

Challenges and countermeasures of financial security from the development of financial technology

Jian Meng

School of Economics and Management, Guangxi Normal University, Guilin, Guangxi, 541006, China

Abstract: Fintech refers to the use of various technological means to innovate the products and services provided by the traditional financial industry, improve efficiency and effectively reduce operating costs. Fintech covers the superposition and integration of cutting-edge disruptive technologies such as big data, artificial intelligence, and blockchain with traditional financial services. With the rapid development of financial technology, the financial industry, especially the financial security field, is facing unprecedented opportunities and challenges. Fintech has had a profound impact on financial security, but it is also accompanied by a series of hidden risks. This article takes the development of financial technology as the research background and financial security as the research object, and theoretically analyzes the challenges that the development of financial technology poses to the field of financial security. Finally, this article analyzes some current challenges and problems in financial security and puts forward corresponding countermeasure optimization suggestions.

Keywords: FinTech, Financial Security, Financial Risk, Supervision

1. Introduction

1.1 Research background

The development of fintech is of significant importance at this new stage, with its rapid growth becoming a core competitive strength of the financial industry. The development of fintech is driven by internal factors such as new demands, the new economy, and new technologies. The public's demand for efficient, safe, inclusive, and precise financial services is continually increasing. Meanwhile, China's economy is transitioning from resource-driven to innovation-driven, with the digital economy flourishing and new economic models calling for new forms of finance.

1.2 Research significance

The rise of fintech has garnered widespread attention. As a core competitive force in the financial sector, the swift progress of fintech has brought about high efficiency and convenience, but it also comes with a series of risks. Therefore, a thorough study of the impact of fintech on financial security not only helps to draw significant attention from governments, financial institutions, and the public but also provides valuable references for formulating corresponding policies and countermeasures.

1.3 Research ideas

The main research approach of this paper is consistent with the overall narrative structure. It begins with the research background, understanding the current development of fintech and its impact on financial security. Next, it explores the primary financial security issues faced at present, comprehensively grasping the systemic financial security problems. Based on the research of fintech and financial security, the paper discusses the mechanisms by which fintech development affects financial security, analyzing its impact pathways and modes of action. Then, according to the actual situation, it explores the challenges that fintech development poses to financial security and discusses the current threats and instability factors faced by financial security. Finally, combining theory with practice, the paper discusses how to address the challenges that fintech development brings to financial security and proposes effective countermeasure suggestions.

1.4 The innovation of this paper

The paper takes a holistic research perspective, considering multiple aspects of the impact of fintech development on financial security, analyzing from various dimensions such as data risk, technological risk, operational risk, credit risk, and policy risk, which constitutes a com-

prehensive innovation.

Based on the current stage of domestic fintech and financial security development, the paper proposes guiding opinions for the development of fintech in the new era, clarifying the overall ideas, development goals, key tasks, and implementation safeguards for the digital transformation of finance. This provides a new direction for the development of fintech.

2. The challenges posed by the development of fintech to financial security

2.1 The development of financial technology brings challenges to the security of personal information

Personal Data and Privacy Breaches. With the rapid development of the internet finance industry, finance has utilized the network to include many groups that traditional finance could not reach, allowing people to access financial services in more convenient ways, such as through mobile devices. On one hand, online financial companies provide services to users, and on the other hand, they also acquire a massive amount of personal information. At the level of life information, they collect social information, shopping, browsing records, phone addresses, etc^[1].

Algorithm Discrimination and Digital Divide cause great harm to the interests of specific groups. One is ‘big data killing the familiar,’ where through big data analysis, each person’s maximum willingness to pay is determined, leading to differential pricing, with consumers being unaware or powerless to resist. The second is the digital divide. Fintech requires the general public to have stronger technical application capabilities, but those outside the ‘radar’ of financial technology, such as those with low technical levels and the elderly, are forced to leave some financial services, leading to social injustice.

2.2 The use of fintech by financial firms threatens financial security

With the rapid development of online lending and crowdfunding, China is at an important stage of economic transformation and upgrading. On one hand, it has played a positive role in promoting economic transformation, upgrading, and employment innovation; on the other hand, some companies also face the risk of regulatory evasion when using the internet for asset management and cross-border financial operations, leading to regulatory arbitrage and affecting the healthy development of the entire market^[2].

The rapid development of financial technology increases the traditional risks of financial institutions. Fintech significantly expands the business and customer scope of financial institutions, leading to the possibility of mismatch in the use of funds and currency, thereby increasing liquidity risks^[1]. When long-tail customers have lower credit ratings and the credit risk assessment model is imperfect, credit business based on big data faces increased credit risk.

2.3 Financial risks from weak fintech regulation

The government’s involvement in the regulation of financial technology is due to the objective existence of market failure. Market entities tend to have bounded rationality; market failures, such as natural monopolies, asymmetric information, and the externality of finance, destabilize the financial system; based on their own interests, the behavior of market entities and financial institutions may cause inherent instability in the financial system; financial institutions usually operate through leverage, and stakeholders such as creditors and depositors, due to their limited capabilities, find it difficult to regulate and penalize financial institutions in a timely manner^[3].

3. Countermeasures and suggestions on financial security challenges arising from the development of financial technology

3.1 Strengthen Personal Financial Security at All Times

Continuously strengthen the personal data security system, promptly clarify the legal nature and rights boundaries of massive user data within fintech enterprises, prioritize the management of data on the security of personal information, and improve the supervision system for the collection, management, and use of personal data. On the basis of strict control against data misuse, promote data sharing while maintaining data openness^[4].

3.2 The introduction of regulatory sandbox mechanism will organically combine financial innovation and financial supervision

Foreign financial technology has a longer development history, offering a variety of regulatory approaches that provide valuable experiences worth learning from, especially in balancing innovation and risk. Firstly, foreign countries commonly adopt systems such as restrictive authorization, exemption letters, and regulatory exemptions to ensure flexibility. Regulatory authorities can respond to fintech innovations in several ways. The ‘regulatory sandbox’ proposed by the UK can help enterprises conduct genuine financial innovation while effectively controlling financial risks^[5].

3.3 Enhance the level of financial regulation and reduce the coefficient of financial risk

Adhering to the principles of penetrability, adaptability, and coherence is essential. The concept of ‘penetrability’ involves linking the sources, intermediate steps, and final investments of funds, integrating information from all stages, and determining the nature of enterprises^[6]. Regulatory requirements should then be implemented accordingly. ‘Adaptability’ refers to striking a balance between financial innovation and risk mitigation. It means avoiding stifling innovation due to excessive regulation while also preventing security risks arising from lax oversight^[7]. Lastly, ‘coherence’ entails supervising all financial activities to ensure that financial institutions and their operations consistently adhere to the same regulations, creating a level playing field.

4. Conclusions and Outlook

4.1 Conclusion

This article examines the relationship between financial technology (fintech) development and financial security, as well as the mechanisms through which fintech impacts financial security. By combining theoretical insights with practical considerations in the context of China, we focus on the critical roles played by information asymmetry theory and technology spillover theory in shaping the impact of fintech on financial security. Finally, we highlight the challenges posed by fintech to financial security, including: Data Risk: Data privacy is a paramount concern in the fintech domain.

4.2 Outlook

The development of financial technology poses challenges to financial security, but by strengthening technological research and development, perfecting the regulatory system, and enhancing data security protection, we can effectively address these challenges. This will promote the healthy, stable, and secure development of financial technology, contributing to the prosperity and stability of the financial market.

References:

- [1] Chen Shulian ,Ma Xiaolan: Technological innovation empowers financial security[J]. *Sci-Tech Innovations and Brands*,2021,(08):48-50.
- [2] Li Yang. Research on the Legal Regulation of Fintech Companies [D]. *Southwestern University Of Finance And Economics*,2022.
- [3] Zhang Xiaoyan, Ji Jiahao. The impact of dynamic alignment between financial technology and financial regulation on financial efficiency[J]. *Nankai Business Review*,2023,26(01):43-56.
- [4] Liu Sheng. Study on the Financial Regulatory Sandbox System [D]. *Xiamen University*,2019.
- [5] Liu Yong ,Su Jie. Balancing the Relationship Between Technological Innovation and Financial Security [N]. *China Banking and Insurance News*,2022-01-05(007).
- [6] Yu Yong ,Zheng Hong. Policy Recommendations for Establishing Our Country’s Financial Security Boundary System [J]. *China Opening Journal*,2021,(01):61-71.
- [7] Sun Na, Song Liangrong, Sun Yan. Fuze Effect: A Landmine in the Way of Sustainable Development of FinTech-The Lessons from the Peer-To-Peer Risk Outbreak[J]. *Sustainability*,2021,13(4)