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Research on Fintech, Regtech and Financial Regulation in China

—Taking the "Regulatory Sandbox" of Beijing Fintech Pilot as the Starting Point

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Abstract

This article takes the Chinese version of the "regulation sandbox" officially launched in Beijing on December 5, 2019 as the starting point for research. First, it analyzes the development trend of Fintech and the basic situation of domestic Fintech development. Then, by combing the current development trend of China's Fintech to the challenges brought by financial regulation and the stable operation of the financial industry, it is pointed out that under the situation of network and distributed application of Fintech, improving the capability of Regtech can promote the change of financial regulation model; Finally, in combination with the main regulatory scientific and technological means that have been implemented with the development of financial technology in the world, this paper puts forward relevant policy suggestions on improving the financial Regtech framework in China.

Keywords

Fintech, Regtech, Financial Regulation, Regulatory Sandbox

1. Introduction

In recent years, technology has brought new development opportunities to the financial market. Financial technology has continued to deeply influence financial service methods and risk management models. While changing the industrial form of the financial industry, it has also brought increasingly hidden risks. It is difficult to obtain effective supervision. In a highly digitized, networked and distributed Fintech application environment, in order to cope with market operations and development changes, the supervisory authorities realized that they must improve the technological level of supervisory means and enhance their ability to supervise science and technology. Supervisory technology came into being at the historic moment. Regtech can improve regulatory efficiency, reduce compliance costs for financial institutions, and face good development opportunities.

To this end, China's regulatory authorities actively use Regtech to respond, and the market has also paid great attention to the role that Regtech can play. On December 5, the People's Bank of China announced that in order to implement the spirit of the Fourth Plenary Session of the 19th Central Committee of the Party and implement the "Fintech Development Plan (2019-2021)", the People's Bank of China actively constructs the basic rules and regulations system for financial technology supervision. Explore the use of flexible management methods such as information disclosure, product disclosure, social supervision, and strive to create an inclusive and prudent Fintech innovation supervision tool, and strive to improve the professionalism, uniformity and penetration of financial regulation. In accordance with the "State Council's Reply on the Comprehensive Pilot Work Plan to Promote the Opening-up of Beijing's Service Industry", the People's Bank of China supports the first pilot of Fintech innovation supervision in Beijing and explores the establishment of a Fintech innovation supervision tool that is in line with China's national conditions and in line with international standards, to guide licensed financial institutions to use modern information technology to empower finance to improve quality and efficiency on the premise of complying with laws and regulations and protecting consumer rights and interests, and to create a defensive, safe, inclusive, and open financial technology innovation and development environment. On the afternoon of the same day, the Beijing Municipal Financial Regulation and Administration Bureau disclosed that Beijing was the first country in China to launch a Fintech innovation supervision pilot and explore the construction of a prudent and inclusive Chinese version of the "regulation sandbox". As early as July of this year, Li Wei, the director of the Science and Technology Department of the People's Bank of China, said that the central bank, in conjunction with relevant ministries and commissions, will carry out Fintech application pilots in 10 provinces and municipalities, including Beijing, Shanghai, and Guangzhou, so as to establish and improve policies suitable for Fintech development; the pilot is the Chinese version of "sandbox" regulation.

After reading the review of major events in China's financial regulation in 2018 and the China Financial Stability Report 2019, you can draw the following conclusions: 2018 is a year of the beginning of the implementation of the spirit of the 19th National Congress of the whole country, and it is also a challenging year. 2018 Significant progress has been made in the reform of the financial regulation system. The establishment of the CBRC has transformed the financial regulation structure from "one party, three committees" to "one committee, one committee, two committees"; preventing and resolving major risks is the first battle to defeat the three major challenges of building a well-off society. Among them, preventing and resolving major financial risks is of paramount importance. In the year of completion of a well-off society in 2020, we should further improve the regulatory system and introduce trial measures for the supervision and management of financial holding companies as soon as possible. It can be seen that China is always improving the financial regulation system and doing its best to prevent potential risks brought by financial technology.

2. Literature Review

The Fintech wave is sweeping the global financial industry, and technology-driven financial innovation presents both opportunities and challenges to financial regulation. Many scholars have done a lot of research on the trials of Fintech, Regtech and regulatory sandbox. Liao Min (2016) believes that in the face of the challenges of financial technology, not only must the regulatory concept be debugged and innovated, but the regulatory framework has also been impacted by a series of problems. The most prominent challenge comes from the blockchain [1]. Tang Li *et al.* (2016) interpreted the financial technology innovation part of foreign financial regulatory policies and obtained the financial regulatory agencies of the United States, Britain, Singapore and Australia in order to achieve a balance of encouraging innovation and preventing risks, and protecting consumer interests. Over the years, regulatory policies have been introduced to encourage financial technology companies, including startups without financial licenses, to innovate financial products and services [2]. Xue Gao (2017) pointed out that the "regulatory sandbox" is equivalent to China's pilot project, which aims to create a "safe space" and moderately relax the regulatory conditions, allowing Fintech startups to test innovative finance in a small range of real market environments Products, services, business models and delivery mechanisms without having to worry about the regulatory risks and interventions associated with engaging in innovative activities [3]. Liu Nian *et al.* (2107) proposed in the field of financial regulation technology that sandbox experiments should be carried out on supervision technology and maintain the flexibility of supervision [4]. Yin Haiyuan (2017) believes that incorporating Fintech innovations into the regulatory sandbox for supervision is an effective technical approach to solving China's Fintech, including Internet financial regulation issues [5]. Huang Zhen *et al.* (2018) believe that the logic of China's flexible supervision and the "sandbox supervision" are logically convergent and highly consistent. Based on this, learning from and absorbing the results of the regulatory sandbox will promote the improvement of China's Internet financial regulation, both logically. In terms of measures, there are certain basic conditions [6]. Tan Shuqing (2018) believes that it is possible to learn from the experience of extraterritorial supervision on the "supervisory sandbox" to address the problems existing in China's traditional supervision, carry out localized design, change the concept of static supervision, use local pilots to operate the regulatory sandbox, and strictly control risks On the basis of cooperation and complementarity with enterprises to achieve a win-win situation of innovation and supervision [7]. Wang Hongjie (2019) pointed out that for China, it is necessary to adhere to the principle of reasonable and appropriate supervision, draw on the beneficial experience of the "regulation sandbox", launch financial assistance tools, adhere to market orientation to promote financial reform, strengthen prudential supervision and behavior supervision, and strengthen international cooperation. Promote regulatory convergence to promote Fintech innovation under the premise of effective risk prevention and control [8].

It can be seen that most scholars point out that the concept of flexible supervision in our country is highly compatible with "sandbox supervision". Drawing on the practical experience of "regulation sandbox" in foreign countries, it can effectively prevent the impact of financial technology on traditional supervision methods. This is in line with the formal launch of the "regulatory sandbox" on the Beijing Fintech pilot on December 5 this year. It can be seen that in the face of an increasingly complex market environment and greater challenges, China's financial regulation and risk monitoring the implementation is becoming more and more perfect, but the exploration and application of the "regulatory sandbox" still needs to be pushed forward at full speed.

3. Fintech Development Status

3.1. Development Trends of Fintech

In 2017, the Financial Stability Board (FSB) summarized "Fintech" as a technology that promotes financial innovation, forming business models, technology applications, and processes and products that have a significant impact on financial markets, institutions, and financial services. The Basel Committee on Banking Supervision (BCBS) summarizes the four most active areas of international Fintech activities: one is payment and settlement, such as mobile wallets and digital currencies; the other is deposits and loans and capital raising, such as online lending and equity. The third is investment management, such as intelligent investment consulting; the fourth is financial market infrastructure, such as customer identification, distributed accounts, cloud computing, and so on.

1) From the development trend

The development of Fintech in the past ten years has been prominently manifested by the rise of various new payment instruments. Technological companies represented by Internet platforms and communication companies have poured into the global financial services market. On the other hand, financial institutions have actively used automation and Decentralization and other technologies will improve the efficiency of internal operations and the quality of financial services. At present, there are opinions that some financial services and some financial infrastructure provided by commercial banks and central banks may be replaced by new companies, automated procedures and decentralized networks in the future. For example, Facebook proposed the idea of the digital token Libra, which has aroused widespread concern in the international community.

2) From the technical perspective

The application of various computer technologies in the fields of payment and settlement, deposit and loan, risk management and investment consulting has reached unprecedented heights. In the application of artificial intelligence and big data, increasingly advanced algorithms can analyze and mine transaction characteristics and behavior patterns on the basis of billions of transaction data, predict subsequent behavior, and automate decision-making. In terms of distributed accounting technology, it serves as a number of financial. The underlying technology applied by the industry has potential advantages such as "business-to-business" (B2B) loan transactions that reduce costs and achieve de-intermediation, but it has aspects such as system performance, scalability, storage capacity, privacy protection, and security issues. There are also shortcomings; in terms of mobile device and Internet technology development, consumers can fully enjoy financial services through mobile portable devices, or access financial service interfaces through third-party applications, which can promote the development of online lending and corporate direct financing, and promote inclusive finance. Development; In terms of encryption technology, its development will provide support for expanding the application prospects of various other technologies.

3.2. Basic Situation of China's Fintech Development

In recent years, high technologies such as big data, distributed accounting, cloud computing and artificial intelligence have promoted the rapid development of China's financial innovation, giving birth to new formats such as Internet payments, online lending, equity crowdfunding, and intelligent investment and consultation. Traditional financial institutions use science and technology to innovate and develop. The first is to adjust and optimize business strategies and structures, abandon the "people-sea tactics" relying on traditional outlets, and while consolidating traditional channels, explore diversified channels such as mobile phone applications, WeChat public accounts, and online direct sales to expand online financial services. The second is to improve service efficiency, continuously innovate products and services through Internet channels, and carry out supply chain finance, face deposit and withdrawal, and network financing for small and micro enterprises. The third is to improve operating efficiency, develop and apply new technologies such as artificial intelligence, carry out intelligent investment and advisory business, introduce blockchain technology in payment settlement, credit management, asset custody, etc., and use smart contracts to simplify risk management and increase transparency. Large-scale technology companies have accelerated their deployment in the financial industry. First, in terms of license acquisition, in 2015, Alibaba and Tencent each set up Zhejiang Online Commerce Bank and Qianhai Weizhong Bank as the main sponsors, setting up "service venues" online to break the time and space restrictions of traditional financial services. Secondly, in terms of optimizing financial services, the mobile payment services provided by Internet companies occupy an important position in the retail payment field. Ant Financial also provides credit information, cloud computing, and asset trading through sesame credit, Ant Financial Cloud, and online financial services. Financial services such as platforms. The third aspect is business cooperation, which is mainly reflected in the fact that technology companies create online operating platforms for traditional financial institutions, open up the latest artificial intelligence technology to financial institutions, and provide online channels for financial product sales.

In addition, all types of enterprises have a strong impulse to run finance, but the good and bad are mixed. Since 2012, due to low entry barriers and other factors, Internet finance, such as online lending and equity crowdfunding, can be set up by ordinary people. The peak number of online lending platforms in the country exceeded 5000. The development of these platforms is uneven, and while meeting diversified investment and financing needs, it has accumulated many problems and risks. Since the second half of 2018, as the downward pressure on the economy has increased, more than 1000 online lending platforms have concentrated in thunder, especially the outbreak of some risk events, which have caused a large negative impact on the reputation of the industry and endangered social and financial stability. Business development became widely agreed. It will provide support for expanding the application prospects of various other technologies.

4. Challenges of Fintech Development in China

The development of Fintech has promoted inclusive finance, which has played an active role in facilitating financial transactions, meeting diversified investment and financing needs, improving the quality of financial services, and improving the efficiency of resource allocation. However, it has also exposed a series of problems that have contributed to maintaining the financial industry Operation brings challenges.

4.1. Increase the Relevance and Procyclicality of the Financial System

Fintech has made financial institutions, technology companies, and financial market infrastructures more closely linked. If anyone of the three links fails, it can be rapidly amplified and form systemic risks. In addition, while financial institutions reduce costs through technologies such as automation and artificial intelligence, the convergence of underlying algorithms and operations may cause large fluctuations in prices in financial markets, cause risk overlap and resonance, and exacerbate the procyclicality of the financial system.

4.2. Impact on the Effectiveness of Macro-Control Policies

Various Fintech innovations have increased the statistical complexity of monetary finance, especially some financial products and businesses in fact have a term conversion function, which affects the transmission of monetary policy; the lack of regulated online lending easily leads funds to backward production capacity and restricted areas, which is not conducive to the role of credit policies; some technology companies have financial infrastructure such as payment clearing, credit reporting and financial asset trading platforms, which have an impact on the formulation of rules in related fields, access and withdrawal.

4.3. Challenges to the Current Financial Regulation

Due to the relatively relaxed Internet regulatory environment, some Internet financial services are detached from financial regulation or take advantage of existing gaps in branch supervision for arbitrage.

4.4. Hidden Information Security Risks

While Fintech helps financial institutions to better understand their customers, it may also bring social problems such as excessive information collection, abuse and leakage. In addition, some organizations have mastered massive amounts of consumer data and monopolized the entire information chain. Once a data breach or cyber attack occurs, it may even threaten the data security of the entire country.

5. Suggestions for Piloting the "Supervisory Sandbox"

5.1. Main International Fintech Regulation Practices

At present, Fintech regulation has not yet formed an international standard framework. From a practical point of view, major economies are paying close attention to Fintech development trends and adjusting the current regulatory framework in a timely manner, paying attention to balancing the relationship between encouraging innovations and preventing risks. In terms of policies and regulations, focus on improving the current system and strengthen consumer protection; in terms of regulatory framework, focus on functional supervision and licensed supervision to ensure effective coverage; in terms of regulatory tools, focus on exploring innovation promotion mechanisms, balancing the relationship between risk management and encouragement of innovation; in terms of regulatory coordination, focus on consistent supervision and international cooperation to avoid regulatory gaps and regulatory arbitrage; in terms of capacity building, focus on developing compliance technology and Regtech to improve regulatory effectiveness.

5.2. Relevant Suggestions for Piloting the "Supervisory Sandbox"

In recent years, China has made some progress in improving the Fintech regulatory framework. In July 2015, 10 ministries and commissions including the People's Bank of China, the Ministry of Industry and Information Technology, and the Ministry of Public Security jointly issued the Guiding Opinions on Promoting the Healthy Development of Internet Finance. In December of the same year, the China Internet Finance Association was established; in April

2016, the State Council Office issued the Implementation Plan for the "Special Rectification of Internet Financial Risks"; in August 2017, Netlink Clearing Co., Ltd. was established to incorporate the online payment business of third-party payment institutions such as Alipay, Tenpay, Jingdong Payment into centralized unified clearing management. In 2015, the financial management department successively issued regulations on third-party payment, online lending, equity crowdfunding, and online insurance. On December 5, 2019, the Chinese version of the "regulatory sandbox" was officially launched, taking the lead in landing in Beijing. Drawing on relevant international experience and combining with China's actual situation, the next step should be to actively improve the regulatory framework, improve Regtech, and actively respect and prevent financial risks while respecting market principles and encouraging innovation.

Finally, return to the entry point of this article, and make recommendations for the content that China should focus on when piloting the "regulatory sandbox":

1) Focus on consumer rights protection

Judging from the practical experience of the "regulation sandbox" in various countries, the protection of financial consumer rights and interests has been highlighted. The central bank also mentioned in the announcement that it is necessary to use modern information technology to empower the government on the premise of compliance with laws and regulations and protection of consumer rights and interests and improve financial quality and efficiency.

2) You can further explore the scope of the subject of the expansion application

The central bank announcement said that China's "regulatory sandbox" mainly guides licensed financial institutions to use modern information technology to enable financial quality and efficiency, and it can be seen that the main body of China's "regulatory sandbox" is limited to licensed financial institutions. At present, some chaos in the integration of finance and technology are mainly caused by the blind operation of some non-licensed institutions. In the future, with the advancement of the "regulatory sandbox" and the practical experience of other countries, we can further explore the expansion of the scope of the application subject [9] Include more Fintech participants in the trial.

3) Possible areas for testing in the future

Recently, the management department of the people's bank of China revealed that 46 Fintech projects were approved by six ministries and commissions of the country through the formulation of pilot programs and the organization of the application and selection of pilot projects, involving 77 participating institutions and enterprises, distributed databases, artificial intelligence and other technologies. Expected, digital currency and syndicated loans involve the traditional financial field but controversial products may enter the scope of the pilot; in addition, under the guidance of national support Pratt & Whitney financial development, some can be a significant boost to micro, small and medium enterprises, Pratt & Whitney finance, rural financial service quality, and the effect of the technology can also be applied scope of the pilot [10].

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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