

Exploration of Mechanisms and Paths of Fin-Tech Enabling High-Quality Development of Rural Finance



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Abstract: In modern society, rural areas still occupy a vast population and land resources, but have long been plagued by insufficient financial services. With the development of society, the demand for financial services from rural residents and enterprises has gradually increased, and this growth in demand has given rise to the application of financial technology in rural finance. Moreover, along with the rise of the global wave of digitalization, the popularization of smartphones, the expansion of Internet coverage, and the development of digital payment technology have created favorable conditions for the application of fintech in rural areas, and rural residents have more digital channels to access financial services. Based on this, the article conducts research on the mechanism of fin-tech-enabled rural finance, elaborates in detail on the cooperation between fin-tech and financial institutions and fin-tech innovation, and focuses on the path of fin-tech-enabled rural finance high-quality development, to provide some suggestions for your reference.

Keywords: fin-tech; rural finance; high-quality development; paths

Introduction

Fin-tech, as a force of change in the financial sector, is emerging globally. Through innovative technological means, such as big data analytic, artificial intelligence, and block chain, fin-tech provides more efficient, convenient, and inclusive financial services, which bring multiple impacts to the financial system and the economy. However, inadequate financial services have been a prominent issue in rural areas, where geographic dispersion and relatively low levels of per capita income make it difficult for rural residents and agribusinesses to access loans, savings, and payment services, leading to challenges in rural financial development. It is in the midst of these challenges that fin-tech offers tremendous opportunities for rural financial development, with technologies such as digital payments, mobile banking, big data analytic, and block-chain offering new possibilities for rural finance. Thus,

fin-tech not only remedies the challenges in rural financial development but also provides a unique opportunity to improve the quality and accessibility of financial services.

1. Mechanism of Fin-tech Enabling Rural Finance

1.1 Cooperation between fin-tech and financial institutions

Cooperation between fin-tech and financial institutions is a key mechanism for promoting the high-quality development of rural finance, and this cooperation not only promotes technological innovation but also improves the efficiency and quality of rural financial services. Among them, the cooperation between fin-tech companies and rural banks covers multiple levels. Specifically, the cooperation can help rural banks realize digital transformation through technology sharing and integration, and fin-tech companies usually have leading payment and settlement technologies,

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which can enable rural banks to provide more convenient mobile payment and digital currency services, thus meeting the daily financial needs of rural residents. Meanwhile, the cooperation can also strengthen risk management and anti-fraud capabilities. Through big data and artificial intelligence technologies, fin-tech companies assist rural banks in reducing the risk of non-performing loans, improving the accuracy of loan access, and identifying and preventing fraud to maintain the stability of the financial system. Further, fin-tech cooperation also expands the scope of financial services and helps solve the problem of inadequate rural financial services. Cooperation can help rural banks reduce operating costs, improve efficiency, and lower the threshold for financial services, which means more rural residents can easily access financial services such as loans, savings, and payments, promoting financial inclusion. For example, fin-tech companies can cooperate with rural banks to launch microfinance products so that rural entrepreneurs can obtain financial support and promote the development of the rural economy (Zhang & Zhou, 2022). In addition, fin-tech cooperation also promotes financial innovation. Fin-tech companies usually have flexible innovation capabilities, and they can work with rural banks to develop financial products and services suitable for rural needs, including agricultural product traceability services based on block-chain technology, which provides rural residents with a safe and trustworthy channel for purchasing food. Meanwhile, digital currencies and smart contracts are also expected to improve the convenience and security of rural financial transactions and promote the development of financial activities. As for government support and incentives, the government's legal and regulatory framework is also crucial, and the government needs to ensure that fin-tech cooperation takes place in a transparent, fair, and secure legal and regulatory environment to protect the rights and interests of rural residents (Ji, 2021). At the same

time, governments can provide financial incentives and support, such as tax breaks and innovation funds, to reduce the costs and risks of collaboration. In addition, the government should invest in digital infrastructure in rural areas, including Internet coverage and electronic identity authentication systems, to support the application and development of fin-tech, and it can improve the digital financial literacy of rural residents through financial education and promotional activities to make it easier for them to accept and use fin-tech products and services.

1.2 Fin-tech innovation

The innovative ability of fin-tech lies in the fact that it can develop financial products and services suitable for the needs of rural areas, just as fin-tech companies can customize financial solutions according to the specific needs of rural areas, for example, rural areas usually face seasonal cash flow problems, so fin-tech companies can design flexible loan products, taking into account the repayment ability of farmers in different seasons, and personalized financial products and services can better meet the specific needs of rural residents and improve financial inclusion. Secondly, fin-tech innovation can use block-chain technology to establish a credible transaction system, which is a decentralized distributed ledger that ensures the transparency and comparability of transaction records (Liu & Xiu, 2013). In rural finance, this means that financial transactions can be more secure and reliable, for example, block-chain can be used to record the origin, production, and sales process of agricultural products to ensure the quality and authenticity of agricultural products, which helps to improve the market competitiveness of agricultural products while protecting the rights and interests of consumers. Some rural credit cooperatives have begun to explore block-chain technology to improve the credibility and security of financial transactions. They use block-chain to record land ownership information to ensure the transparency and

non-comparability of land transactions, which, to a certain extent, helps to solve the problem of disputes over land ownership and provides a safer land transaction environment for rural residents. Not only that, fin-tech innovations have also improved risk management and decision-making capabilities through big data and artificial intelligence. Through big data analytic, fin-tech companies can better identify potential risk factors and help rural financial institutions more accurately assess loan applications. Artificial intelligence can be used to automate the decision-making process, increasing the speed and accuracy of loan approvals and thus speeding up the flow of funds, as in the case of Alipay's lending service. Ali-pay, the mobile payment platform owned by Ant Technology, has launched a rural lending service called Chanting, which allows rural residents to borrow small amounts of money through Ali-pay without the involvement of a traditional bank, and through big data and AI technology, Alipay can assess a borrower's credit risk and provide a loan, improving financial inclusion in rural areas and helping to improve the flow of funds. financial inclusion in rural areas and help farmers get financial support (Han & Zhang, 2020). In addition, big data analysis also helps fintech companies understand the consumption habits and credit history of rural residents, providing data support for the development of more financial products and services.

2. Path to High-Quality Development of Rural Finance

2.1 Development of multi-level financial system

One of the paths for fin-tech-enabled high-quality development of rural finance is through the development of a multi-level financial system to meet the different levels and types of financial needs in rural areas, which covers several aspects, and, promoting the diversification of rural financial institutions also means encouraging the emergence and development of different types of financial entities, including rural cooperatives,

village credit unions, and rural commercial banks, etc., which can provide financial services according to the needs of specific regions and populations, and provide a variety of financial products and services, such as micro-credit, financing for the sale of agricultural products, and rural enterprise support. Diversification not only helps to ensure that different levels of financial needs are met but also improves the relevance of financial services. For example, village credit unions usually provide micro-credit for grassroots farmers, while rural commercial banks focus more on supporting the development of rural enterprises, thus forming a multi-level financial ecosystem (Fu & Guo, 2021). Meanwhile, encouraging financial innovation is key to developing a multi-level financial system, including guiding fin-tech companies and traditional financial institutions to use cutting-edge technologies such as block-chain, big data, and artificial intelligence to create new financial tools and services. For example, the establishment of a rural land title registration system through block-chain can improve the transparency and security of land transactions and reduce land disputes, while big data analysis can help to better understand the consumption and saving habits of rural residents, to design financial products that are closer to actual needs. Based on this, governments and financial regulators should provide support, such as fin-tech innovation funds and regulatory sandboxes, to incentivize the development of financial innovation. In addition, Fin-tech can improve the operational efficiency of financial institutions and reduce operational costs, enabling them to provide more competitive financial products and services, as in the case of the adoption of mobile banking and digital account management systems by some rural banks, which has enabled more efficient customer service while reducing operational costs, helping to increase the accessibility of financial services.

2.2 Upgrading financial technology infrastructure

Building digital financial infrastructure is a top priority for promoting high-quality

development of rural finance, which not only ensures reliable Internet connectivity in rural areas to provide residents with access to financial services, high-speed Internet connectivity will make it easier for residents to use mobile payment systems and Internet banking, and can also provide a platform for fin-tech companies to launch innovative financial products and services; it also actively develops electronic identity verification systems to ensure the security and authenticity of financial transactions and prevent fraud. In addition to this, promoting financial education and digital literacy is a necessary complement to building a strong fin-tech infrastructure; rural residents need to understand the use of digital financial tools and financial literacy to better manage their finances. Financial education programs can improve rural residents' financial literacy by teaching them about saving, investing, and debt management, while digital literacy training can help them become more proficient in using smartphones, apps, and online banking platforms, increasing their level of digital skills and reducing their discomfort in using digital financial tools. Governments and financial institutions at all levels can collaborate on extensive financial education programs to provide financial literacy training to rural residents; for example, some rural areas have organized financial literacy lectures and training courses to introduce farmers to savings, investment, and debt management, which can help to improve the financial literacy of rural residents and enable them to make better use of digital financial tools (Bu et al., 2022). The integration of these two aspects will greatly contribute to fin-tech penetration in rural areas, with digital financial infrastructure providing access to financial services, and financial education and digital literacy training providing rural residents with the skills and confidence to use these services, contributing to a certain extent to increasing financial inclusion, reducing inequality in financial services, and promoting economic growth and

sustainable development in rural areas.

2.3 Strengthening regulation and risk management

Strengthening regulation and risk management plays a crucial role in fin-tech-enabled high-quality development of rural finance. In terms of strengthening regulation, the formulation of fin-tech regulations is the basis for ensuring the compliance of the fin-tech industry. These regulations should cover several aspects including data privacy protection, cybersecurity standards, and anti-money laundering and anti-fraud measures. For example, the regulator can require fin-tech companies to comply with stringent user data privacy regulations to ensure that users' personal information is not misused or compromised. Just as the P2P lending industry once flourished in rural areas, it was also accompanied by high risks, to address this challenge, the government took strong regulatory measures, the regulator strictly reviewed and consolidated P2P platforms standardized their operations, and required platforms to comply with fund deposits and risk provisioning, in which the non-compliant platforms were banned, and the compliant platforms were able to continue to provide rural lending services, protecting the rights and interests of rural investors (Xiao & Xu, 2012). On the other hand, the establishment of a risk response mechanism is to address new risks in the fin-tech sector. Fin-tech poses challenges in terms of cyber-attacks, data breaches, and market risks, and regulators and fin-tech companies should work together to establish a strong risk assessment and management system, such as continuous monitoring of potential risks, developing response plans to reduce risks, and establishing an emergency response mechanism to ensure financial system continuity, as in the case of platforms such as Ali-pay and We-chat Pay, which employ advanced anti-fraud technologies, such as user behavior analysis and fraud detection algorithms, to identify potentially fraudulent transactions (Jiang et al., 2022). If the system

detects an unusual transaction, it will immediately send an alert and take necessary measures, such as suspending the transaction, to protect the safety of user funds, a technique that is particularly helpful in rural areas to prevent farmers from becoming victims of fraud. The integrated implementation of enhanced regulation and risk management will help ensure that fin-tech plays a positive role in rural finance and reduces potential risks, while governments and regulators need to be actively involved in developing and enforcing regulations to ensure compliance and stability in the fin-tech industry.

Summation

In summary, the application of Fin-tech in rural finance has great potential to improve the coverage and quality of financial services, and to achieve high-quality rural financial development. Strengthening regulation and risk management is the basis for ensuring Fin-tech compliance and user rights protection, the construction of digital financial infrastructure is a key driver for Fin-tech development, and financial education and digital literacy are the keys to ensuring that rural residents can fully utilize fin-tech, helping to improve their financial literacy and digital skills. This comprehensive set of measures will promote financial inclusion, reduce inequality in financial services, and provide a solid foundation for economic growth and sustainable development in rural areas, and the collaboration of governments, regulators, fin-tech companies, and users of financial services will play a key role in achieving this goal.

Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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