

Construction of enterprise financial data supervision system under the background of financial technology

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Abstract: Scientific and technological progress can drive the development of financial innovation, and increase the operational risk and technical risk of the financial industry, which may lead to the induction of systemic risk, forcing regulators to invest more energy and time to carry out regulatory work. The essence of financial technology is to use Internet information technology to re improve and upgrade the traditional financial business model and services, which has the advantages of low cost and high efficiency in financial transactions. However, due to the constraints of information and data, high supervision cost and asymmetric information, China's financial technology supervision lags behind seriously, and can't match with various financial technology application scenarios, applications and services, resulting in the accumulation and outbreak of financial technology risks. In the long run, China should establish a financial supervision system with unified supervision, division of labor and cooperation and umbrella management.

1. First Section

In recent years, technologies such as artificial intelligence, blockchain, big data, and the Internet have driven the development of financial innovation, and promoted the birth of a large number of new models that are essentially different from traditional financial institutions such as insurance companies and commercial banks [1]. Among them, financial technology is a typical representative. Fintech is a technology-driven financial innovation. The core is to use emerging technologies to transform or innovate financial products, business models and business processes [2]. In recent years, the application of innovative technologies based on big data, cloud computing, Internet of Things, and artificial intelligence has developed vigorously, effectively improving financial service capabilities and efficiency, reducing financial transaction costs, and expanding the breadth and depth of financial development [3]. Whether it is market size or total investment and financing, China has gradually become a global leader in financial technology. Due to the many advantages of financial technology, it has received widespread attention from all over the world as soon as it was proposed [4]. Financial regulatory laws and regulations are usually not formed spontaneously, but regard regulation as a source of predictability, which is generally due to the continuous follow-up of the pace of financial regulation during the financial crisis or economic depression, as well as the centralized reform of the financial regulatory system [5]. The legislative process is also based on lessons learned afterwards to prevent the recurrence of the crisis [6]. However, in the face of the ever-changing market innovation, the foresight ability of financial legislation is greatly limited, and the legislative process is too slow, resulting in the supply of relevant systems is far from enough [7]. As a financial innovation driven by frontier science and technology, the destructive innovation characteristics of impact, change and subversion contained in financial science and technology itself determine the reasonable necessity of placing it in the connotation paradigm of financial supervision [8].

2. The development process and system construction of financial science and technology supervision

Big data promotes the fine operation of financial business. Big data is an information technology and service format that collects, stores, and analyzes data with a large number, scattered sources,

and diverse formats, and discovers new knowledge, creates new value, and promotes new capabilities [9]. In recent years, big data has been widely used in financial business. By integrating, modeling and mining financial data, we can create an innovative model of financial services and further promote the refined development of financial business. Financial technology is the product of financial innovation and a brand-new financial service, which does not belong to the traditional financial system. Therefore, the traditional financial supervision and related laws and regulations are no longer applicable in the era of financial technology. The report of the 19th National Congress of the Communist Party of China put forward the requirement of “holding the bottom line of preventing systemic financial risks”. Therefore, regulators devote most of their energy to large financial institutions that may induce systemic risks. The supervision of the large number and rapid development of small financial technology companies ignores the inherent financial risks [10].

(1) The development of financial technology supervision

The financial supervision system has rich connotations, including the establishment of financial supervision institutions, supervision functions, supervision ideas, supervision objectives, supervision means, etc. Among them, the financial supervision system is the core of the financial supervision system. The so-called financial supervision system mainly refers to the establishment of financial supervision institutions. The change of financial supervision system will cause the change of supervision function and efficiency. The development of China's financial technology has roughly gone through three stages, as shown in Figure 1. There are great differences in the subject, objectives and technical means of financial technology supervision in different stages.

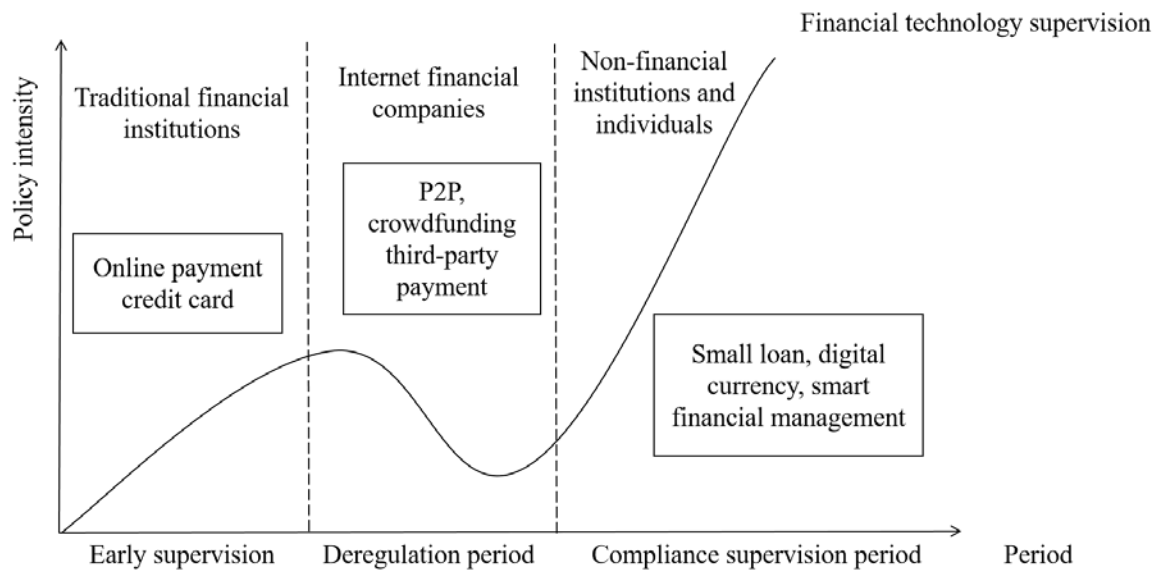


Figure 1 The development history of China's financial technology regulation

Especially since the implementation of China's "internet plus" development strategy, the main body of China's financial technology supervision has gradually shifted, from traditional financial institutions to Internet financial enterprises and then to non-financial institutions. At the same time, the supervision intensity and goal of financial technology also change with the application degree of financial technology. A clear data ownership and benefit distribution mechanism is the premise of financial data protection. In the dimension of data rights protection, different types of data correspond to different protection rules. Only by clarifying who is the subject of data rights from the source can we effectively protect data security and provide legal basis for the use and circulation of data.

Table 1 Financial data related regulatory documents

Release time	Regulatory file name	Issuing agency
August 2005	"Interim Measures for the Management of the Basic Database of Personal Credit Information"	People's Bank of China
August 2007	"Administrative Measures on the Recognition of Customer Identity of Financial Institutions and the Preservation of Customer Identity Information and Transaction Records"	People's Bank of China
June 2010	"Guidelines for Comprehensive Risk Management of Banking Financial Institutions"	Former Banking Regulatory Bureau
January 2011	"Notice of the People's Bank of China on the Protection of Personal Financial Information by Banking Financial Institutions"	People's Bank of China
March 2012	"Notice of the People's Bank of China on Financial Institutions to Further Protect Customers' Personal Financial Information"	People's Bank of China
February 2013	"Guidelines for the Supervision of Information Technology Outsourcing Risks of Banking Financial Institutions"	Former Banking Regulatory Bureau
December 2016	"Implementation Measures for the Protection of the Rights and Interests of Financial Consumers of the People's Bank of China"	People's Bank of China
May 2018	"Guidelines for Data Governance of Banking Financial Institutions"	Banking and Insurance Regulatory Bureau
October 2019	"Trial Measures for the Protection of Personal Financial Information (Data)"	People's Bank of China
December 2019	The People's Bank of China on "Implementation Measures for the Protection of the Rights and Interests of Financial Consumers of the People's Bank of China (Draft for Solicitation of Comments)"	People's Bank of China
February 2020	"Technical Specifications for Personal Financial Information Protection"	People's Bank of China

Under the background of financial technology, mastering data will control the right to speak. Financial institutions have a large amount of financial data, and they have a statutory confidentiality obligation for financial consumer data. However, the driving force of commercial interests and the prominent problem of information asymmetry in the financial market are important for financial consumers' data. Protection poses a great threat.

3. The general idea of reforming and perfecting China's financial supervision system

In the history of financial supervision, the development and reform of financial supervision are driven by the combination of supervision mode and supervision principle. The traditional financial supervision originates from the lessons learned from the past financial security accidents and financial crises, which plays a vital role in maintaining financial development and financial market stability. In other words, without the rapid rise of a new round of financial innovation led by financial technology, or the acceleration of business risk spillover by financial technology. Financial technology can improve the efficiency of resource allocation and service capacity, and promote the rapid transformation of traditional financial industry. However, under the background of financial technology, the service mode is more virtual, the business boundary is gradually blurred, and the business environment is constantly open, which makes the traditional financial risks such as credit risk and liquidity risk present spillover effect. Perhaps the existing financial supervision rules, paths and systems can still be the institutional guarantee for the effective supervision of regulators. Therefore, in the construction of financial supervision, China's financial supervision institutions should start with data and information acquisition, and focus on the

following work to promote the development of financial supervision driven by science and technology. At the same time, it should be noted that financial technology supervision is not completely divorced from the existing financial supervision mode, but carries out financial supervision re-innovation on the basis of the existing financial supervision mode. Therefore, the two are complementary to each other, not substitute. The specific implementation path of financial technology supervision is shown in Figure 2.

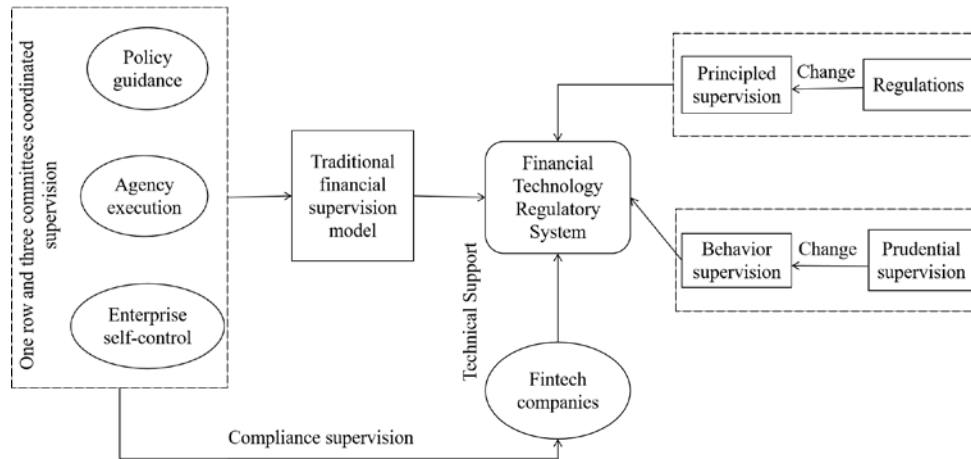


Figure 2 Schematic diagram of the construction of the financial technology supervision system

The goal of the reform of China's financial regulatory system should be to establish a unified financial regulatory agency, the China Financial Regulatory Commission, to conduct comprehensive financial management, be responsible for the unified formulation of China's financial industry development plans, comprehensively consider and formulate financial laws and regulations, and coordinate Regulatory policies and regulatory standards, monitor and evaluate the overall risks of the financial sector, centrally collect regulatory information, and uniformly mobilize regulatory resources. However, considering that the development of China's financial technology industry is still in its infancy, it cannot completely follow traditional financial supervision methods. It is necessary to innovate financial supervision to adapt to the needs of financial technology development in order to better develop the technology-driven advantages of financial technology. The application of regulatory technology can avoid the post-event rectification regulatory problems that often occur in China's financial technology supervision, and help regulators achieve precise supervision.

4. Conclusions

For a long time, China's economy has been growing steadily, the financial environment has been improving actively, the population structure and the cost of human resources have obvious advantages, and the macro environment has provided a stable and prosperous market foundation for China's fintech ecosystem. The traditional financial supervision system is based on the fixed technology of financial supervision. However, with the rapid development of science and technology, the mutual integration and penetration of Finance and information technology, resulting in the disruptive innovation of financial technology, speeding up the pace of development of the financial market, resulting in the financial industry behavior supervision, prudential supervision and functional supervision mode has been unable to meet the regulatory needs of the financial market at this stage. The disruptive innovation characteristics of financial technology and the unavoidable information asymmetry make it not only subject to necessary supervision, but also in urgent need of necessary reform of traditional supervision. How to effectively monitor the financial technology activities that do not meet the financial regulatory objectives, and how to effectively avoid the suppression of the positive effects of regulatory policies on financial technology innovation, is a dilemma faced by regulators. All in all, the traditional financial supervision principles and systems are the optimal supervision principles and systems based on relatively fixed supervision tools and

technologies. The wave of financial technology brought about by the dual integration and penetration of technology and finance has accelerated the subversive development of the financial market.

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