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Research on the Development of Supply Chain Finance Innovation Assisted by Fintech

Yuan li Cui

Shandong union college, jinan, shandong province, 250100, China

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ABSTRACT. In recent years, the market scale of supply chain finance has been increasing steadily, and the market demand space is getting bigger and bigger. Major commercial Banks successively carry out supply chain finance services. Supply chain finance is based on the credit standing of the core enterprises in the supply chain. Supply chain finance refers to that commercial Banks provide the upstream and downstream enterprises with order financing and receivables and payables financing without mortgage guarantee, relying on the credit of the core enterprise of the industrial chain, the real transaction background and the closed loop of logistics, information flow and capital flow. At present, the development of supply chain finance still exists information asymmetry, risk control and other problems. With the application of artificial intelligence, cloud computing, big data and block chain technology in the financial field, a powerful fintech has been formed, bringing opportunities for innovation and development to supply chain finance, and promoting the development of supply chain finance towards more and more intelligent direction, and the intelligent supply chain finance ecosystem is also gradually emerging.

1. Introduction

The development and reform of financial industry is closely related to the sustained, healthy and stable development of economy. In order to deepen the reform of the financial supply side and enhance the ability of financial services to serve the real economy, the Chinese government has introduced many favorable policies. In view of the difficulty and high cost of Chinese financing for small, medium and micro enterprises, the government strongly supports and develops supply chain finance, which has become a rapidly developing new business for commercial Banks.

1.1. Policy background of supply chain finance development

In February 2019, in order to improve the success rate of financing for private enterprises, the general office of the CPC central committee and the general office of the state council issued the opinions on strengthening financial services for private enterprises (hereinafter referred to as the opinions).Among them, article 12 in the opinions points out that: reduce the excessive reliance on mortgage guarantee.Commercial Banks should adhere to the audit of the first source of repayment, take outstanding main business, financial stability, and good credit of major shareholders and actual controllers as the main basis for granting credit, and reasonably increase the proportion of credit loans. Commercial Banks should rely on the credit of the core enterprises of the industrial chain, the real transaction background and the closed loop of logistics, information flow and capital flow to provide the upstream and downstream enterprises with order financing and receivables and payables financing without collateral guarantee.It can be seen that since the local document was issued, the central level has given the upper level regulations in a timely manner, further confirming the country's determination to develop supply chain finance.

The release of opinions on promoting the development of supply chain finance in shenzhen in January 2019 marked the birth of China's first local document on promoting the development of supply chain finance. The opinions include carrying out a prospective study on supply chain finance standards with the intention of developing and innovating supply chain finance from a theoretical perspective.To build the city's supply chain financial public service platform.

In July 2019, the circ issued to major Banks and insurance companies the guidelines of the general office of the circ on promoting supply chain finance to serve the real economy (hereinafter referred to as the "opinions").According to the guidelines, Banks and insurance institutions should integrate logistics, information flow, capital flow and other information based on real transactions between core enterprises and upstream and downstream chains, and provide a comprehensive package of financial services such as financing, settlement and cash management for upstream and downstream chains.

It can be seen from the introduction and gradual implementation of the above policy documents that China attaches great importance to and supports the development of supply chain finance in order to effectively improve the financing of smes and promote the reform of the financial supply side.

1.2. Social background of supply chain finance development

Under the social background of relatively complicated economic situation and great downward pressure on the economy, enterprises, especially small and medium-sized enterprises, generally face the problem of narrow financing channels and great financing pressure.And the limit of the small and medium-sized private enterprises because of their own conditions, it is hard to achieve national financial fund, the unlisted qualification could not obtained from the capital market investors' money, so in addition to the short term, amount of the commercial credit creation limited to short-term financing, the only way to get the money channel is given priority to with bank credit funds of financial and non-financial institutions.As the main financial institutions and Banks, in order to control credit risk, when put in the credit loan priority to credit standing is good, the powerful large enterprises, and large operating risk, credit situation is not stable, not high quality of small and medium-sized enterprises of the mortgaged property is difficult to obtain ideal size of bank credit funds or can only obtain a limited number, high cost of capital, shorter period of credit.Although in recent years, the government has successively introduced favorable policies aimed at improving the financing environment of small, medium and micro enterprises, nearly 80% of enterprises still believe that there are still many difficulties in financing.

Therefore, in the case that bank credit funds cannot be obtained through credit standing, in addition to bill discount business, smes hope to obtain bank credit funds mainly through supply chain finance.From the perspective of industrial chain, most smes are in a vertical industrial chain.Through the effective integration of information, capital, logistics and real transaction information in the industrial chain, the problem of information asymmetry between commercial Banks and financing enterprises can be solved, and the transmission of credit of core enterprises in the supply chain can be realized, so as to solve the financing problem of smes.

In recent years, the market size and growth rate of supply chain finance are shown in the following figure:

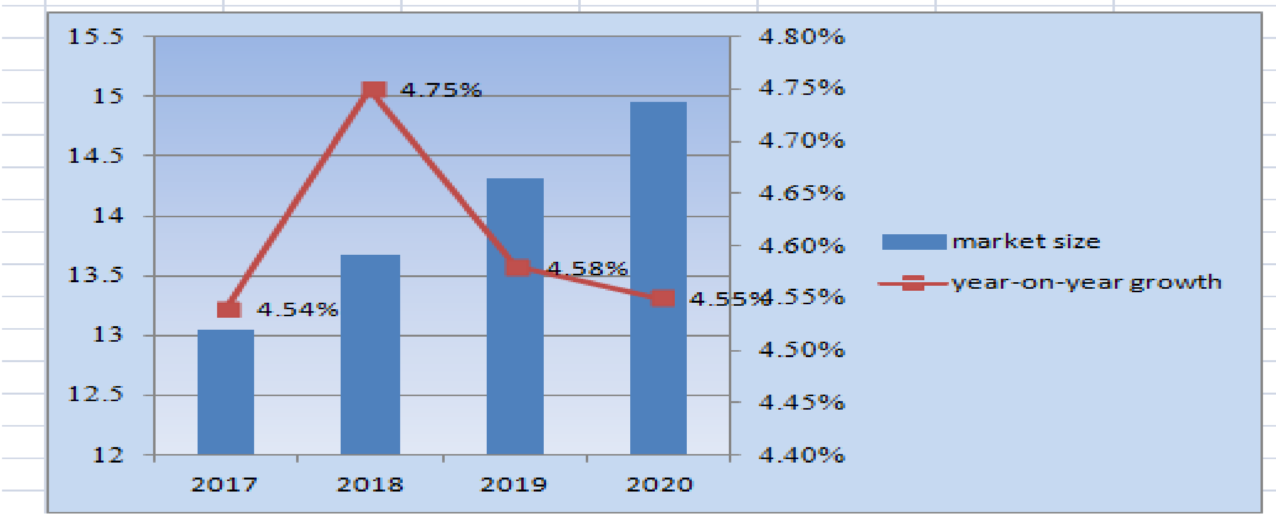

Figure 1: analysis chart of supply chain finance market size and year-on-year growth

2. Development Model and Existing Problems of Supply Chain Finance

2.1 Definition of supply chain finance

Supply chain finance is a comprehensive financial product and service provided to the upstream and downstream enterprises of the supply chain by means of self-reimbursable trade financing based on core customers and on the premise of real trade background, and by means of receivables pledge registration, third-party supervision and other professional means to close the capital flow or control the property right.

2.2. Development model of supply chain finance

In July 2003, shenzhen development bank (now ping an bank) was the first to put forward the "1+N" paradigm, which refers to the core enterprises in the supply chain, usually large high-end enterprises, which constitute the "safe haven" for risk management of bank credit.N refers to the upstream and downstream supply chain member enterprises of the core enterprises.By using the network relationship of supply chain industrial cluster, upstream and downstream enterprises can share the credit of core enterprises in the bank.

2.2.1. Financing mode of supply chain finance

2.2.1.1. Receivables based supply chain finance

With outstanding accounts receivable from financial institutions to deal with the financing behavior, called accounts receivable financing, this pattern makes the enterprise can timely access to financial institutions of the short-term financing, it can not only meet the requirements of enterprise short-term funds, speed up the small and medium-sized enterprise healthy and steady development and growth, but also to the entire supply chain for efficient operation.

2.2.1.2. Financing based on the right to take delivery in the future

Future cargo rights financing (also known as confirmed warehouse financing) is a financing mode in which the downstream buyer applies for a loan from the platform to pay for the delivery of goods by the upstream core supplier in the future period, and the supplier promises to repurchase the goods that have not been extracted, and the right to pick up the goods is controlled by the financial institution.

Through the confirmed warehouse business, financing enterprises obtain the right to pay for goods in batches and withdraw goods in batches, so they do not have to pay for goods in full at one time, which effectively alleviates the short-term financial pressure of enterprises, and realizes the leveraged procurement of financing enterprises and bulk sales of suppliers.

2.2.1.3. Supply chain finance based on inventory pledge

The so-called inventory financing refers to the behavior that an enterprise USES inventory as a pledge to conduct financing business with a financial institution. Therefore, the financing warehouse service can not only provide enterprises with high-level logistics services, but also solve the financing problem for small and medium-sized enterprises and solve the fund gap of cash flow in enterprise operation, so as to improve the overall performance of the supply chain.

2.2.2 service mode of supply chain finance

Traditional offline supply chain finance -- supply chain finance 1.0 model, which is a variety of unit products before the concept of supply chain finance, such as logistics finance based on inventory pledge, and trade finance based on trade relations.

Online financial model of supply chain, supply chain finance model 2.0, along with the electronic information technology, the maturity and popularity of Internet technology, the traditional financial moved to online, offline in the supply chain to introduce a third party platform, let the core enterprise information and bank completes the "1", which can make the enterprise can understand the core enterprise and the industry chain upstream and downstream enterprises, warehousing, payment and so on all kinds of real information.

Driven by the Internet +, supply chain finance 3.0 came, which overturned the previous supply chain model with financing as the core, and turned it into the enterprise transaction process as the core, expanding the "1+N" model centered on the core large enterprises to the "N+N" model centered on the small and medium-sized enterprises.

2.3 problems existing in the development of supply chain finance at the present stage

2.3.1 information asymmetry of Banks, core enterprises and smes

Only the credit, operation, finance and other information of the core enterprises in the supply chain are recorded comprehensively in the bank. The bank can comprehensively evaluate the enterprises through the information it knows, and lock the lending and releasing risks in a controllable range.However, the information of other enterprises in the supply chain is not comprehensive, the comprehensiveness and authenticity of the transaction information with the core enterprises are also difficult for the bank to accurately evaluate, and the quality information of accounts receivable, inventory and other assets is also relatively asymmetric with the enterprise.

Between the core enterprises and small and medium-sized enterprises, large enterprises have always mastered and controlled most of the data and been in the position of rule maker, which is at the center of the supply chain, while small and medium-sized enterprises are around the core enterprises and in accordance with the requirements of the core enterprises for system docking.The data center of the core enterprise records the data of smes, which also causes the information asymmetry between the core enterprise and smes.

2.3.2 risk management and control

First of all, some commercial Banks have little awareness of the risk management of supply chain finance, and there is no perfect system for the risk management of supply chain finance[1]. Under the existing system, the implementation and implementation of the risk management system are not thorough enough.As the service objects of supply chain finance involve all walks of life, the risk management and control requires a high level of comprehensive quality of banking professionals, who also need to improve themselves in terms of business ability and experience accumulation.

Moreover, there are also problems in the control of credit risk of financing enterprises.For example, when Banks conduct credit risk assessment on enterprises, many of them still continue the traditional mode of qualitative evaluation and quantitative evaluation, without introducing big data, cloud computing and expert system, and the accuracy of assessment results still needs to be improved[2]. As for the current supply chain finance, it involves the superimposed risks of many enterprises in the supply chain, such as operational risks, financial risks, transaction risks, and the risks brought to the supply chain by changes in external political, economic and legal systems. Therefore, it is easy to have problems by simply evaluating an enterprise credit evaluation method.

3. Application of Fintech in the Development of Supply Chain Finance Innovation

The new generation of information technology changes with each passing day, the most typical of which is the "ABCD" technology that has a profound impact on the financial field.A (Artificial Intelligence) refers to Artificial Intelligence, B (Block Chain) is Block Chain, C (Cloud Computing) is Cloud Computing, and D (Big Data) is Big Data.The close combination of these technologies and finance forms a powerful fintech, which brings opportunities for innovation and development to supply chain finance.

3.1. Fintech solves the problem of information asymmetry

Big data technology and cloud computing technology enable Banks to obtain all kinds of information of core enterprises and smes in a wide, convenient and low-cost way, which provides more reliable data for risk management and decision-making. It is beneficial to improve the quality of decision making by means of these technologies.

Block chain adopts decentralized distributed storage of data, and the data of each enterprise will be distributed in the database server of each link of the supply chain. In this way, the master and control body of data is no longer only the core enterprise, which greatly solves the problem of information asymmetry and makes the cooperation between enterprises more fair and transparent.

3.2. Generation and development of smart supply chain finance

Artificial intelligence, chain blocks, cloud computing, big data technology in the application of supply chain finance, making the development of the supply chain and supply chain finance is more and more to the direction of wisdom, technology and financial industry, and combining the financial, make the whole supply chain visualization, automation, intelligent, transparency, improve the service efficiency of financial institutions, expand the scope and depth of the financial services, supply chain enterprises can obtain equal, efficient and professional financial services.Smart supply chain finance is a system built on a platform and relying on the industrial supply chain ecology to generate financial ecology by using big data, cloud computing, artificial intelligence and block chain, so as to realize the organic, orderly and effective development of industry and finance ecology.

3.3. Emergence of intelligent financial ecosystem

With the wide application of cloud computing, big data and other technologies in various fields of society, enterprises, Banks, logistics, warehousing, taxation and other departments will gradually be connected into a network supply chain of mutual trust and mutual services[3].The transmission and exchange of information among the subjects is becoming more and more transparent, personalized and intelligent[4]. The application of block chain technology ensures the security and traceability of information, so that credit can be transmitted in the supply chain. These financial technologies are creating an intelligent financial ecosystem [5].

4. conclusion

Supply chain finance is an effective way to solve the financing difficulties of smes. Traditional supply chain finance has the problems of information asymmetry, risk monitoring and control. Fintech, represented by artificial intelligence, cloud computing, blockchain, and big data, will bring a brand new change in the mode of supply chain financial services. Supply chain finance is gradually becoming intelligent, and the intelligent supply chain finance ecosystem also comes into being.

References

[1] Wang peng. On supply chain finance risk [J]. Chinese and foreign entrepreneurs,2019(35):55.

[2] han fei, li-sha zhang. Our supply chain financial risk analysis and countermeasures [J/OL]. China business theory, 2020 (01): 93-94 [2020-01-07]. https://doi.org/10.19699/j.cnki.issn2096-0298.2020.01.093.

[3] fei yiming. Building a new ecology of smart supply chain finance [J]. Banker,2019(07):64-65.

[4] wang shuo. Research on the power of intelligent supply chain finance to promote inclusive financial services [J]. Research on rural finance,2019(08):27-30

[5] zhang xiaolong. Supply chain management based on block chain technology: double-chain integration towards transparency [J/OL]. Modern marketing (xix),2019(12):174-175