

# The Impact of Financial Technology on the Risk-taking of Commercial Banks

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**Abstract:** Financial technology (FinTech) is quietly changing the ecology of traditional finance with innovative value creation and business models, especially having a profound impact on the traditional financial business of Chinese commercial banks. With the rapid development of FinTech, many commercial banks actively utilize technological means to drive continuous innovation in banking business and accelerate the pace of digital transformation. This process not only optimizes the business processes of banks, improves service quality and efficiency, but also significantly enhances the risk management capabilities of commercial banks through the application of cutting-edge technologies such as big data, cloud computing, and artificial intelligence (AI). However, the close integration of finance and technology has also given rise to the phenomenon of financial disintermediation, leading to more complex and difficult to detect financial risks. This transformation has had a significant impact on the risk-taking of commercial banks, opening up new development opportunities as well as unprecedented challenges. The main purpose of this article is to explore in depth the specific impact of FinTech on the risk-taking of commercial banks, analyze how FinTech reshapes the risk management structure of commercial banks, and how commercial banks should adapt to this change, striving to find an appropriate balance between risk and return.

## 1. Introduction

In the 21st century, human society is experiencing an unprecedented information technology (IT) revolution. A new round of IT, such as AI, big data, cloud computing, and blockchain, is flourishing like mushrooms after rain and rapidly penetrating into various industries. Among them, the financial industry, as an important pillar of the national economy, is undoubtedly deeply influenced by this technological revolution [1]. These advanced IT technologies have not only brought unprecedented innovation momentum to the financial industry, but also greatly changed the form, mode, and efficiency of financial services, driving profound changes in the financial industry [2]. In this context, FinTech emerged and quickly became a new engine for the development of the financial industry, exerting a profound impact on its growth [3]. The development of FinTech is not only reflected in technological innovation, but also in its deep integration with traditional financial services [4]. As an important component of the financial system, Chinese commercial banks are actively embracing FinTech and promoting their own digital transformation and upgrading.

By introducing FinTech, commercial banks have not only optimized their business processes, improved service quality and efficiency, but also expanded their business areas and enhanced their market competitiveness [5]. However, the development of FinTech has also brought new challenges and risks to commercial banks. The essence of FinTech is financial empowerment, which enhances the efficiency and convenience of financial services through technological means, but at the same time may also trigger new management and technological risks [6]. These risks have put forward new requirements for the risk-taking ability of commercial banks and have a profound impact on their risk management landscape [7]. In theory, studying the impact of FinTech on commercial banks' risk-taking has important academic value and practical significance [8]. On the one hand, the development of FinTech has enriched the connotation and extension of financial innovation, providing new risk management tools and methods for commercial banks, and promoting the development and improvement of risk management theory for commercial banks.

On the other hand, the impact of FinTech on the risk-taking of commercial banks reflects the uniqueness and complexity of China's financial system, providing valuable perspectives and

approaches for understanding China's financial innovation and the evolution of commercial banks. It is worth noting that the role of FinTech in commercial banks' risk-taking is not static, but rather exhibits diversified characteristics as FinTech deepens and develops. On the one hand, FinTech may incentivize commercial banks to adopt more aggressive investment strategies to address the dual challenges of rising debt costs and intensified market competition; On the other hand, FinTech may also encourage commercial banks to adopt more robust investment strategies and reduce risk-taking tendencies by optimizing financial business processes and reducing operating costs. This bidirectional influence mechanism makes the impact of FinTech on commercial banks' risk-taking complex and difficult to accurately predict. Therefore, the core purpose of this article is to deeply analyze the specific impact of FinTech on the risk-taking of commercial banks, explore how FinTech can reshape the risk management architecture of commercial banks, and how commercial banks should flexibly adjust their strategies to achieve a subtle balance between risk and return.

## 2. The Impact of FinTech on the Risk-taking of Commercial Banks

The impact of FinTech on commercial banks presents a complex and multidimensional situation, which includes both positive effects and hidden negative challenges. The internal mechanism of its effect on the risk-taking of commercial banks is intuitively shown in Figure 1.

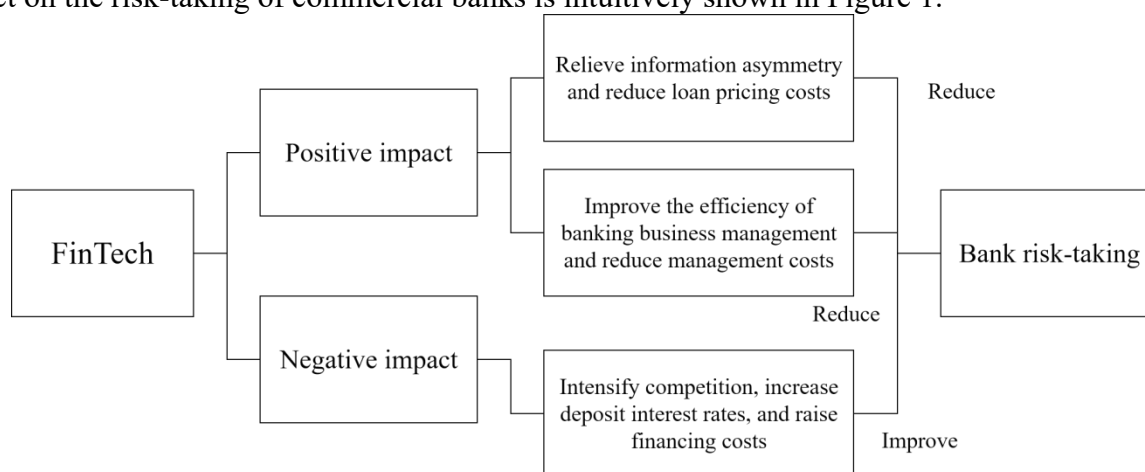


Figure 1: The intrinsic mechanism of FinTech's risk-taking in commercial banks

### 2.1. Positive Impact

The positive impact of FinTech on commercial banks' risk-taking is profound and significant, especially in terms of demonstrating strong potential through digital platforms and technological applications. With the help of these innovative tools, commercial banks can expand their business scope in an unprecedented way, providing diversified and convenient financial products and services, including but not limited to online payments, electronic banking, mobile payments, virtual currencies, wealth management products, funds, and securities trading [9]. The launch of this series of financial services not only greatly enriches customers' financial choices and enhances their experience, but also significantly enhances the profitability of commercial banks, making their revenue sources more diverse and stable [10]. Diversified business strategy is a major advantage that FinTech endows commercial banks with. By expanding their business into multiple fields and markets, commercial banks can effectively diversify risks and avoid over reliance on a specific industry or market.

When a certain field encounters a risk event, the stable performance of other fields can serve as a buffer, reducing the impact on the overall financial situation, thereby protecting the assets and profits of commercial banks and enhancing overall stability. In addition, core technologies in FinTech such as AI, cloud computing, and blockchain have brought revolutionary changes to the risk management of commercial banks. These technologies can quickly process and analyze massive amounts of data, helping banks achieve comprehensive and in-depth understanding of customer information, effectively alleviating the problem of information asymmetry. On this basis,

commercial banks can innovate credit evaluation technology, use big data and machine learning (ML) algorithms to optimize loan pricing, improve loan approval efficiency, and reduce risks in loan business. This not only reduces the operating costs of banks, but also enables them to better identify and manage risks, reducing losses caused by risk misjudgments or information asymmetry.

## **2.2. Negative Impact**

With the rapid development of IT, the traditional monopoly position of commercial banks is facing unprecedented challenges, and their franchise value is significantly declining. This change is not only due to the lowering of market access barriers, but also to the rapid rise of FinTech, which is like a powerful torrent redefining the boundaries and forms of financial services. FinTech has greatly intensified the competitive situation of commercial banks in the liability business field by providing more flexible and personalized financial products and services. In order to attract and retain customers, commercial banks have to raise deposit interest rates. Although this measure may attract more deposits in the short term, in the long run, it compresses the bank's profit margin. Faced with fierce competition in the personal fundraising market, commercial banks often find it difficult to meet their funding needs through traditional channels and instead rely on the interbank lending market, which undoubtedly increases their fundraising costs.

In this context, in order to compensate for profit losses, some banks may take risks and tend to invest in high-risk, high-yield projects, thereby significantly increasing their risk-taking level. In addition, although the rapid development of digital finance has greatly improved the efficiency and convenience of financial transactions, its highly dependent technological infrastructure has also brought unprecedented risks and challenges. The stability and security of technology have become key factors determining the stable operation of digital finance. Once the technical system is attacked by hackers or malfunctions, it will directly threaten the security and continuity of transactions, thereby affecting the stable operation of commercial banks. The efficient trading characteristics of digital finance, although accelerating the speed of fund circulation, may also amplify transaction risks due to intensified market fluctuations, making commercial banks face a more complex risk management environment.

## **3. Response Strategy**

### **3.1. Strengthen FinTech Research and Innovation**

In today's rapidly changing FinTech market, if commercial banks want to maintain a leading position in fierce market competition, they must increase their research and innovation efforts in FinTech, actively embrace emerging cutting-edge technologies such as big data, cloud computing, AI, etc., in order to improve the quality and efficiency of financial services, and achieve intelligent, automated, and personalized business (as shown in Figure 2). The application of big data technology can help commercial banks analyze customer behavior, credit status, and market demand more accurately, thereby designing financial products and services that better meet customer needs. By deeply mining the value of data, banks can optimize credit approval processes, improve risk pricing capabilities, and effectively reduce credit risks. The introduction of cloud computing technology can significantly enhance the flexibility and scalability of commercial banks' IT infrastructure, and reduce operating costs. With the powerful computing power of cloud platforms, banks can quickly respond to market changes, launch innovative products, and ensure data security and privacy protection.

The widespread application of AI technology has brought unprecedented changes to commercial banks. From intelligent customer service to automated trading, from risk warning to anti fraud monitoring, AI is gradually reshaping every corner of financial services. Through ML algorithms, banks can analyze transaction data in real-time, identify potential risks, take timely measures, and effectively prevent financial crimes and fraud. In order to promote the deep integration of FinTech and financial services, commercial banks also need to pay attention to the cultivation and introduction of professional talents. By establishing FinTech R&D centers and organizing

innovation competitions, we aim to stimulate employees' innovative vitality and attract more outstanding talents to join. At the same time, we will strengthen cooperation with universities, research institutions, and FinTech companies to jointly explore the application scenarios of cutting-edge technologies and promote sustained innovation in FinTech.

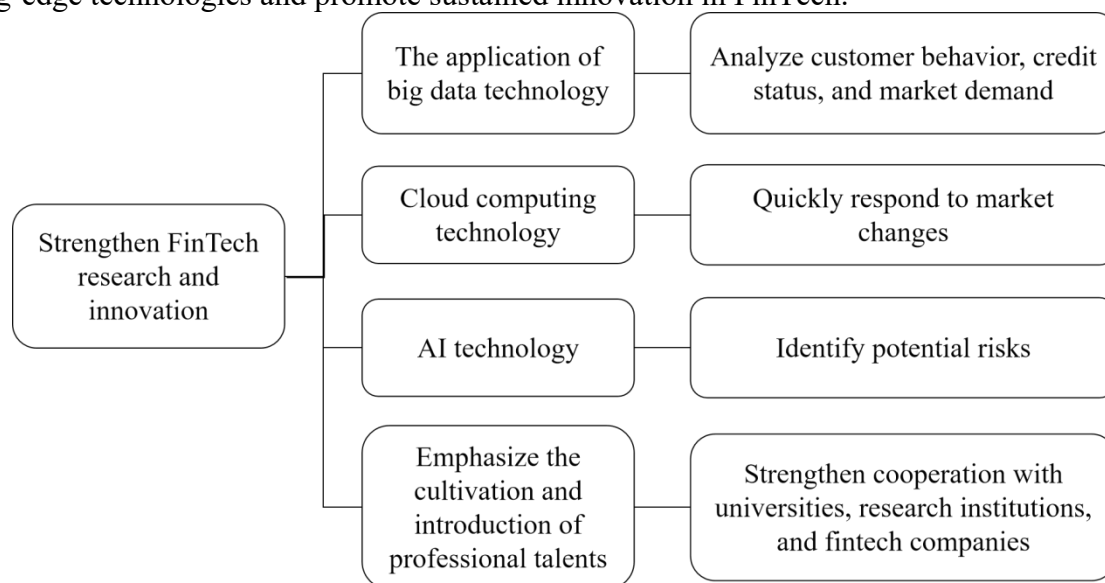


Figure 2 Strengthening FinTech R&D and innovation

### 3.2. Improve Risk Management and Supervision

In the context of the rapid penetration and reshaping of the financial industry by FinTech, commercial banks must deeply recognize that the development of FinTech should not be separated from the foundation of its risk management system, but should be closely integrated with it to jointly promote the digital transformation process of commercial banks. In this process, we must not only be brave in innovation and explore the best integration mode of FinTech and risk management, but also be vigilant at all times, pay attention to risk prevention and resolution, and ensure that FinTech does not become a breeding ground for risks while promoting business development. Commercial banks should establish and improve FinTech risk assessment and monitoring mechanisms, which are the foundation for ensuring FinTech security and compliance. By continuously tracking the latest developments in FinTech applications, evaluate the potential risk points that new technologies may bring, including but not limited to ethical risks, technological risks, legal risks, etc., and develop corresponding risk response strategies and plans.

At the same time, we will strengthen the construction of internal compliance culture to ensure that all FinTech projects comply with regulatory requirements in various aspects such as development, testing, and launch, and avoid legal risks caused by illegal operations. Regulatory authorities also play a crucial role in FinTech regulation. Faced with the rapid rise of FinTech companies, regulatory authorities need to constantly innovate regulatory methods to ensure fair competition in the market and stability in the financial market. This includes strengthening the qualification review, business supervision, and data security management of FinTech enterprises, promoting the establishment of FinTech industry standards, and improving the transparency and traceability of FinTech services. At the same time, regulatory authorities should maintain close communication with market entities such as commercial banks and FinTech companies, jointly study and solve new problems encountered in the development of FinTech, and provide strong guarantees for the healthy development of FinTech.

## 4. Conclusions

The rise of FinTech has undoubtedly brought unprecedented changes to the risk-taking of commercial banks. On the one hand, it provides commercial banks with new opportunities for risk diversification. Through the application of FinTech, commercial banks can explore new business

areas, optimize asset allocation, and achieve effective risk diversification. On the other hand, FinTech has also brought many emerging risks, such as cybersecurity risks, data leakage risks, model risks, etc. These risks are not only complex and variable, but often highly contagious and destructive, posing severe challenges to the risk management of commercial banks. Faced with this challenge, commercial banks must actively respond, strengthen technology research and development, enhance FinTech capabilities, and ensure the security and stability of their systems. At the same time, it is necessary to establish a sound risk management system, improve risk assessment and monitoring mechanisms, and enhance the ability to identify, assess, control, and respond to risks. In addition, commercial banks need to strengthen their compliance awareness, ensure that all FinTech businesses comply with legal and regulatory requirements, and avoid legal risks caused by illegal operations. The purpose of this article is to help commercial banks better understand the impact of FinTech on risk-taking, seize the opportunities brought by FinTech, and address the challenges it brings. It aims to provide a practical and feasible risk management strategy for commercial banks to achieve a balance between risk and return, and promote sustainable development in the FinTech era.

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