 billion RMB. The number of SMEs served by MYbank exceeded 2 million, with an average loan of 15000 RMB per SME. (CBRC, 2016b). Loan to SMEs of MYbank can be calculated as the balance of loans (25.4 billion RMB) minus The balance of loans of Wang agricultural credit (0.523 billion RMB). As a result, loan to SMEs of MYbank is 24.77 billion RMB as of Oct. 2016.

Table 1. *Loan to SMEs of MYBank in 2016* (RMB; %)

Total number of staff	Number of SMEs	Average loans per SME	Number of SMEs served by one staff	Loan to SMEs	Total asset	Loan to SMEs/ Total asset	Loan to SMEs per staff (RMB)
400	2,000,000	15,000 RMB	12,500	24.77 billion RMB	53.8 billion RMB	46%	61,925,000

(2) Rural strategy.

Rural financial service is an important strategy of MYbank. First, in September 2015, MYbank launched the "Wang agricultural credit" products. Loan applications and information uploading can be completed on mobile phones which are domestically researched and developed. The fastest process takes only half an hour from the beginning of application. As of the end of November 2016, "Wang agricultural credit" included 523 million RMB in outstanding loans; the number of users was 44300, and household loans amounted to an average 11,800 RMB. "Wang agricultural credit" covers all provinces and municipalities (except Hong Kong, Macao and Taiwan), including 347 cities, 2348 counties and 24700 villages. Moreover, "Wang agricultural credit" provides a special financial service for more than 30,000 college graduates who go back to counties or villages to start businesses. (CBRC,2016b)

Second, MYbank will follow Alibaba and Ant Financial’s rural strategy. Alibaba implemented a "thousands of county village" rural strategy project, that involves investing 10 billion RMB, covering 100,000 villages in China, within 3 years. (MYbank, 2016) With the deepening of Alibaba's rural strategy, MYbank will follow Alibaba side by side into the countryside.

Third, MYbank will cooperate with other financial institutions, especially with rural financial institutions. With these counterparts’ experience, MYbank could make full use of its own specialty including technology and risk-control means to provide services for rural clients. With access to the resources of the government, social capital, MYbank tries to channel services that are economically feasible to the countryside.

As of the end of October, 2016, rural financial product Wang agricultural credit covers nearly 25,000 villages nationwide. The balance of loans of Wang agricultural credit was 0.523 billion RMB, and stock customer numbered 44300. (CBRC, 2016b) There are about 400 employees in MYbank. (Xiao Ran, 2016) Base on the above data, the contribution per staff could be calculated as follows:

Table 2. *Loan to rural area as of Oct. 2016* (RMB; %)

Total number of staff	Number of customers using Wang agricultural credit	Average loans per customer using Wang agricultural credit	Number of customer using Wang agricultural credit served by one staff	Percentage of the balance of loans of Wang agricultural credit on total assets
400	44,300	11,806	111	0.97%

From table 2, we could see that staff of my banks are really efficient in serving rural area. One staff can deal with 111 customers averagely. The average amount of loans made to rural customers is 11806, which is quite small. Though Wang agricultural credit covers nearly 25,000 villages nationwide, the percentage of the balance of loans of Wang agricultural credit on total assets of MYbank is only 0.97%. MYbank could work more on rural customers to realize the growth potential from rural area.

From Table 1 and table 2, the contribution per staff can be seen in two ways. First, one member of staff at MYbank can serve up to 12500 SMEs without discrimination of SMEs size or financial background. Meanwhile, one member of staff at MYbank can serve up to 111 customers using Wang agricultural credit. MYbank is quite efficient in serving customers. However, compared with SMEs, the number of customers using Wang agricultural credit served by MYbank is much smaller. The balance of loans of Wang agricultural credit on MYbank’s total assets is only 0.97%. On the one hand, SMEs with better business opportunities are developing faster than rural customers; on the other hand, given the large rural market of China, the prevalence of Wang agricultural credit could activate the demand of rural customers. Average loans per customer are no more than 20000 RMB for both SMEs and Wang agricultural credit. Thus, there is no big funding demand gap between SMEs and rural customers of MYbank. In this case, internet finance is more equal in demand, because the target customers' businesses are small.

(3) The efficiency of MYbank.

The efficiency of MYbank in dealing with inclusive finance is improving. Compared to other banking institutions, MYBank is efficient in serving SMEs. First, from table 2 and table 3, we could see the percentage of loans to SMEs on total asset for MYBank is 46%, while the highest among other banking institutions is only 24.73% in rural commercial banks, and the average is 11.5% for banking institutions. In this case, MYbank is more focused on SMEs than other banking institutions. Second, the staff of MYbank are more efficient in serving SMEs, with each staff issuing up to 61.9 million RMB loans to SMEs, while the highest amount of each staff issuing loans to SMEs is city commercial banks, with 1.22 million RMB per staff. And the loan to SMEs made in banking institutions is 0.7 million per staff.

Table 3. *Loan to SMEs of Banking institutions in China in 2016* (RMB; %)

	Number of institutions	Number of staff	Loan to SMEs (billion RMB)	Total asset (billion RMB)	Loan to SMEs/ Total asset	Loan to SMEs per staff (RMB)
Banking institutions	4262	3,800,000	26,700.9	232,253.2	11.50%	702,655
State-owned commercial banks （SOCBs）	5	1,730,291	66,48.3	86,598.2	7.68%	384,230
Joint stock commercial banks (JSCBs)	12	402,432	3,919.4	43,473.2	9.02%	973,929

City commercial banks	133	370,124	4,506.3	28,237.8	15.96%	121,7511
Rural commercial banks	859	464,055	4,994.4	20,198.9	24.73%	1,076,252
MYbank	1	400	24.77	53.8	46%	61,925,000

Source: except for MYbank, number of institutions and staff is cited from (CBRC, 2015), while the other data is from (CBRC, 2017b)

(4) Cloud computing. The special feature of MYbank is that it built the core financial system architecture in the cloud. Its core system is based on Alibaba's independent research and development of the distributed architecture of financial cloud computing and OceanBase database development. MYbank is running on Ant Financial Cloud, which has high-availability disaster tolerance (up to 99.99%), capital security management (billions of dollars / daily changes), high numbers of concurrent transactions (peak workload of 8.59 million per second processing capacity), real-time security control (millisecond-level risk prevention capability), and low-cost transactions (less than RMB 0.10 per transaction). (Ant Financial, 2017b) Thus MYbank is equipped to deal with high numbers of concurrent financial transactions, massive volumes of data and flexible expansion. The advantages of internet and big data enable MYbank to provide financial services for more SMEs. MYbank operates only online, with no physical network, no cash business, no branches, and no counters. MYbank operates based on cloud computing technology and big data risk control, with a strategy of less emphasis on assets, which is also an important feature differentiating MYbank from traditional banks. This less emphasis on assets is not dependent on the traditional development model of expansion of capital, physical networks and personnel, but in the way of internet and digital operations. The process of issuing a loan in MYbank starts when the customer fills out and submits a loan application in 1 minute; the loan is

issued to the clients' account within 1 second, and there are zero human interventions in the process. (CBRC,2016b)

MYbank tries to speed up the circulation of funds, not chase growing asset scales or commercial profits as the goal. There are about 400 employees in MYbank; two-thirds of the staff are internet technical personnel engaged in roles such as data modeling. In the past, the percentage of internet technical personnel is around 10% at most traditional banks. MYbank is a technology company with a bank license. Technology plays a role in driving the bank, and the whole bank business in cost reductions and daily operations. Through extensive use of cloud computing and internet technology, internet banking has a technical advantage, and these advantages could bring better user value. Because of lower IT costs, MYbank account management costs less than 1 RMB a year, well below the traditional bank model of 50 RMB. The direct benefit to the customer is free annual fees. (Xiao Ran, 2016)

Cloud computing enables MYbank to know their clients better than the clients know themselves. When the client will need a loan or whether the client has the ability to repay the loan, MYBank can make judgments in real time or even ahead of time, based on the accumulation of big data and the establishment of risk model. The loan is made to customers by computer, not in person. Because there is no manual intervention, the decision can be made by computer models and big data. The standard of MYbank in accepting a client is not the client's assets, but the credit history of the client. In addition, MYbank's costs are less than those of traditional banks. Based on the financial cloud architecture, MYbank's system can expand anytime, anywhere, quite flexibly. In traditional banking IT systems, when the star financial products are on sale online, the bank often has to limit the volume of sales owing to the limited processing ability of system, and cannot meet customer demand. However, cloud computing performs well even on "double eleven" (November 11) each year, when explosive trading volume occurs.

5. Results and Discussion

(1) Banking institutions working together for inclusive finance.

Traditional banks and internet finance both try to promote inclusive finance in different methods based on their own resources respectively. Traditional banks would like to make full use of their physical branches and large number of funding sources and personnel as an edge in competing with internet finance. However, traditional banks are somewhat dragged down by their own size in dealing with inclusive finance. The maintenance of one deal, one customer, and one account is not cost effective for traditional banks when dealing with inclusive finance customers. The hierarchy system of traditional banks makes the change from headquarters to the lower level take some time. For example, the inclusive finance department reform of ICBC would take up to years to realize the original objective of the designers. With the rise of internet finance, traditional banks have observed the business opportunity and market of the marginalized SMEs and Three Rural Issues. Now traditional banks are investing more in technology-related operation and management, not only to prevent risk but also to update to the e-commerce era. Thus, traditional banks and internet finance have agreed on supporting building credit databases and promoting electronic networked services to deal with inclusive finance.

Moreover, internet finance is facing fierce competition from traditional banks. After realizing how large the market for internet finance is, traditional banks have been fighting to get a share of it. Some traditional banks have launched their own applications, opened shops in Alibaba’s Taobao and launched WeChat public service numbers. Traditional banks actively build their own ecological circles in internet finance. Internet finance and internet banks need to work hard to keep the position of pioneer in the market, though the competition is good for promoting inclusive finance more widely.

(2) Advantages of internet finance.

Internet finance takes the lead in data collection, credit assessment, efficiency, lower costs, and ability to deal with large volume of customers with short-term and small demands for funds. After more than 10 years of experience in e-commerce, Alibaba made it possible for Ant Financial and MYbank to get credit information from ZHIMA Credit, and work on Ant Financial Cloud to deal with large volumes of concurrent transactions at low cost. Any policy changes can be input into the cloud computing system and become effectiven right away, without human intervention. Customers can get information from the beginning of the policy's implementation. For example, interest rate changes can be implemented anytime, anywhere, since internet financial and banking services are available 24/7. Internet finance provides equal opportunities to provide financial services to all social strata, as long as the internet is available. Because internet finance can provide small loans with no minimum requirement and wealth management products require as little as 1 RMB to join.

(3) Development of inclusive finance for SMEs and rural finance.

Development of inclusive finance for SMEs and rural finance is unbalanced. From the case studies, internet finance indeed promotes inclusive finance by supporting SMEs and the Three Rural Issues, and there is great potential in the market. However, internet finance is better at supporting the development of SMEs, rather than that of rural areas. Historical data accumulation is better in urban areas than in rural areas, and mostly for SMEs. Accumulated trading data and account behavior data can be used for credit ratings for customers, and later for financial services such as loans. These data give an edge to internet finance for providing financial services to SMEs. In the rural market, internet finance lacks accumulation of data, especially data from farmers’ daily lives and consumption transactions. Internet finance has no clear development model in rural area, but it continues to try. Rural data acquisition and accumulation can be achieved through time and future work, given the situation of lagging behind already.

(4) Innovation and differentiation.

From the case studies, innovation not only in products and service, but also in market differentiation counts equally. For example, MYbank observes and researches the attributes and demands of its clients, and designed “trust pay” for SME customers who buy and sell in the Alibaba ecosystem. MYbank also designed "Wang agricultural credit" for rural customers. Both products became popular because they met the needs of customers at the right business timing and suited the demands of customers well. Such innovative financial service products sustain the competition of markets. Second, internet finance views market opportunities in triangular ways. The future of internet finance relies on long tail customers. These customers used to be marginalized by large corporates and banks and this makes a difference for internet finance. Traditional banks chase large corporates and high-end individuals, and view these and only these customers as valuable and valid customers. The long tail market was ignored until internet finance emerged. This market’s growth shows big potential. It is fertile ground for internet finance to grow in.

(5) Security control for cloud computing.

Technological innovation has brought cloud computing, which equipped internet finance to be internet banks with big data processing capability. Internet finance, especially MYbank as a bank, have to play safe and sound to build reputation with customers. Security control becomes a key issue. In the case of MYbank, security control exposed two main sources of uncertainty in internet finance. First, from the start of service, the identity of the customer cannot be confirmed in the same way as traditional face-to-face interviews with bank tellers, but other supplementary means to confirm must be used. Second, in daily operating, internet finance face hacker attacks and information leakage threats. Internet finance operate online only, and all services are provided online. As hackers' technology upgrades rapidly, data breaches in internet finance could happen anytime, anywhere. Internet finance has to survive the competition and hackers simultaneously.

(6) Regulation limitations.

Supervision from the CBRC. Differentiated regulatory design needs to be refined. Detailed rules for the implementation on market access issued by the CBRC clearly stipulate that admission of internet banks will refer to the city commercial banks' market access standards. (CBRC, 2015) Internet banks should adhere to the "one bank one shop" requirement, that is, internet banks can only set up bank operations in the city where the office is located, and cannot go cross region. Guidance on the supervision of privately owned banks issued by the CBRC in 2016 showed that shareholder risk was the greatest fear for the market and supervisors about internet banks. (CBRC, 2016c) The supervision of internet banks is part of the CBRC's urban commercial bank supervision department, and supervisory indicators, such as capital adequacy ratio and non-performing loan ratio, refer to the supervision standards of urban commercial banks' supervisory indicators.

Supervision from the People's Bank of China. The central bank's account opening rules are needed to consider risk prevention and development of internet financial business needs. Remote account opening was made available conditionally. In 2015, the People's Bank of China issued the Notice on Improving the Management of Personal Accounts to Enhance Account Management. Personal bank accounts are classified into Class I, II and III, of which II and III can be applied for through internet channels. When opening a Class II account through internet channel, the account should be tied with the applicant's Class I account. This is a means for verification of the account applicant's identity, because the customer must open a Class I account in person in a traditional bank with a bank teller. (PBOC, 2015) However, if traditional banks are reluctant to release the information to others, internet banks will be blocked in verifying the account applicant's identity. Therefore, MYbank issues loans to other bank accounts of customers, or Alipay accounts that are also based on other bank's account systems.

Internet banks have only a few sources of funding. Reputation needs to build slowly after new establishment of an internet bank. With restrictions on remote account opening and "one bank one shop" requirements, internet banks end up relying on debt and shareholders for funding at this stage. (Wang Gang & Feng Zhiyong, 2016) The sources of funds are concentrated and limited. This explains why internet finance and especially internet banks cannot rely on deposits like traditional banks.

6. Conclusions and Recommendations

The Pareto principle, the 80/20 rule, describes a common pattern of sales concentration. However, information technology development substantially increases the collective share of niche products, including financial products, thereby creating a longer tail in the distribution. Groups marginalized in the past, such as SMEs and those encompassed by the Three Rural Issues, are better reached by internet finance. It is feasible only because internet finance is low cost and easily accessible. Customers are not excluded because of poor financial background, and customers can apply for financial services from a small starting fund demand, which may be too small for traditional banks to ask for financial services at all.

(1) Traditional banks work with internet finance in promoting inclusive finance. Traditional banks make full use of their physical branches and large number of funding sources and personnel to give them an edge in competing with internet finance. However, traditional banks are somewhat dragged down by their own size when dealing with inclusive finance. Traditional banks are not excluded from internet finance. First, traditional banks can partner with internet finance to provide services such as Alipay in payment and settlement. Second, traditional banks can provide funding to internet finance as investment, since internet finance are not as rich in funding as traditional banks. Third, traditional banks can partner with internet finance to nurture customers together. For example, when the SMEs grow and financial demand exceed the maximum internet finance could provide, the customer could be transferred to traditional banks.

(2) Internet finance matches the patterns of inclusive finance customers. Internet finance have advantages in data collection, credit assessment, and efficiency, lower cost,

and high volumes of customers with short-term and small demands for funds. Information asymmetry of credit between banks and customers is the key obstacle impeding customers getting matching to financial services. Traditional banks build databases to collect and analyze data and to make decisions, to address information asymmetry; however, the source of credit information is limited to formal channels. This system is not cost effective to deal with inclusive finance, which requires huge numbers of small short-term loans. Internet finance makes it possible to directly collect information about potential financial transaction parties, to form new source models of information. In this case, customer information, trading price, social economic information can be more precise and transparent, the credit information can be more customized and useful, and the interest rate can be accurate and market-orientated. The internet business model is built on big data and cloud computing technology. Internet finance in China stick to this model to deal with SMEs and the Three Rural Issues in promoting inclusive finance because it is more cost efficient and feasible than traditional banking service.

Generally, internet finance, including internet banks named privately-owned banks in China, supplement existing financial institutions in promoting inclusive finance to serve the long tail. Only internet finance is feasible for dealing with inclusive finance in China. First, internet finance can deal with insufficient traditional credit data, and fill the gap with e-commerce and other credit information. Second, internet finance is low cost enough to deal with large amounts of concurrent transactions with small demands of funds from customers. Third, internet finance is more effective in penetration level in inclusive finance market, because of its easy accessibility. Moreover, for the future, internet finance is a good combination of both inclusive finance and commercial sustainability.

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