

Research on the Development Status and Regulatory Countermeasures of Financial Technology in China

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Abstract

The rapid development of financial technology has brought about a significant impact on China's financial services. The development of innovative technologies based on big data, cloud computing, Internet of Things, artificial intelligence and other technologies has played a positive role in improving the overall efficiency of China's modern financial system, but it is also accompanied by some risks. How to prevent the risk of financial technology development, improve financial technology innovation, and develop the real economy is a serious problem facing China's financial regulatory authorities. This paper analyzes the development status and trends of financial technology and the risks faced by the development of financial technology, and puts forward corresponding regulatory policies.

Keywords: financial technology, development risk, financial regulation

1. The State of Financial Technology Development

The core of financial technology is to use emerging technologies to innovate and transform financial products, business models and business processes. We will use cloud computing, big data, the Internet of Things, artificial intelligence and other innovative technologies to reduce financial transaction costs, improve the efficiency of financial services, and expand the breadth and depth of financial development. To make China a leader in the global financial technology development.

1.1 Cloud Computing Promotes the Intensive Development of Financial Services

Cloud computing is a computing model that realizes the supply of computing resources on demand and promotes the full utilization of information technology and data resources. The deep integration of cloud computing and financial services highlights its advantages in resource allocation based on demand and flexible expansion. The promotion and application of IaaS, PaaS and SaaS service modes gradually realize automatic resource allocation, efficient platform management and optimized financial services. First, we will improve the efficiency of financial services. Cloud computing technology can configure IT resources in real time according to service requirements to maximize the response speed and support efficiency of service requirements. Second, we will reduce operating costs of financial services. By building a multi-layer, multi-region, and distributed background processing center, resources are centrally managed, data is centrally stored, services are centrally maintained, and applications are centrally deployed, thus avoiding the waste of idle resources and reducing o&M costs. Third, we need to meet the demand of the long tail of Internet finance. Under the background of the deep integration of Internet and financial services, the service mode has gradually migrated to online, and the demand of the long tail customer groups is constantly booming. With its advantages in system architecture and resource integration, cloud computing can adapt to the new characteristics of financial services with instantaneous high concurrency, multi-frequency and large flow of transactions through Internet channels, meet the diversified financial service needs of long-tail customers, and support Internet finance to achieve wide coverage and sustainable development.

1.2 Big Data Boosts the Refined Operation of Financial Business

Big data is an information technology and service format that collects, stores and associates huge amounts of data with diverse sources and formats, from which new knowledge is discovered, new value is created and new capabilities are enhanced. In recent years, big data has been widely used in financial business. Through the

integration, modeling and mining of financial data, financial service innovation model has been created to further promote the refined development of financial business. One is more sophisticated marketing. Relying on rich customer information and transaction data, financial institutions are able to sketch the "3D" image of users, dig into the needs of potential customers, establish personalized customer communication service system, and achieve precise marketing. Second, the business scenario is more detailed. Through the effective integration of customers' transaction records, consumption habits, financial preferences and other data, we can dig into the business scenarios with low substitutions that are urgently needed by customers, form differentiated competitive advantages in market segments, and avoid the low-level competition phenomenon dominated by homogeneous products and price wars. Third, risk management is more sophisticated. Relying on big data technology, the risk measurement and scoring system should be built, and the classification of risk control should be implemented according to the risk scoring to improve the management level of fraud identification and anti-money laundering analysis.

1.3 Artificial Intelligence Promotes the Development of Smart Financial Innovation

Artificial intelligence is committed to using computers to simulate the intelligence function of human brain, endowing machines with human intelligence, and is a comprehensive technology application that extends and expands human intelligence. In the financial field, through the creation of intelligent systems, channels, products, etc., the financial business process should be creatively integrated and transformed to achieve the innovative development of "ARTIFICIAL intelligence + finance". First, make the user experience of financial products more intelligent. Using voice recognition, image recognition, touch perception and other information interaction technologies, financial products can "read text" and "understand language", achieve seamless connection and collaboration with users, and provide intelligent financial consumption experience for the public. Second, make financial services decisions smarter. Through the establishment of financial business intelligent perception and processing system, simulating the logical thinking of human brain to complete information collection, data modeling, inference judgment, result prediction, etc., to achieve the most comprehensive and optimized financial decisions, such as the current rapid development of intelligent investment is a typical case of intelligent decisions. Third, we will make financial innovation and upgrading smarter. Artificial intelligence can perceive the development of the financial environment, conduct in-depth mining and intelligent learning, and constantly adjust, update and iterate according to market changes to promote the continuous optimization of background information processing, middle and Taiwan risk management, front desk transaction matching and other processes.

1.4 Mobile Internet Technology Promotes the Development of Digital Inclusive Finance

In recent years, great progress has been made in the field of inclusive finance. However, there are still many problems in the development of inclusive finance, such as high cost, insufficient income, and difficulty in balancing efficiency and safety. As an important digital technology, mobile Internet technology can promote the innovation of financial service models and tools, eliminate the digital divide caused by cost of use, education level and geographical restrictions to a certain extent, and provide effective solutions for breaking the development bottleneck of inclusive finance. First, the wide coverage of mobile communication networks. In particular, the upgrading and development of mobile communication network from 3G to 4G or even 5G has continuously expanded the radiation radius of traditional financial services and extended the financial service network to areas beyond the coverage of traditional financial institutions, effectively filling the service gap in remote areas and opening up the "last kilometer" of financial services. Ministry of Industry and Information Technology statistics show. Tablets, mobile phones and smart wearable devices have become important elements of life. With their advantages of portability and ready use, they break the limitation of traditional financial services' business hours and further improve the accessibility and convenience of financial services. Third, mobile client applications are richer and easier to use. In recent years, mobile client applications have seen explosive growth, covering all aspects of public life and work. Among them, payment, shopping, financial management, lending and other financial service applications can provide comprehensive and one-stop financial services with low cost and high efficiency, and effectively improve the satisfaction of the general public for financial services.

2. Risks in the Development of Financial Technology

2.1 Financial Technology Accelerates Business Risk Spillover

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, traditional financial risks such as credit risk and liquidity risk show spillover effects due to more virtual service

modes, gradually blurred business boundaries and increasingly open business environment. First, cross-industry and cross-market cross-border financial services are increasingly abundant, and different businesses are interconnected and permeated, making financial risks more complex and contagious. Second, financial technology uses information technology to turn business flow into information flow, which not only improves the efficiency of capital financing, but also breaks the time and space limit of risk transmission, making risk transmission faster. Third, the excessive packaging of some innovative financial technology products makes it difficult to identify and measure the risks, which are difficult to be identified and measured, and traditional risk control measures are difficult to be effective.

2.2 Financial Big Data Risks Are Increasing

With the help of financial technology, the deep integration of big data and the financial industry has promoted the continuous innovation of product forms and profit models, and data resources have become the new core competitiveness. Commercial institutions are almost fanatical in their pursuit of data, "collecting" and "saving" are becoming more normal, and the potential risks of financial big data are becoming increasingly severe. Is a part of the body by attacking the entrance and channels, a large number of collected information, capital and product flow, data become oligarchs, makes the information leakage risk is highly concentrated, once appear problem, no longer a single data loss, but the systematic data security issues, to personal privacy threat, even financial security of the rights and interests of clients. Secondly, some institutions have weak awareness of personal information protection. When carrying out business cooperation, they often take their own customer information as capital and chips, or even share data resources at will, leading to information abuse. Third, big data is mainly used in precision marketing, risk control and management, and financial decision-making. If false information is mixed in the data, it may lead to wrong risk control measures and decision-making judgments, thus triggering risks in the financial market.

2.3 Financial Network Security Risks Are More Prominent

With the vigorous development of financial technology, the scale of financial facilities is gradually enlarged, communication network is more open, and the degree of production operation automation is higher and higher, leading to the high concentration of financial risks, especially the hidden danger of financial network security. Due to the different size and development stage of organizations, security prevention and control levels may be uneven and vary greatly, and the risk depression effect is obvious, leading to the overall inadequate ability to deal with the threat of network attacks. In addition, some organizations have weak safety awareness, imperfect production safety management and control mechanism, service interruption events occur from time to time, and business continuity needs to be improved. From a global perspective, several large-scale system attacks or failures in recent years have triggered concerns about SWIFT network security in the financial industry. Due to network interruption of a large payment institution in China, some users are unable to use it normally. These incidents show that the network security situation in the era of financial technology is very serious.

2.4 Technology Dependence Comes With Risks

Financial technology promotes the gradual development of information technology from business support to leading direction. The tight coupling of business and technology also brings about the potential risk that financial innovation is highly dependent on technology. First, information technology itself is not mature, it began to hype the concept, encourage, eager to apply, resulting in information leakage, capital theft brush and other risks. Second, the mismatch of technology selection, or even the misuse of the name, makes the inherent advantages of technology not play, which not only wastes a lot of resources, but also brings uncertain risks. Third, technological advancement is relative rather than absolute. A certain technology is advanced in a certain period of time and can lead business innovation and improve the competitiveness of financial services. However, if it fails to advance with The Times and actively upgrade, it may lose its advantages in future market competition and become a stumbling block to business development.

3. Countermeasures and Suggestions on Financial Technology Regulation

3.1 Deal With the Relationship Between Financial Technology Safety and Efficiency

Financial technology applications focus on attracting customers with efficiency and convenience, and retaining users safely and reliably. Security and efficiency, as two important factors, can be said to support the development of financial technology "two wings". The proper use of financial technology requires that safety and efficiency be considered as an organic whole. On the one hand, there is no absolute security, excessive additional security measures while ignoring the efficiency of financial technology development may limit the innovation vitality of financial technology; On the other hand, the pursuit of efficiency should not be bottomless.

Only focusing on efficiency without paying attention to safety will lead to the disorderly development of financial technology and lead to risks such as personal property loss and privacy leakage of consumers. Therefore, it is necessary to strengthen the safety awareness from the concept, and on the basis of ensuring the bottom line of financial technology safety, continuously pursue innovation efficiency, establish and improve the risk prevention and control system of financial technology, improve the risk compensation ability, and explore a way of financial technology development that gives consideration to both safety and efficiency in practice.

3.2 Use the "Regulatory Sandbox" to Guard Against Innovation Risks

As an emerging business form, financial technology has introduced new risks to the financial industry and become the focus of financial regulators worldwide. Some countries adopt restrictive regulation, incorporating financial technology into the existing regulatory system for supervision according to the financial nature of financial technology; Some countries adhere to the principle of moderate regulation and prudent governance, and balance the relationship between innovation and risk by establishing the inspection mechanism of scientific and technological innovation. As the leader of global financial technology development, China is more urgent to explore and innovate the regulatory model, and the regulatory work is also facing greater challenges. The "regulatory sandbox" proposed by Britain's Financial Conduct Authority is a useful exploration worth learning from. By providing a miniature version of the real market, "regulatory sandbox" allows enterprises to boldly try innovative products and service models, and timely find and avoid product defects and risks. Regulators can also master the nature of innovation through testing, effectively assess risks, determine the scope of openness, and judge its impact on existing regulatory rules, so as to promote financial technology innovation under the premise of controllable risks and guide the development of financial technology in the direction of consumer rights and interests.

Therefore, it is important to draw on international experience in innovative regulation such as the "regulatory sandbox", conduct in-depth studies on flexible and differentiated regulation, open up a "testing ground" for financial technology application, and provide an open and transparent environment for experimentation and policy incentives. We will strengthen overall planning, departmental coordination and system building, clarify access thresholds, implementation procedures, test time, eligibility standards and withdrawal conditions, and establish a trial-and-error, fault-tolerant and error-correcting mechanism for technological innovation applications, in light of the existing financial regulatory preparedness system. At the same time, we should guide financial institutions that operate legally, dare to innovate and meet the test conditions to actively participate in supporting the application of financial technology with real technological innovation content. It is also necessary to ensure the rights and interests of financial consumers, formulate reasonable consumer protection plans from the scope of the test, product contracts, information disclosure, privacy protection, loss compensation, technical standards and other aspects, and ensure that technological innovation risks will not be transferred from financial institutions applying for testing to financial consumers.

3.3 Use Penetrating Regulatory Means to Prevent Business Risks

The rapid development of financial technology intensifies the characteristics of mixed business operation. Different types of financial business are intertwined and nested with each other, resulting in diverse and volatile business forms and difficulty in accurately identifying the essence of business. The innovative services or products provided by some financial institutions may meet regulatory requirements on a piece-by-piece basis, but risks such as misappropriation of funds, illegal trading operations and false and misleading publicity will be found when the business essence is taken together. Therefore, it is necessary to strengthen comprehensive supervision, actively use penetrating supervision means, trace back to the root, strengthen the depth, breadth and frequency of supervision penetration, and prevent and resolve financial business risks. In the key link of the business chain embedded monitoring "probe", real-time collection of risk information, capture business characteristic data, business flow, information flow, capital flow and other multi-level and all-round analysis, through the appearance of financial innovation to analyze the essence of financial business, the source of capital, intermediate ring Section and the final flow in series, integrated the whole process information to identify business risks. We will build a firewall against financial risks in cross-cutting areas, strictly enforce access requirements, business qualifications, and business rules, effectively address prominent risks, cut off risk transmission routes, and prevent cross-contagion.

3.4 Using Regulatory Technology to Enhance Financial Regulatory Capacity

In recent years, financial innovations emerge in an endless stream, which puts forward new requirements for the supervision methods, technologies and processes of financial supervision departments. As an important branch of financial technology, the essence of regulatory technology is to adopt new technology to establish a reliable, sustainable and enforceable regulatory agreement and compliance evaluation mechanism between regulatory authorities and financial institutions, aiming to improve regulatory effectiveness of regulatory authorities and

reduce compliance costs of financial institutions. From the Angle of supervision, financial supervision and regulation department through the use of big data, cloud computing, artificial intelligence, such as technology, better able to perceive the financial risk, enhance supervision of the real time data collection, integration and sharing, effective found irregularities, risky trading, such as potential problems, improve the effectiveness of the accuracy of risk identification and risk prevention. From a compliance perspective, docking, embedded system and other financial institutions to take application way, the rules and regulations, regulatory policies and compliance requirements "translate" into digital agreement, in an automated way to reduce human intervention, reduce understand ambiguity in a standardized way, more efficient, convenient and accurate operation and execution, effectively reduce the compliance costs and improve efficiency of compliance.

3.5 Build an Information Sharing Platform for Financial Technology

The construction of information sharing platform should be aimed at serving enterprises and data sharing, sharing information resources, and closely connecting finance and science and technology. The information sharing platform should have its own standards, which should not only retain its independence, but also check the enterprise's credit and establish a credit database. The information sharing platform has a very comprehensive data, through which it can choose enterprises with impeccable credit to serve it. Using the existing information to evaluate the credit rating of enterprises will reduce the probability of risk to a large extent, but the supporting measures of the information sharing platform need to be further improved.

3.6 Improve Financial Technology Financing Channels

Small and medium-sized enterprises financing difficulties need to improve financing channels. Science and technology banks can be developed to serve science and technology companies from the development mode of traditional commercial firms. Technology companies in different stages of development have different characteristics of financing needs, so they need to choose different financing methods according to the characteristics of enterprises in different stages of development. In the initial development stage of technology-oriented small and medium-size enterprise, all kinds of risks are very high, and chances of obtaining loans are relatively small. The government should play a demonstration effect, actively call for the establishment of development funds, and take the initiative to make a large amount of capital flow into financial technology. The country can also introduce the world's advanced technology, advanced organization management mode, so that the channel of capital flow is diverse.

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