Proceedings of Business and Economic Studies, 2025, Volume 8, Issue 3
http://ojs.bbwpublisher.com/index.php/PBES
Online ISSN: 2209-265X
Print ISSN: 2209-2641

Research on the Impact of Digital Finance Development on Bank Credit

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Abstract: The rapid development of digital finance is profoundly changing the structure and management mode of bank credit. Through mobile banking, artificial intelligence, big data, cloud computing, and online lending platforms, banks are able to optimize credit services, increase efficiency, and improve access to credit [1]. This evolution began in the late 20th century and accelerated after the 2008 global financial crisis. Through automated approval, precise risk assessment, and real-time monitoring, digital finance has improved credit efficiency, reduced costs, promoted financial inclusion, and enabled groups not covered by traditional financial services to gain support. However, the popularity of digital finance has also brought new challenges, such as consumer protection, cybersecurity, and fraud risks, and there is an urgent need to update the regulatory framework to address these issues. Nonetheless, the technological spillover effects of digital finance have promoted bank credit innovation and improved market competitiveness. This paper analyzes the role of digital finance in credit efficiency, cost, risk management, and financial inclusion, and puts forward policy recommendations to deal with potential risks and ensure the stability and sustainable development of the financial system.

Keywords: Digital finance; Bank credit; Research

Online publication: July 15, 2025

1. Introduction

The integration of digital finance has significantly promoted the growth of bank credit, and the growth rate of personal loans in particular has exceeded that of traditional credit loans. Digital technology not only helps banks optimize their credit structure and reduce the risks of traditional lending models, but also improves operational efficiency and service quality. However, this transformation has also brought new challenges, such as consumer protection issues, cybersecurity threats, and increased risk of fraud. These issues have led to ongoing discussions on whether the existing regulatory framework is adequate to safeguard consumer rights and financial stability.

Overall, the interaction between the development of digital finance and bank credit illustrates a dynamic and rapidly changing financial environment. While digital finance offers important opportunities to improve the

availability of credit and increase the efficiency of banks, it is also important to be alert to potential risks to ensure the long-term stability of the financial system. As a result, the continued evolution of digital finance has become a central concern for researchers, regulators, and financial practitioners around the world.

2. The development of digital finance

The rapid evolution of digital finance is profoundly changing the banking industry, especially in the field of bank credit. Since the end of the 20th century, digital technology has been gradually integrated into the banking sector with technological advances and shifts in consumer behavior, bringing a revolution to financial services. This transformation process accelerated after the 2008 global financial crisis, with regulatory reforms driving the introduction of more stringent regulations to safeguard the stability of the financial system and enhance consumer protection.

Since the 1980s, the advent of the banking data era has marked significant advances in banking data management and reporting practices. The regulatory environment has evolved in response, notably with the implementation of the Dodd-Frank Act in the United States, which after the financial crisis aimed to address vulnerabilities in the financial system, strengthen capital requirements, and improve banks' risk management practices. At the same time, these regulations have driven innovation in banks' data practices and the adoption of digital financial solutions, increasing transparency and accountability among financial institutions.

The rise of digital finance has significantly changed the banking and financial services landscape, redefining how financial activities are performed and delivered. The following technologies are being applied to bring greater convenience, efficiency, and accessibility to consumers and businesses.

2.1. Mobile banking

Mobile banking has become an important part of digital finance, allowing users to manage financial accounts from their smartphones anytime, anywhere, for operations such as balance inquiries, fund transfers, bill payments, and loan applications. With biometric authentication and encryption protection, users are able to securely access their accounts and enjoy a convenient banking experience. In addition, features such as mobile check deposit further reduce the need for customers to travel to bank branches, greatly improving user convenience.

2.2. Artificial Intelligence (AI)

Artificial intelligence is revolutionizing bank operations by optimizing processes and enhancing the customer experience. AI-powered chatbots provide 24/7 service, significantly reducing customer wait times and increasing customer satisfaction. AI algorithms are able to analyze massive amounts of data, identify unusual patterns, and enhance fraud detection and risk management capabilities. At the same time, AI technology can also provide customers with personalized financial advice to enhance user engagement and loyalty.

2.3. Big Data and cloud computing

The combination of big data and cloud computing enables banks to analyze customer behavior and preferences more precisely, thereby improving credit assessment and risk prediction. The application of these technologies has accelerated the updating of financial products and services, increased customer satisfaction, and improved the overall quality of services.

2.4. Online lending platforms

Online lending platforms have subverted the credit structure of traditional banks and provided alternative financing solutions [2]. For example, platforms such as Ant Huabei and JD Baitiao enable customers to obtain loans quickly and easily, providing financial institutions with diversified sources of income and reducing reliance on traditional credit card businesses. This shift to digital lending has increased financial inclusion, especially in regions where traditional banking services are less widely available.

2.5. Digital payment solutions

Digital payment platforms, such as Alipay and WeChat Pay, have dramatically changed the way consumers pay, reducing the reliance on cash transactions. By providing instant fund transfer and payment processing functions, these platforms have simplified financial transactions and boosted users' convenience and transaction efficiency, becoming an integral part of today's financial ecosystem.

In conclusion, advances in digital finance have not only improved the efficiency and accessibility of bank credit, but also provided a strong impetus for the popularization and innovation of financial services worldwide. However, as technology continues to evolve, the relevant regulatory framework and risk management mechanisms need to be updated with it to ensure the stability and sustainability of the financial system.

3. The impact of digital finance on bank credit

The integration of digital finance has significantly increased the scale of bank credit, especially the growth of personal loans. By adopting digital financial technologies, banks are able to optimize their credit structure and reduce the risk burden in traditional lending practices. However, while the advantages of digital finance in improving credit access and operational efficiency are clear, issues such as consumer protection and the risk of fraud remain. As the financial sector responds to these changes, it remains critical to balance innovation with a strong regulatory framework to protect consumers and ensure the long-term stability of the banking system [3].

Digital finance has significantly changed the landscape of bank credit, affecting the structure of credit products and the associated risks. The integration of digital financial technology has not only expanded the scale of bank credit, but also prompted a significant change in the ratio of personal loans to credit loans, thus easing some of the risk burden that banks usually face. With the continuous development of digital finance, banks need to adjust their credit structure, which further affects their risk exposure and overall stability [4].

3.1. Data privacy and security

Data privacy is another major concern when Large Language models (LLMs) are deployed in the financial industry. The risk of exposing personally identifiable information (PII) during data analysis necessitated strong privacy regulations and strict data processing protocols. In addition, financial institutions must prioritize transparency in their methods of data collection and processing in order to maintain customer trust. Ensuring diversity and representation in data sets is critical to preventing discriminatory outcomes, as biased or incomplete data can lead to unfair treatment of individuals in financial decisions.

The impact of digital finance on bank credit is far-reaching and multifaceted, and with the rapid development of financial technology (FinTech), significant changes have taken place in areas such as bank credit models, credit processes, and risk management [5]. The following are the main impacts of digital finance on bank credit:

(1) Improve credit efficiency

The traditional credit approval process is often cumbersome and time-consuming, requiring banks to manually review numerous applications, collect data, and conduct credit analyses. However, automation and artificial intelligence (AI) are streamlining these tasks, improving efficiency, and accuracy. While digital finance has made credit approval automatic by introducing technologies such as artificial intelligence, big data analysis, and machine learning, which has greatly improved efficiency [6].

(2) Reduce credit costs

Traditional bank credit approval usually requires a lot of manual participation, and every link from customer application, data review to credit issuance may involve high labor and administrative costs. Through automation, process optimization, and technical support, digital finance helps banks reduce manual intervention in these links, reducing the operating costs of credit services [7].

(3) Broaden the target group for credit

Small and medium-sized enterprises (SMEs) have long been a weak link in traditional bank credit services, mainly because they lack adequate credit history, asset guarantees, or financial transparency, leading to greater risks in lending.

(4) Improve credit risk management capabilities

Traditional bank credit risk assessment mainly relies on static information such as financial statements and credit history provided by borrowers, which may be difficult to fully understand the actual repayment ability of borrowers. Digital finance, through technologies such as big data and artificial intelligence, can make a comprehensive assessment from more dimensions and dynamic information, such as transaction data, behavioral data, social data, etc., thus improving the accuracy of risk identification [8].

(5) Financial inclusion and market penetration

The popularity of digital finance has enabled banks to extend credit services to groups not covered by traditional financial services, especially low-income people, young people, and customers in remote areas. These groups often find it difficult to obtain loan support in the traditional banking system, but digital finance can effectively reach these potential customers through its low threshold, fast approval, and flexible repayment features.

(6) Enhance competition in the financial market

The rise of digital finance has seen many financial technology companies (FinTech) start to enter the bank credit space, and these companies often rely on more flexible technologies and innovative business models to attract customers, reduce costs, and optimize services [9]. These companies innovate faster in products and services, bringing greater competitive pressure to traditional banks, forcing them to speed up their digital transformation and improve their own credit service capabilities and efficiency [10].

4. Suggestions

First, take advantage of technology spillover effect to optimize credit risk management. At present, the impact of digital finance on the credit risk of commercial banks has passed the inflection point, the competition effect has weakened, and the technology spillover effect has gradually increased. Banks should actively absorb the technology spillover effects brought about by digital finance, and combine technologies such as big data, cloud computing, and artificial intelligence to optimize credit risk management, reduce costs, and improve efficiency, so

as to lay a solid foundation for strengthening credit risk management [11].

Second, expand deposit channels and reduce the cost of liabilities. In the face of fierce deposit competition, banks should not over-rely on financing channels such as interbank liabilities. Technologies such as big data, cloud computing, blockchain, and artificial intelligence should be used to broaden deposit channels, increase low-cost customer deposits, and reduce the cost of interest-bearing liabilities. At the same time, it should actively expand medium - and long-term deposits, optimize the debt structure, and reduce reliance on short-term wholesale financing [12].

Additionally, promote digital transformation in a differentiated manner. Different types of banks should adopt differentiated digital transformation strategies for credit risk management according to their own development conditions [13]. Large banks can accelerate the transformation process by establishing their own technology subsidiaries or cooperating with Internet companies, Small and medium-sized banks should pay attention to the impact of digital finance on deposit business, reduce their reliance on high-cost liabilities, optimize their debt structure, and steadily improve their credit risk management capabilities through cooperation and sharing of technology and risks [14].

Furthermore, introduce complex IT talents to improve risk management ability. Both large banks and small and medium-sized banks should actively introduce high-level IT talents to build a complex team that understands both financial risk management and information technology. Big data technology supports credit risk management and credit rating, establishes a sound monitoring and early warning model, provides technical support, and prevents and defuses potential credit risks [15].

5. Conclusion

The rapid development of digital finance is profoundly transforming the structure and management models of bank lending. Leveraging technologies such as mobile banking, artificial intelligence, big data, cloud computing, and online lending platforms, banks have not only improved the efficiency of credit services but also expanded the coverage of financial services, effectively promoting financial inclusion. Through automated approval processes, precise risk control, and real-time monitoring, digital finance has reduced lending costs and improved the efficiency of resource allocation, offering new financing channels for groups previously underserved by the traditional financial system.

However, the widespread adoption of digital finance has also introduced a range of new challenges, such as consumer protection, cybersecurity, and fraud risk, necessitating improvements to the regulatory framework. Despite these risks, the technological spillover effects of digital finance have significantly driven innovation in bank lending and enhanced the overall competitiveness of the financial market.

This paper conducts a systematic analysis of the role of digital finance in credit efficiency, cost control, risk management, and financial inclusion, and puts forward corresponding policy recommendations to address potential risks and ensure the stability and sustainable development of the financial system.

Disclosure statement

The authors declare no conflict of interest.

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