

# An Overview of the Impact of Financial Technology Development on the Real Economy

Yuge Wang \*

The Branch of the High School Affiliated to Renmin University of China, Beijing, China

\* Corresponding Author Email: wbnbabys@gmail.com

**Abstract.** Financial Technology (FinTech) is leading profound and significant changes in the structure of the global economy at an unprecedented speed with a thunderous momentum. It has subversively reconstructed the operation mode of the traditional financial industry and sown extensive and far-reaching seeds of change in the real economy. This paper aims to comprehensively and deeply scrutinize the multidimensional and omnidirectional impact of FinTech development on the real economy. FinTech has played a vital role in promoting the prosperity of the consumer market, effectively stimulating the vigor of consumption; at the same time, it has opened new channels of financing for small and medium-sized enterprises (SMEs), effectively alleviating the bottleneck of the funding that they have been facing for a long time. In addition, FinTech has significantly improved the overall efficiency of financial services, enabling financial resources to flow more efficiently and conveniently. In optimizing the efficiency of capital and resource allocation, FinTech also shows strong potential to help resources achieve better allocation. More importantly, FinTech has actively stimulated innovation and entrepreneurship, injecting a new powerful impetus for economic development.

**Keywords:** FinTech, real economy, consumption growth, SME financing, financial services efficiency.

## 1. Introduction

Financial technology (FinTech) has developed rapidly in recent years, becoming an essential driving force in the global financial industry. In 2023, the global FinTech investment and financing events amounted to 2016, totaling \$106.3 billion, mainly concentrated in the Americas, Asia-Pacific, and Europe, accounting for 93.5% of the global total. FinTech reshapes traditional financial services, profoundly affects the real economy, and solves the problem of complex and expensive financing. It provides diversified financing channels for small and medium-sized enterprises (SMEs) and reduces the financing threshold through P2P loans, crowdfunding, supply chain finance, and other models [1]. This study explores the impact of FinTech on the real economy, analyzing its positive effects, such as enhancing inclusive financial services, promoting technological innovation, and facilitating transformation and upgrading, as well as possible adverse effects, such as excessive flow of funds to large enterprises. The study's results will provide a reference for policymakers and enterprises and help the real economy develop highly. This paper will also explain the relevant theories of financial technology and the differences in technology finance.

## 2. Relevant Studies on Financial Technology

### 2.1. The Difference between FinTech and Tech Finance

The names of financial technology and science and technology finance are similar, but there are differences in their focus, participation, and technical realization. The core of financial technology is "technology-enabled finance", that is, the use of advanced technical means such as blockchain, big data, cloud computing, artificial intelligence, etc., to innovate and optimize the traditional financial service model to improve the efficiency of financial services, reduce operating costs, broaden the scope of services, and provide users with more personalized and convenient financial service experience [2]. FinTech involves a wide range of subjects, including but not limited to traditional

financial institutions (e.g., banks, insurance companies, and securities companies), emerging technology companies (e.g., Internet giants, FinTech companies), regulatory agencies, and users. These subjects jointly promote the financial industry's digital transformation through technological innovation and cooperation. FinTech realizes accurate marketing and risk control through extensive data analysis, improves transaction transparency and security using blockchain technology, improves data processing and storage capacity using cloud computing, and realizes innovative services such as smart investment consulting and intelligent customer service using artificial intelligence technology [3].

Science and technology finance focuses on “financial support for science and technology”, the essence of which is to support the development of science and technology innovation and high-tech industry through the innovation of financial instruments, the formulation of targeted financial policies, and the provision of customized financial services. Science and technology finance aims to solve the problems of complex and expensive financing for science and technology enterprises, promote the transformation and application of scientific and technological achievements, and accelerate industrial upgrading and economic transformation. The main participants in science and technology finance are the government, financial institutions (such as science and technology banks, venture capital companies, and angel investors), science and technology enterprises, science and technology parks. [4]. These subjects jointly build the science and technology financial ecosystem through policy guidance, financial support, service innovation, and other ways. Although science and technology finance itself are not directly involved in specific technological innovation, it provides more flexible and efficient financial support for science and technology enterprises by innovating financial tools (such as intellectual property pledge loans and science and technology insurance), optimizing financial policies (such as tax incentives, loan subsidies) and providing one-stop financial services (such as financing consulting, listing counseling) [5].

## **2.2. Current Status of FinTech Development in China**

### **2.2.1. Policy environment: Strengthening FinTech security and compliance**

While encouraging technological innovation and application, current policies emphasize the importance of data security and privacy protection, aiming to enhance the overall security and compliance of FinTech, as detailed in Table 1.

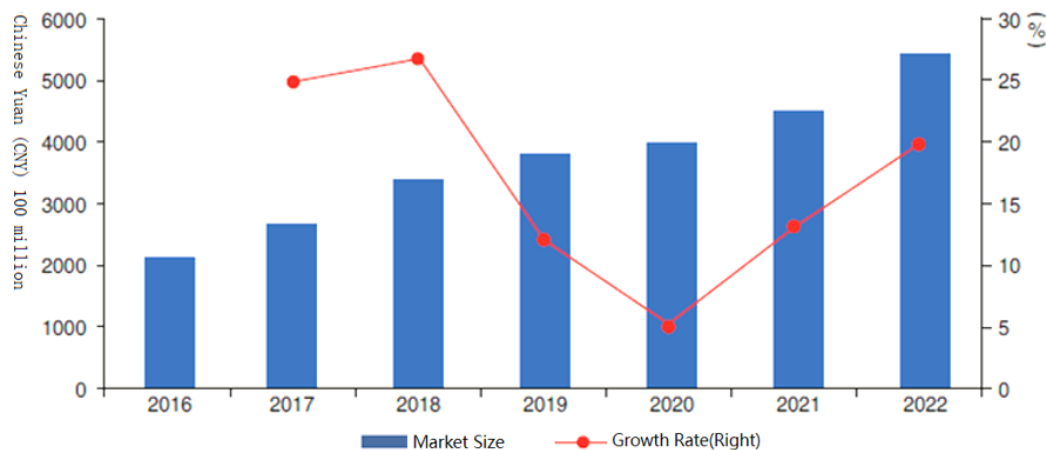
**Table 1.** A Look at China's Major FinTech Policies 2022-2023

Time	Regulatory Body	Policy Name	Policy Points
Jan.2022	The People's Bank of China (PBC)	Financial technology development planning	Clarify the objectives in terms of governance system, data elements, infrastructure, core technology, activation of kinetic energy, intelligent reengineering, prudential supervision, and development foundation; and put forward requirements in five aspects, including pilot demonstration, support, guarantee, monitoring, and evaluation, creation of environment and organization and coordination, to lay the foundation for and provide support to the implementation of critical tasks.
Jan.2022	China Banking and Insurance Regulatory Commission (CBIRC)	Guidance on Digital Transformation in the Banking and Insurance Industry	Strengthen data source management and form a data quality control mechanism based on data recognition. Establish an enterprise-level data standard system and give full play to the role of data standards in improving data quality, opening data silos, and releasing data value. Strengthen the management of shared data and fundamental data.
Feb.2022	PBC, CBIRC	Financial standardization "14th Five-Year Plan" development plan	Steadily promote the construction of financial science and technology standards, systematically improve the standards for financial data elements, improve the standards for financial information infrastructure, strengthen the protection of financial network security standards, and promote the construction of standards for safe and controllable core technologies for informatization in the financial industry.
Mar.2022	CPC Central Committee, State Council	Overall Layout Planning for the Construction of Digital China	Improve the new national system of key core technology research under the conditions of the socialist market economy and strengthen the deep integration of enterprise-led industry, academia, and research. Strengthen enterprises' status as the main body of scientific and technological innovation and give full play to the leading and supporting role of science and technology-based backbone enterprises.
Mar.2022	State Council	Implementation Opinions on Promoting the High-Quality Development of Inclusive Finance	Strengthening science and technology to enable inclusive finance, supporting financial institutions to deepen the use of the Internet, big data, artificial intelligence, blockchain, and other scientific and technological means to optimize inclusive financial service models, improve credit approval and risk management models, and enhance the availability and quality of financial services for small and micro-enterprises, individually-owned businesses and agriculture-related entities.

Notes: Foresight Industry Research Institute (FIRI)

### 2.2.2. Trends in the market size of the fusion technology industry

China's FinTech industry has formed a relatively stable pattern, and the market scale maintains a continuous growth trend. According to the study of Yang and Zhang, as can be seen from Figure 1, China's financial technology market size, investment, and financing scale continues to expand; the market size reached about 542.3 billion yuan in 2022, and the average growth rate is at about 10%, even in the epidemic period of 2020-2022, the market size of the financial technology industry is still growing significantly [6].



**Figure 1.** China FinTech Industry Market Size and Growth Rate (2016-2022)

The development path of FinTech is gradually becoming more apparent, focusing on its role in supporting the real economy. FinTech diverts more funds and financial services to support high-tech enterprises, and the balance of medium- and long-term loans in China's high-tech manufacturing industry grew 34% year-on-year in 2022, stimulating new growth momentum in the industry [6].

### 3. Impact of FinTech on the Real Economy

#### 3.1. The Role of FinTech in Promoting the Real Economy

##### 3.1.1. Stimulating technological innovations

FinTech supports science and technology enterprises' R&D and innovation activities by providing diversified financing channels and innovative financial products. Crowdfunding platforms and venture capital organizations can quickly raise funds to support innovation projects and promote technological progress and industrial upgrading through FinTech means [7].

##### 3.1.2. Promoting the transformation and upgrading of the real economy

FinTech helps enterprises optimize production processes and improve production efficiency through intelligent management and data analysis, promoting the digital transformation of the real economy. For example, through blockchain technology, supply chain finance realizes the information transparency and efficient collaboration of all links in the supply chain and enterprises' financing costs. It improves the overall efficiency of the supply chain [8].

##### 3.1.3. Improving the efficiency and accessibility of inclusive financial services.

FinTech, through extensive data analysis and artificial intelligence technology, can quickly assess borrowers' credit risk, improve the efficiency of loan approval, reduce the threshold of financial services, and enable more small and medium-sized enterprises (SMEs) and individuals to access financial services [9]. The popularization of mobile payment and Internet financial platforms enables financial services to cover more rural areas and low-income people, enhancing the universality of financial services [10].

##### 3.1.4. Promoting industrial upgrading and transformation

FinTech promotes the upgrading and transformation of traditional industries by providing them with more flexible and diversified financing channels and financial services. For example, FinTech can support enterprises in implementing new business models, such as supply chain finance and intelligent manufacturing, to improve their operational efficiency and competitiveness [11]. At the same time, FinTech also helps enterprises optimize resource allocation, reduce operational risks, and achieve sustainable development through data analysis, risk management, and other technical means [12].

### **3.1.5. Contributing to rural revitalization and regional coordinated development**

FinTech also plays an important role in rural revitalization and regional coordinated development. Using financial technology, financial service innovation in rural areas can be promoted, and the quality and efficiency of rural financial services can be improved [13]. For example, mobile payment, digital financial inclusion, and other financial technology products can facilitate farmers' payment and settlement and access to loans and other financial services, thus promoting the development of the rural economy and farmers' income [14]. At the same time, FinTech can support inter-regional capital flows and resource allocation and promote the coordinated development of the regional economy [15].

## **3.2. FinTech Impediments to the Real Economy**

### **3.2.1. Ignoring the financing needs of small and medium-sized enterprises**

Because large enterprises have richer data and lower credit risk, financial institutions are more willing to support the financial needs of large enterprises with low-risk and stable operations under the existing data analysis and risk assessment system [15]. While technology-based SMEs in the start-up stage of the product transformation value is difficult to assess, the credit risk is unclear. The demand for raising funds is not significant; financial institutions are complex in providing financial needs that match the development of the enterprise, which leads to the long-term problem of SMEs' financing difficulties and high costs.

### **3.2.2. Increased competitive pressure on offline businesses**

The rapid development of financial technology has revolutionized the operation mode and organizational structure of economic business, giving rise to a series of emerging financial business forms such as crowdfunding and third-party payment. While this series of changes has brought new opportunities to the financial industry, it has also posted significant challenges to the traditional offline business model, especially to those business forms that are highly dependent on the operation of physical outlets, which has had a strong impact.

### **3.2.3. Inducing social instability**

FinTech, incredibly massive data, may allow financial institutions to gain too much market power to screen and "exploit" their customers. Financial institutions prefer to serve only high-value customers while neglecting low-value customer segments, thus jeopardizing the latter's welfare component [16]. By inducing irrational consumption among young people and low-income consumers through scenario-induced and over-credit, some FinTech companies have eroded the financial values of moderate indebtedness and sensible consumption, especially as consumers' indebtedness increases and their ability to consume decreases, and such over-induced consumption can have a detrimental impact on society.

### **3.2.4. Information security issues**

FinTech has also brought new risks and challenges in its rapid development, such as data leakage and cybersecurity risks. If handled properly, these issues may positively impact the development of the real economy.

## **4. Suggestions**

### **4.1. Strengthening Financing Support for SMEs**

#### **4.1.1. Building a comprehensive credit assessment system**

We are committed to creating a credit assessment model tailor-made for technology-based SMEs. The model not only covers traditional financial indicators but also focuses on introducing non-financial indicators, such as an enterprise's innovation ability, R&D investment intensity, number of technology patents, and market potential, to achieve a comprehensive and accurate assessment of an

enterprise's value and future development potential. The establishment of this system aims to help financial institutions more accurately identify SMEs with potential and thus increase their willingness to provide financial support to them.

#### **4.1.2. Promoting innovation in financial products and services**

Encourage and guide financial institutions to develop innovative financing products and services based on the unique needs of science and technology-based SMEs. These products include but are not limited to, intellectual property pledge loans, which allow enterprises to use the intellectual property they own as collateral to obtain funds, and supply chain finance, which utilizes financial technology means to integrate information from upstream and downstream enterprises in the supply chain to provide SMEs with more flexible and convenient financing solutions. Through these innovative products, it can better meet the diversified financial needs of SMEs and help them proliferate.

#### **4.1.3. Accelerating the digital transformation process**

We will fully utilize the powerful force of financial technology to build an efficient financing matchmaking platform that combines online and offline. The platform will integrate the resources of all parties, including financial institutions, investment institutions, and SMEs, to realize the rapid transmission and efficient matching of information. This platform allows SMEs to access potential financing opportunities more conveniently, while financial institutions can more accurately find enterprises that meet their investment criteria. This platform will significantly improve the efficiency and success rate of SME financing and bring more quality investment opportunities to financial institutions.

### **4.2. Promoting the Integration of Online and Offline Commerce**

#### **4.2.1. Optimizing the regulatory environment for FinTech**

Traditional offline commercial enterprises should be actively encouraged and supported to fully use financial technology's power to carry out in-depth digital transformation. This transformation includes but is not limited to, adopting advanced digital technologies to enhance service efficiency and customer experience, such as analyzing customer behavior through big data to achieve precision marketing, using artificial intelligence technology to optimize inventory management and reduce operating costs, and developing convenient mobile payment and online customer service systems to enhance customer satisfaction. Enterprises are also encouraged to actively explore new retail models that integrate online and offline, such as building intelligent stores to seamlessly connect online and offline and provide consumers with a more diversified and personalized shopping experience.

#### **4.2.2. Establishment of a sound mechanism for fair competition**

It is committed to building a regulatory environment conducive to FinTech innovation while effectively preventing and controlling risks, including moderately relaxing the regulatory requirements for FinTech enterprises to allow the necessary space for their innovation; at the same time, strengthening support for the digital transformation of offline commercial enterprises, such as providing tax incentives, capital subsidies, and technical guidance, in order to reduce their transformation costs and accelerate the transformation process. This series of policy measures aims to build a fair, open, and orderly FinTech ecosystem and provide vital protection for the integrated development of online and offline commerce.

#### **4.2.3. Building an efficient financing matchmaking platform**

It is aware of the importance of fair competition for the integrated development of online and offline commerce. Therefore, it is committed to establishing a sound mechanism for fair competition in FinTech to prevent market monopolization and unfair competition. This platform includes strengthening the anti-monopoly review of FinTech enterprises to ensure that they do not take advantage of their dominant position in the market to engage in unfair competition; at the same time,

it strengthens the regulation of the market behavior of both online and offline enterprises to safeguard their right to participate in market competition on an equal footing. This series of policy measures aims to create a fair, transparent, and orderly market environment and provide solid institutional safeguards for the integrated development of online and offline commerce.

### **4.3. Protection of Consumer Rights and Financial Stability**

#### **4.3.1. Deepening consumer protection mechanisms**

It is committed to continuously improving the legal and regulatory system to protect consumer rights and interests in FinTech and ensure that consumers can obtain adequate legal protection when enjoying FinTech services [11]. To this end, the supervision of FinTech enterprises' behavior will be strengthened, especially regarding possible misbehavior such as inducing consumption and over-granting of credit, which will be severely punished per the law to maintain fairness and justice in the market.

#### **4.3.2. Comprehensive financial education**

Enhancing the public's financial literacy is essential to protecting consumer rights and interests. Popularizing financial literacy through online and offline methods guides consumers to establish correct financial concepts and treat consumption and interests rationally [12]. The Financial Literacy Program is not limited to conducting financial literacy lectures, producing financial education videos, and publishing financial consumption guides. Still, it aims to help consumers better understand the characteristics and risks of financial products and enhance their ability to recognize financial risks and self-protection.

#### **4.3.3. Building a solid information security and privacy protection system**

Establishing a sound fintech information security system and strengthening data protection will ensure that consumers' personal information and transaction data are adequately secured [13]. At the same time, it will also enhance cooperation with relevant departments to jointly combat information crimes and maintain the security and stability of the financial market.

### **4.4. Building a Risk Prevention and Control System**

#### **4.4.1. Building an advanced risk early warning mechanism**

Build a FinTech risk early warning system using big data, artificial intelligence, and other cutting-edge technologies. The system will collect and analyze data in the field of financial technology in real-time, use machine learning algorithms to identify risk patterns, and promptly discover and warn of potential risks [14]. At the same time, continuously optimize the accuracy and sensitivity of early warning models to ensure the timeliness and effectiveness of risk early warning.

#### **4.4.2. Strengthening cross-sectoral collaboration and information sharing**

It is well known that the prevention and control of FinTech risks require multi-sectoral collaboration. Therefore, communication and cooperation between financial regulators, science and technology departments, and industry associations, will be strengthened to establish an information-sharing and joint response mechanism [15]. By holding regular cross-sectoral coordination meetings and sharing risk information and regulatory data, it is possible to form a synergy to address the risk challenges posed by FinTech jointly. In addition, establishing a cross-sectoral joint enforcement mechanism will be promoted to intensify the crackdown on illegal and unruly behaviors and maintain the order and stability of the financial market.

#### **4.4.3. Active participation in international standard-setting and global cooperation**

In financial technology, international standard-setting is of great significance in upgrading the level of regulation and promoting global cooperation. It will actively participate in international standard-setting in FinTech and promote the establishment of international financial rules that meet China's national conditions and interest standards [16]. At the same time, it will strengthen exchanges

and cooperation with financial regulators, technology enterprises, and industry associations in other countries and regions and jointly study new methods and means of FinTech risk prevention and control methods. Developing international standards and global cooperation can enhance the internationalization of China's financial technology regulation and promote the healthy development of global financial technology.

## 5. Conclusion

FinTech, with its efficient, convenient, and innovative features, is profoundly reshaping the traditional financial industry and injecting unprecedented vitality and potential into the real economy. It has not only shown remarkable results in promoting consumption growth, alleviating financing problems of small and medium-sized enterprises (SMEs), enhancing the efficiency of financial services, optimizing the allocation of resources, and stimulating the vitality of innovation and entrepreneurship but also laid a solid foundation for the high-quality and sustainable development of the real economy. Looking ahead, FinTech still has many highlights that deserve attention in promoting the development of the real economy. FinTech will help the real economy achieve a greener and more sustainable development path by optimizing resource allocation and improving capital use efficiency. In the future, FinTech will continue to bring more surprises and opportunities to the real economy and become an essential force in promoting the prosperity and development of the global economy.

## References

- [1] Illahi B D, Nemer B, Jatinder K. Investigating the role of FinTech innovations and green finance toward sustainable economic development: a bibliometric analysis. *International Journal of Islamic and Middle Eastern Finance and Management*, 2024, 17 (6): 1175 - 1195.
- [2] Sun S, Zhang Z, Tan M. Financial Mechanism for Sustainable Development of the Marine Economy with Respect to Technology, Digitalization, and Low Carbonization. *Water*, 2024, 16 (19): 2841 - 2841.
- [3] Rachmatulloh B, Fikri I, Abdillah T, et al. The Development of Financial Technology, Financial Literacy, and Financial Management Behavior in Generation Z (A Case Study of Economics Students at UIN Maulana Malik Ibrahim Malang). *Asian Journal of Economics, Business, and Accounting*, 2024, 24 (10): 64 - 83.
- [4] Zhao B, Song S. Research on the Impact of Financial Technology on the Efficiency of Financial Service Real Economy--Based on Data from 31 Provinces in China. *Journal of Beijing University of Posts and Telecommunications (Social Science Edition)*, 2024, 26 (04): 71 - 83.
- [5] Zhao Y. Research on the Impact of Financial Technology on Corporate Financial Investment. Nanning: Guangxi University, 2024.
- [6] Yang X, Zhang J. Status and Trends of FinTech Development in China. *Financial Technology*, 2024, (1): 50 - 55.
- [7] Bian X. Research on the Impact of Financial Technology on Business Environment. Jinan: Shandong University of Finance and Economics, 2024.
- [8] He F. Research on the Role of Financial Technology on Economic Development. Jingdezhen: Jingdezhen Ceramic University, 2024.
- [9] Zhu X. Research on the Impact of FinTech Development on the Profitability of Real Enterprises. Hangzhou: Hangzhou University of Electronic Science and Technology, 2024.
- [10] Fan B. Research on the Impact of FinTech Development on Liquidity Creation in Commercial Banks. Wuhan: Wuhan Textile University, 2024.
- [11] Zou K, Zhou Y. Research on the Impact of Science and Technology Finance on the High-Quality Development of the Real Economy--Based on the Theoretical Background of Building a Strong Financial Country. *Research on Financial Economics*, 2024, 39 (01): 75 - 91.

- [12] He Y. Research on the synergistic process of financial technology (FinTech) and the high-quality development of the real economy// Yan'an Education Society. Proceedings of the Fifth Academic Conference on Innovative Education and Development (II). School of Economics and Management, Qilu Normal University, 2023: 9.
- [13] Zhou Y, Ding X. Has technology empowerment improved the efficiency of financial support to the real economy? --Based on the Perspective of Financial Supply and Demand Structure. *International Financial Studies*, 2023, (10): 50 - 61
- [14] He Y, Zhang Y. Research on the Impact of Financial Technology on Real Economic Growth. *Financial Theory Exploration*, 2023, (05): 21 - 31.
- [15] Libin Z. Digitalization of Science and Technology as a Driver for Financial Innovation in Support of High-Quality Real Economy Development. *Industrial Engineering and Innovation Management*, 2023, 6 (10).
- [16] Yang X. Research on the Impact of Financial Technology on the Efficiency of Financial Service Real Economy. Shanghai: Shanghai University of Finance and Economics, 2023.