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Research on Sustainability of Supply Chain Financial Model in Fujian Free Trade Zone

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Abstract. Supply chain finance combines logistics, information flow and capital flow, which can effectively solve the shortage of funds and reduce the cost of the entire supply chain. Based on the development background of Fujian province's free trade zone and supply chain finance, this paper analyzes the current situation of SME financing in China and Fujian province, and focuses on the insufficient industrial chain of supply chain finance in Fujian Free Trade Zone. Supply chain financial intermediaries are unbalanced development, inadequate laws and regulations, and relatively weak technology. The paper proposes a comprehensive model of supply chain financing based on free trade zone, carries out QFLP financing for the real economy, develops supply chain financial services for shipping centers, and encourages intermediaries to develop supply chain financial services, improve credit system and legal system, and utilize blockchain technology to improve the informationization degree of supply chain finance and other proposals, promote the rapid development of supply chain finance in Fujian Free Trade Zone, and solve the financing difficulties of SMEs.

1. Introduction

In recent years, supply chain finance services based on real trade have developed rapidly. According to estimates by the Epro Research Institute, China's supply chain financial market will reach 27 trillion yuan in 2020. Supply chain finance combines logistics, information flow and capital flow to effectively solve financing problems and reduce the cost of the entire supply chain. Supply chain finance is supported by market credit and transaction data. Under the traditional trade finance risk management framework, the system consists of financing tools with risk pricing capabilities as the core..

Supply chain finance aims to establish a synergistic market for financing between supply and demand, and supply chain finance is receiving more and more attention. Gelsomino et al.^[1] classified supply chain finance according to the theme and method, and propose future research directions. Song and Chen et al.^[2] believed that in the different stages of supply chain financial evolution, supply chain financial structure, processes and elements, participation in the company's operational capabilities and information system construction capabilities, together affect the role of supply chain finance. Tu and Yang^[3] compared the differences between the four supply chain financial models under the e-commerce platform and the traditional financing models. Wang and Wang^[4] based on the interaction between e-commerce platform and logistics service provider, they proposed how to study enterprises to synchronize logistics, information flow and capital flow by constructing "platform + foundation"



model. Yan and He^[5] analyzed the advantages and disadvantages of three online supply chain financial business models. Luo and Shen^[6] studied the optimal financing service strategies provided by financial institutions to member companies in the capital-constrained supply chain, and analyzed the benefits of financial institutions under the one-way and two-way financing service strategies of financial institutions. Song, Yu and Lu et al.^[7] compared supply chain finance solutions provided by commercial banks and financial service providers to help SMEs obtain financing. Lee, Zhou, and Wang^[8] studied how trade credits respond to competition in the supply chain and the impact of trade credit on company performance. Xu^[9] combined with bibliometrics, network and content analysis methods, focused on 348 papers of mainstream academic journals, and proposed future research. Li and Chen^[10] found that supply chain finance has a different role in companies in different directions, and they gain competitive advantage through supply chain finance.

At the same time, China has introduced a series of policies to promote the development of supply chain finance. In January 2016, the State Council proposed the “Development of Accounts Receivable Financing”. Subsequently, it proposed “Financial Support Opinions on Industrial Stable Growth and Structure and Benefit Adjustment” and “Guidance on Financial Support for Manufacturing Powers”. “Promoting large enterprises and government procuring entities to actively identify accounts receivable and help SMEs suppliers to raise funds”. In May 2017, seven ministries including the People's Bank of China jointly issued the “Special Action Plan for Small and Micro Enterprises Receivables Financing (2017-2019)”. In order to raise the awareness of local governments, financial institutions and small and medium-sized enterprises to collect accounts receivable financing, three-year special actions for domestic small and micro enterprises to carry out accounts receivable financing, expand the accounts receivable financing market, and help solve practical problems. On October 13, 2017, the General Office of the State Council officially issued the “Guiding Opinions on Actively Promoting Supply Chain Innovation and Application”, clearly stating that “accelerating supply chain innovation and application is an important starting point for promoting supply-side structural reform” and has formulated The goal: “By 2020, new technologies and new models for supply chain development suitable for China's national conditions will be formed.” The guidance on actively promoting supply chain innovation and application has also proposed six key tasks and six safeguards. The fourth key task is “promoting supply chain financial services for the real economy, effectively preventing supply chain financial risks, and actively and steadily developing supply chain finance.” corporate receivables ABS “Delisting Conditions Confirmation Guide” issued in December 2017 and the information disclosure guide clearly stipulates its scope of application. Except for asset-backed securities issued directly as the basic assets of the company's accounts receivable claims, these two guidelines also apply to assets issued under corporate receivables claims. Supporting securities as a source of cash flow for related assets. This means introducing securitization projects such as factoring and trust On July 5, 2018, the third reduction was 0.5, releasing 700 billion working capital to support the real economy, small and micro enterprises and agricultural loans. Subsequently, on October 7, 2018, the People's Bank of China announced: deposit preparation Jin rate 1 replaces medium-term loans and issues 750 billion yuan of incremental funds to support the sources of borrowing for small and micro enterprises, private enterprises and innovative enterprises. It can be seen that in the process of promoting the development of modern supply chains, the supply chain is constructed and improved. The financial mechanism is an urgent task.

On December 31, 2014, the State Council formally approved the establishment of the China (Fujian) Free Trade Pilot Zone. The corresponding financial support policies of the Free Trade Zone include deepening foreign exchange management reform, improving financial services, strengthening supervision, etc., in the cross-border use of RMB, currency. Deepen cross-strait financial cooperation in areas such as cooperation and communication and liaison mechanisms. However, in the context of “Internet Plus”, supply chain finance research in the Fujian Free Trade Zone is rarely involved. This study aims to explore the supply chain financial sustainability model and related issues in the Fujian Free Trade Zone, and explore the development path and optimization strategy of supply chain finance.

2. The status quo of supply chain financial financing

2.1. Current status of financing for SMEs in China

Since 2017, China's supply chain finance has developed rapidly under the impetus of financial technology, and the financing of small and medium-sized enterprises has received much attention. Relevant data show that 96% of enterprises in China are small and medium-sized enterprises. Their financial support in the development process is very limited, and only about 20% of financial resources are occupied, which highlights the difficulty of financing and the phenomenon of expensive financing. Although the amount of SME loans has increased year by year, it is far lower than the loan amount of large enterprises, which has greatly hindered the development of SMEs in China.

2.2. Fujian's supply chain finance development

According to the CEIC China Economic Database, the total amount of social financing in Fujian province is obtained, as shown in Figure 1. The time span is from the first quarter of 2014 to the third quarter of 2018, the total amount of social financing in Fujian province (unit: RMB 1 billion), of which the maximum financing amount is RMB loans; the small loans are stable at around 30 billion; the total foreign currency financing It has become negative since the second quarter of 2014 and has been declining year by year. The new entrusted loans fluctuated greatly, reaching a peak of 102.5 billion in the fourth quarter of 2016. In recent years, it has experienced a negative growth trend; trust loans have increased from the lowest of 156.1 billion in the fourth quarter of 2014 to around 60 billion annually; bank acceptance The bill of exchange has gradually stabilized at around 30 billion from the lowest of -1156 billion in the fourth quarter of 2016; the net financing of corporate bonds has been negative since the first quarter of 2017; the stock financing of non-financial companies has remained at around 20 billion. Among the financing types of social financing in Fujian province, the average value of RMB financing reached 264.16 billion yuan, and the average value was declining in bond financing, small business financing, entrusted financing and stock financing. Among them, the average value of bill of exchange financing is the lowest, reaching -20.8 billion yuan.

3. The status quo of supply chain financial financing

3.1. The main problems in Fujian's supply chain finance

Fujian's financial system has major flaws, and there is no inherent correlation between activities between departments, resulting in inefficient operation of the real economy sector and low market competitiveness. A serious mismatch between the real economy and the financial sector leads to greater risks.

3.2. The industry chain is not complete enough

At present, the development of the supply chain financial industry chain in Fujian province is relatively slow and does not achieve scale returns. Except for a few key industries, most of the core enterprises and banks in Fujian province lack management and investigation of SMEs, which increases the credit risk of banks. It is difficult to provide supply chain financial services to downstream sales companies through the credit of core companies.

3.3. Unbalanced development of supply chain financial intermediaries

Fujian's supply chain finance is mainly based on bank lending. Due to the changes in the service mode of the Internet era, the main body of Fujian's supply chain financial management is different. Although it has effectively promoted the innovation of traditional financial institutions, the development of various intermediaries is unbalanced and regulatory chaos, and the main body of supply chain financial services needs to be further expanded.

3.4. The laws and regulations are not perfect

The main body of Fujian's supply chain finance is relatively complex, and the business model is more diversified. Since the basic legal system of electronic bills in Fujian province is still not perfect, various electronic information security issues can easily lead to greater legal risks and higher litigation costs.

3.5. The technology is relatively weak

Technical support plays a vital role in the development of supply chain finance. The application level of information technology in this field in Fujian province still lags behind the international level. Fujian supply chain finance must systematically integrate, create a reasonable model for banking business, reduce cost capital, and provide an effective comprehensive financing plan for enterprises on the chain.

The low level of information technology mainly leads to the following problems: (1) The procedures for invoicing paper bills are cumbersome, prone to fraud, and the process is not smooth. (2) The settlement agreed between suppliers cannot be completed automatically. (3) Accounting information is only in the core enterprise, and account verification is very cumbersome. (4) Core enterprises and Tier 1 suppliers have higher trust, and suppliers in other links are more difficult to obtain recognition.

4. Fujian's supply chain financial business development strategy

4.1. Expanding financing business based on free trade zone

4.1.1 Implement a comprehensive model of supply chain finance

The key to the development of supply chain finance in Fujian Free Trade Zone is how to break through the “N+1” model and form the “N + N” model. Improve the business reputation of inter-firm transactions in the supply chain by optimizing the overall ecological environment of supply chain finance. Fujian supply chain finance related enterprises can expand various forms and implement integrated supply chain financial services. It can be combined with cross-border e-commerce in free trade zones to develop e-commerce supply chain financial services.

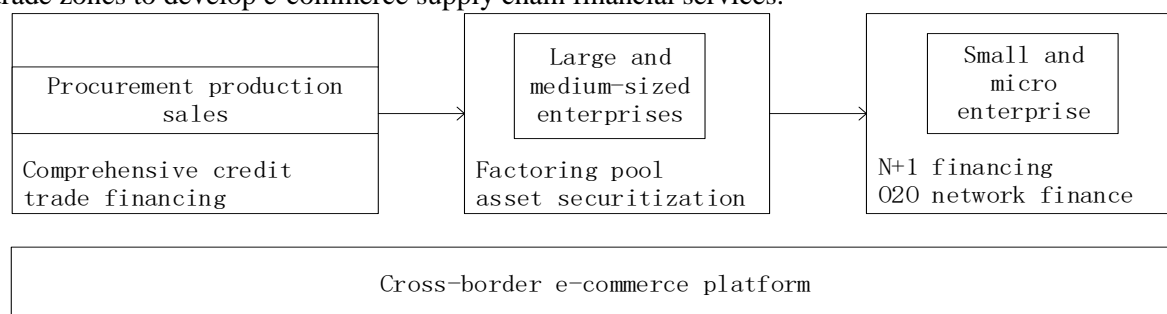


Fig. 1 Fujian Free Trade Zone Supply Chain Finance Integrated Model

The comprehensive model of supply chain finance in Fujian Free Trade Zone consists of three major blocks. As shown in Figure 1:

(1) The first is the “comprehensive credit and trade finance” module. The bank's comprehensive credit is a standardized operation, which is evaluated according to the company's statements, and trade finance focuses on the implementation of specific projects. In this process, we need to do a good job of reviewing trade background data and reducing risk.

(2) When the supply chain develops to the terminal services of large and medium-sized enterprises, it can establish factoring pool financing or asset securitization. The factoring company issues loans based on the accumulated accounts receivable, effectively integrates the scattered accounts receivable, and eliminates a variety of factoring service fees, which helps to improve the efficiency of financing,

but at the same time puts higher on the factoring system. The requirements need to control the details of each account receivable transaction to avoid bad debt risk. The concentration of downstream commodity buyers is not high, which helps to spread the risk to some extent. The major banks use the Free Trade Zone policy to target the cross-border e-commerce supply chain finance business, and can establish three integrated business centers, including offshore business, factoring business center and cross-border settlement center.

(3) The last step is small and micro enterprises. Attention should be paid to the ecology, health and stability of the industrial chain. Encourage enterprises in the free trade zone to adopt O2O network financing to promote business coverage of third- and fourth-level small and micro terminals.

4.1.2 Promote QFLP financing for the real economy

Industrial investment funds have the advantages of low financing costs, fund operation and fund investment governance, clear division of labor, and help the real economy create value. In the free trade zone, it is of great significance to actively promote industrial investment funds.

In the context of the Free Trade Zone, with the gradual opening of the market and the further internationalization of the RMB, QFLP will develop rapidly. Based on the industry as a whole, QFLP has investment power and investment income in the initial stage and mature stage of investment projects. The time limit of LP resources owned by international investment banks is diversified and can be restricted by the time limit, which can better consider the development of the entire industry.

The Fujian Free Trade Zone can try to optimize or streamline the project approval, negative list setting, settlement policy, in-process and post-event supervision, and improve the function of QFLP financing for the real economy.

4.1.3 Develop the supply chain financial business of the shipping center

Fujian Free Trade Zone can rely on the advantages of shipping centers to solve the financing problems of shipping companies and give play to the functions of the financial industry in shipping investment, settlement and marine insurance. It can also provide corresponding financial services for shipping companies, such as shipping derivatives, credit insurance financing, etc., in combination with all aspects of the shipping industry supply chain, providing services such as ship financing, shipping price derivatives and financial market information consultation.

4.2. Intensify efforts to encourage intermediaries to develop supply chain finance services

Commercial banks are the main players in the initial stage of Fujian's supply chain finance development. The Fujian Free Trade Zone can try to encourage upstream and downstream enterprises in the supply chain, B2B platform enterprises, logistics companies and other participants to use their leading enterprises to cut into the supply chain financial services.

Specific participants can involve commercial banks, industry leaders, supply chain management companies, logistics companies, B2B platforms, foreign trade integrated service platforms, financial information service platforms, and financial technology companies.1. Strengthen the supply chain financial business of commercial banks. Commercial banks are the main financiers in the supply chain finance sector and can take advantage of the bank's cost of capital. With the advantage of Fujian province to Taiwan, Taiwan-related financial enterprises are encouraged to carry out supply chain finance business.2. Leading enterprises in the industry establish their own industrial Internet and financial service platforms through their own funds or relying on industry alliances, giving priority to meeting the upstream and downstream financing needs of core enterprises, and then expanding along the upstream and downstream.3. The supply chain companies mainly include supply chain service enterprises and foreign trade comprehensive service platforms.4. Logistics companies can introduce Internet technologies, supply chain management technologies, big data and Internet of Things and other intelligent technologies and financial technologies to create a converged service system.5. The B2B platform can attract fund suppliers, guarantee institutions, insurance companies, warehousing companies, logistics companies, etc.6. The comprehensive foreign trade service platform provides

financing, customs clearance, tax refund, logistics, insurance and other related services in the import and export chain for SMEs, and has opened up supply chain finance under the international trade of SMEs.7. The financial information service platform connects the fund provider and the asset side of the supply chain to provide financing services for small and medium-sized enterprises in the supply chain.8. Financial technology companies can use new technologies such as big data, artificial intelligence, and blockchain to innovate products and services provided by traditional financial industries and improve financial efficiency.

4.3. Improve the credit system and legal system

At present, Fujian's credit information system lacks corporate settlement information, and it is urgent to cultivate and develop scale, brand, trustworthy, and convenient corporate credit investigation organizations, expand corporate credit data, expand user scope, and further improve credit data.

Fujian province needs to improve legislation, clarify the debt pledge of third party and debtor transfer of creditor's rights, and sort out the relationship with other laws and mechanisms. Although the Chinese Property Law has already stipulated movable mortgage loans, the business administration department is continuing to promote the online public system, but floating mortgages such as inventory are still at a disadvantage. Therefore, inventory should be the same as the accounts receivable claim to ensure a reasonable publicity system and operational management system.

4.4. Using blockchain technology to improve the degree of informationization of supply chain finance

Fujian Free Trade Zone can use blockchain technology to build a verifiable and traceable trusted distributed system to solve sharing problems and authenticity problems. Blockchain technology time series data, collective maintenance, programmable and secure and trusted functions, as well as built-in time stamps and data can not be modified, it can fundamentally solve the authenticity of the trade background, help to rebuild reliable supply Chain credit system to reduce credit risk.

4.4.1. Prepare for loan due diligence and data collection

Blockchain technology can be traced back to the transaction records of each node in the supply chain. Transparency throughout the transaction process to ensure the authenticity of each transaction on the link. Financial institutions such as banks are more relaxed in terms of loan restrictions. At the same time, more financiers can be introduced, including factoring companies, microfinance companies and internet finance companies, to increase the sources of financing and financing entities. For transaction data authenticity, the distributed charging technology of the blockchain distributes all transaction data in the supply chain to all node books, using timestamps, even if the enterprise can tamper with the data of a node, it will not affect the data. Authenticity. This solves concerns about data fraud by financial institutions such as banks.

4.4.2. Reform financing methods

Blockchain technology can significantly improve existing processes in the most common accounts receivable financing, prepayment financing and chattel financing in supply chain financing. For example, in the accounts receivable financing model, the use of blockchain technology can guarantee the authenticity of the trade background for accounts receivable from upstream enterprises to financial institutions. In the prepaid financing model, blockchain technology can ensure that the financing purposes of downstream companies are not falsified and the use of funds is strictly monitored. In the chattel mortgage financing model, blockchain technology can protect the cargo assessment and regulatory information of third-party regulatory companies, as well as financing information for SMEs.

4.4.3. Strengthen post-loan management

In the chattel financing, real-time monitoring and inventory valuation of inventory collateral is a key link in the post-loan management of financial institutions such as banks. The blockchain is used to manage dynamic collateral, and collateral such as inventory is time stamped according to the logistics

process. This not only ensures the authenticity of the transaction, but also monitors the transfer of collateral in real time while significantly reducing operational and operational costs.

5. Summary

Based on the development background of Fujian province's free trade zone and supply chain finance, this paper first analyzes the current situation of SME financing in China and Fujian province based on the relevant data of CEIC database. Then, it focuses on the insufficient industrial chain of supply chain finance in Fujian province. And the development of supply chain financial intermediaries is not balanced; At last, laws and regulations are not perfect and the technology is relatively weak.

This paper proposes to build a comprehensive model of supply chain financing based on the Fujian Free Trade Zone, especially the O2O supply chain financing model. Initiate QFLP to provide financing services for the real economy, develop shipping center supply chain financial services; increase efforts to encourage intermediaries to develop supply chain financial services; improve credit systems and legal systems; and use blockchain technology to improve supply chain financial informatization Suggestions. It is hoped that the supply chain financial enterprises related to Fujian Free Trade Zone can use the advanced information technology, risk management and control measures and laws and regulations to promote the rapid development of supply chain finance in Fujian Free Trade Zone and solve the financing dilemma of SMEs. We promote the development of the Free Trade Zone and provide financial and institutional guarantees for the smooth implementation of China's "One Belt, One Road" national strategy.

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