

# Research on the Synergistic Development Mechanism of Financial Innovation Mode and International Trade in the New Period

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**Abstract:** In this paper, the mechanism of coordinated development of financial innovation mode and international trade in the new period is deeply studied, aiming at discussing how financial innovation can promote the development of international trade, and putting forward strategies and suggestions to strengthen the coordinated development of the two. First of all, this paper analyzes the profound influence of financial innovation tools such as digital payment, smart contract and blockchain on international trade, and reveals their potential advantages in improving efficiency and reducing costs. Secondly, through the theoretical discussion on the relationship between international trade and financial innovation, the necessity of strengthening international cooperation and coordination mechanism is put forward, including establishing an international cooperation platform, formulating global financial innovation standards, and promoting international financial supervision and cooperation. Furthermore, this paper emphasizes the need to pay attention to privacy protection and data security in the process of coordinated development, and calls for the formulation of international privacy regulations and data security standards. Finally, we emphasize the importance of global cooperation and co-construction, including the construction of digital payment infrastructure, the promotion of scientific and technological innovation and R&D cooperation. Through these studies, this paper provides profound theoretical analysis and practical guidance for the coordinated development of financial innovation and international trade in the new period, and provides useful ideas for the sustainable development of the global economy.

## 1. Introduction

With the continuous development of the global economy and the increasing frequency of international trade, the financial industry, as an important part of supporting economic operation, is facing challenges and opportunities with each passing day. In the new era, the financial innovation model driven by scientific and technological innovation has gradually emerged, which not only profoundly changed the operation mode of traditional financial business, but also provided unprecedented development opportunities for international trade [1].

On a global scale, the rapid development of financial technology has promoted digital, intelligent and data-based financial services. The continuous penetration of next-generation technologies such as blockchain, artificial intelligence and big data has provided financial institutions with a more efficient, safe and transparent operation mode [2-3]. At the same time, emerging financial business models, such as digital currency, payment innovation and smart contracts, are profoundly changing the financial ecology. In the new period, financial innovation is not only promoted rapidly in China, but also plays an increasingly important role in international trade. With the increasingly close connection of the global industrial chain, financial innovation provides a more convenient and secure trading environment for international trade [4]. Digital financial services not only improve the transaction efficiency, but also reduce the trade cost, which makes international trade smoother.

However, the coordinated development between financial innovation and international trade in the new era still faces a series of challenges. Problems such as lagging supervision system, insufficient risk management and control, and privacy security have become bottlenecks restricting the coordinated development of financial innovation and international trade. Therefore, this paper aims to explore the mechanism of the coordinated development of financial innovation mode and international trade in the new period, analyze its existing problems and challenges, and put forward

corresponding policy suggestions, so as to promote the common prosperity of financial innovation and international trade and make contributions to the sustainable development of the global economy.

## 2. The Influence of Financial Innovation on International Trade

Using panel co-integration theory and generalized moment estimation method, this paper empirically analyzes the long-term equilibrium and short-term dynamic impact of China's financial development on international trade, not only on the whole country, but also in the eastern, central and western regions. Taking the deposits and loans, exports, imports and GDP of financial institutions in 28 provinces or municipalities directly under the Central Government in China from 2010 to 2022 as basic data, the problem of "structural breakpoints" can be ignored. Based on this, the financial correlation rate, export dependence and import dependence of 28 provinces and cities are calculated, and the national panel data model is constructed, and then according to the classification of the National Bureau of Statistics.

After it is concluded that the panel data has a first-order single integration, it is further tested whether the panel data has a cointegration relationship. According to the model, the panel regression is carried out, and the elasticity coefficient values of financial development to imports and exports in the corresponding regions are obtained respectively. The results are shown in Table 1.

Table 1 Panel regression estimation results

zone	variable	Independent variable coefficient	t	R <sup>2</sup>	F
eastern region	Export dependence	0.031	6.22	0.938	121.861
	Import dependence	0.067	8.385	0.792	49.457
middle	Export dependence	0.002	-3.102	0.255	5.237
	Import dependence	0.008	2.084	0.386	6.119
the west	Export dependence	0.031	0.478	0.361	8.975
	Import dependence	0.028	5.735	0.265	17.771
whole country	Export dependence	0.028	5.631	0.77	96.818
	Import dependence	0.083	8.922	0.819	45.467

The coefficient of financial correlation rate in Table 2 reflects the long-term impact of financial development on import and export trade in different regions. The long-term elastic coefficients are 0.031, 0.002 and 0.031 respectively. It can be seen that the promotion of financial development in the eastern region is obviously greater than that in the central and western regions. Similar to the role of finance in promoting exports, the development of national finance has also promoted import trade. The long-term promotion of financial development in the eastern region is also significantly greater than that in the central and western regions.

Financial innovation has a far-reaching impact on international trade, and its positive role in improving efficiency, reducing costs and expanding financing channels has created a more favorable environment for international trade [5]. Financial innovation has significantly improved the transaction efficiency of international trade by introducing tools such as digital technology, smart contracts and blockchain. The wide application of digital currency and electronic payment system accelerates the settlement speed of cross-border transactions and reduces the time cost of

payment.

Financial innovation provides diversified financing channels for enterprises, especially for small and medium-sized enterprises. Through the digital assets issued by blockchain technology, enterprises can finance more easily, without being restricted by regions and traditional financial institutions [6-7]. This provides more flexible financing tools for all participants in international trade and promotes the vigorous development of trade activities. Financial innovation has played an active role in risk management and provided more advanced risk management tools for all aspects of international trade. Through the application of big data analysis and artificial intelligence technology, financial innovation can more accurately assess and predict market risks, help enterprises to better manage trade risks and improve the sustainability of trade.

Financial innovation and the development of digital trade complement each other and promote the digitalization and traceability of the trade process. The application of blockchain technology can realize the real-time tracking of trade logistics, ensure the transparency of the source and destination of goods, and help reduce fraud and improve the integrity of trade.

### **3. Problems and challenges**

Although the coordinated development of financial innovation mode and international trade in the new era has brought many opportunities, it also faces a series of problems and challenges, which need to be seriously considered and effectively solved to ensure the steady development of financial innovation and international trade [8].

Financial innovation in the new era involves many cutting-edge technologies and new financial businesses, and the supervision system often lags behind the pace of innovation. The lack of clear regulatory policies and regulations will easily lead to the irregular development of financial markets and increase the risks of market participants. International trade involves many countries and regions, and the international coordination of supervision needs to be strengthened to meet the challenges brought by cross-border financial innovation.

With the advancement of financial innovation, the complexity of new financial business and technology application has increased, which makes the financial system face more risks and security risks. Although technologies such as digital payment and blockchain improve transaction efficiency, they also make the system vulnerable to network attacks and data leakage [9]. The cross-border flow of information in international trade requires a high degree of data security. The development of financial innovation involves a large amount of personal and enterprise data, and how to protect users' privacy has become an urgent problem. Lack of uniform data norms and privacy protection laws and regulations can easily lead to users' worries and distrust, and hinder the healthy development of financial innovation and international trade.

Different countries and financial institutions may adopt different technical standards when adopting financial technology, which leads to interoperability problems between systems. This may make it difficult for financial services in international trade to achieve smooth cross-border cooperation and increase the uncertainty and cost in trade. The development of financial innovation may aggravate social inequality and marginalize those individuals or enterprises that cannot adapt to new technologies. The popularization of digital financial services may also widen the digital divide, making it difficult for some regions or groups to enjoy the convenience of new financial services, thus losing their competitiveness in international trade.

To realize the coordinated development of financial innovation mode and international trade in the new era, it is necessary to continuously strengthen international cooperation, establish a sound supervision system, strengthen data privacy and security protection, promote the international unification of technical standards, and pay attention to social equity and digital divide, so as to ensure the sustainable, inclusive and safe development of financial innovation and international trade.

## **4. Suggestions on collaborative development mechanism**

### **4.1. Strengthen international cooperation and coordination mechanism**

In the new era, the coordinated development of financial innovation mode and international trade needs to strengthen international cooperation and coordination mechanism to promote the orderly advancement of global financial innovation and promote the prosperity of international trade. It is suggested that an international financial innovation cooperation platform should be established, with the participation of governments, international financial organizations, business circles and academic circles. This platform can be an important place for information sharing, policy coordination, technical standards formulation and experience exchange. Through regular meetings, seminars and working groups, we will promote the coordinated development of global financial innovation, share the best practices of various countries, and jointly meet industry challenges.

In order to promote financial innovation in international trade, it is suggested that the international community should jointly formulate global financial innovation standards. This includes the standardization of digital payment, smart contracts and blockchain to ensure the interoperability of financial systems in various countries. International standards will help reduce the friction cost of cross-border transactions and promote the common development of global financial innovation. It is suggested that the international community strengthen scientific and technological innovation and R&D cooperation to jointly promote the development of financial technology. This can be achieved by establishing joint research centers, carrying out joint research and development projects, and sharing technical resources. Through transnational technical cooperation, countries can better cope with the technical challenges brought by financial innovation and promote the progress of global financial technology [10].

By strengthening the international cooperation and coordination mechanism, a more open, stable and transparent international financial innovation environment can be established, which will provide strong support for the sustainable development of the global economy and the prosperity of international trade. This cooperation mechanism will promote mutual benefit and win-win in financial innovation and promote the continuous development of international trade.

### **4.2. Formulate an international regulatory framework for financial innovation**

The coordinated development of financial innovation mode and international trade in the new era needs to formulate an international financial innovation supervision framework to ensure the healthy development of financial innovation in international trade. It is suggested to establish a transnational financial innovation supervision institution, whose responsibility is to formulate and coordinate global financial innovation supervision policies. This institution can be jointly participated by all countries to ensure the global consistency of financial innovation supervision. This institution can coordinate the cooperation between national regulators and jointly meet the challenges that may be brought by cross-border financial innovation.

In order to promote financial innovation in international trade, it is suggested to formulate unified financial innovation standards, covering key areas such as digital payment, smart contracts and blockchain. This requires transnational cooperation, led by international financial innovation regulators, and jointly formulated with national regulators to ensure the global interoperability and consistency of financial innovation. It is suggested to establish a global financial innovation monitoring and reporting mechanism, and find and solve possible problems in financial innovation in time through information sharing, data collection and risk assessment. This requires the active cooperation of regulatory agencies in various countries to provide information about financial innovation to them, so as to form a more comprehensive monitoring system.

Due to the rapid development of financial innovation, it is suggested to formulate a flexible regulatory framework so that the regulatory policies can be adjusted in time while financial innovation develops. International financial innovation regulators can set up a rapid response mechanism to evaluate emerging financial innovations and formulate corresponding laws and regulations. International regulatory cooperation is the core of formulating a regulatory framework for international financial innovation. It is suggested that international regulatory cooperation

should be strengthened, including information sharing, joint law enforcement and regular seminars, so as to ensure that national regulatory agencies can better cooperate and jointly meet the challenges brought by financial innovation.

### 4.3. Strengthen the international interoperability between digital payment and smart contracts

In order to strengthen the international interoperability of digital payment and smart contracts, the international community needs to formulate a series of unified international standards and norms. This includes digital payment protocols, smart contract standards, data formats and other specifications to ensure that digital payment systems and smart contracts in different countries and regions can be seamlessly connected (Figure 1). The formulation of international standards requires a wide range of participants, including governments, financial institutions, technology companies and international organizations.

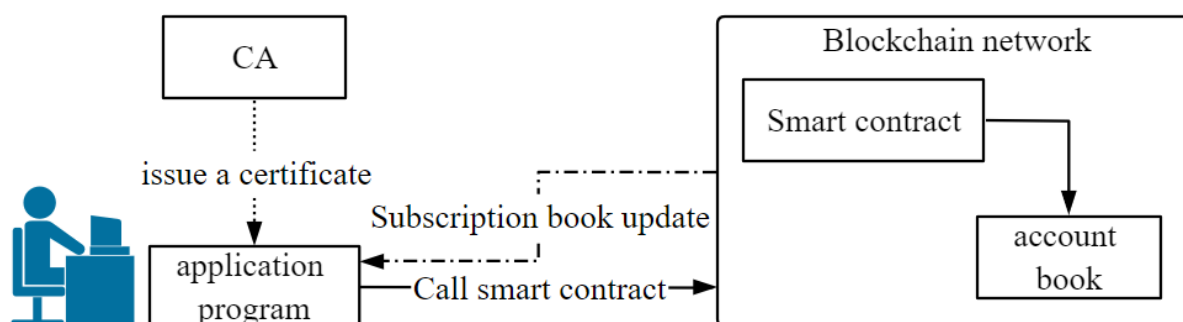


Figure 1 Blockchain smart contract

It is suggested to establish an international digital payment interconnection platform, through which the interoperability of digital payment systems in various countries can be realized. This platform can provide standardized interfaces and protocols, so that digital payment systems in different countries can communicate and exchange information with each other, and realize the convenience and efficiency of digital payment in cross-border trade. In order to ensure the reliability and immediacy of digital payment in international trade, it is necessary to promote the coordinated development of international payment and settlement system. The international payment and settlement system should adopt unified settlement standards and interoperability agreements to ensure the security and stability of digital payment. This requires the active participation of international organizations and central banks to promote the unification and standardization of the global payment system.

Smart contracts are the key link in digital trade, and it is necessary to formulate international standards for smart contracts to ensure that smart contracts in various countries and regions can be compatible and interoperable. This includes the standardization of programming language, execution environment and legal framework of smart contracts, so as to promote the international circulation and use of smart contracts. Strengthening the international interoperability of digital payment and smart contracts requires global cooperation. It is suggested that all countries jointly promote the construction of digital payment infrastructure, including electronic payment gateway and payment clearing system, so as to promote the coordinated development of global digital payment system.

### 4.4. Strengthen privacy protection and data security

In order to strengthen privacy protection, the international community should jointly formulate and abide by international privacy protection regulations and guidelines to ensure that users' personal information in international trade is fully protected. This requires the joint efforts of international organizations, governments and industry associations to formulate privacy laws and regulations that meet global standards, stipulate the norms of information collection, storage, processing and transmission, and protect users' personal privacy.

Data security is closely related to cyber crime. In order to prevent the threat of cyber crime to international trade, the international community should strengthen cooperation and jointly crack down on cyber crime. It is suggested to establish an international network security cooperation mechanism, share threat information, cooperate in network security drills, and jointly prevent and respond to network attacks. Providing users with more perfect privacy protection tools and mechanisms is a key step. Financial innovation enterprises and international trade participants should strengthen the research and implementation of privacy protection tools, such as secure identity authentication, privacy protection mode and anonymity technology, so as to enhance users' trust in data security.

Financial innovation enterprises and international trade participants should strengthen the responsibility and transparency of user data. This includes defining the purpose of data use, the way of obtaining users' consent, and the implementation of data protection measures, so as to establish trust and transparency and improve users' sense of control over their data.

Through the above suggestions, we can provide a series of practical and feasible suggestions for the coordinated development of financial innovation mode and international trade in the new period, thus promoting the sustainable and healthy development of this field.

## 5. Conclusions

Financial innovation has played a key role as an engine to promote the development of international trade. The introduction of new financial instruments such as digital payment, smart contract and blockchain makes the payment, settlement and financing of international trade more efficient and convenient. The coordinated development between international trade and financial innovation needs to establish a sound mechanism. In our research, we emphasized the importance of strengthening international cooperation and coordination mechanism, including establishing an international financial innovation cooperation platform, formulating global financial innovation standards, and promoting international financial supervision cooperation. The coordinated development of financial innovation model and international trade in the new era requires the joint efforts of many parties to establish an international cooperation mechanism and normative system, so as to promote a virtuous circle of financial innovation and international trade and create more favorable conditions for the prosperity of the global economy.

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