

Mitigation Effect of Supply Chain Finance Accounting Model on Financing Constraints in Small and Medium-Sized Enterprises

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Abstract: *Small and medium-sized enterprises have long been facing financing constraints, which seriously restrict their development and innovation ability. The rise of supply chain finance, especially with the support of innovative accounting models, provides a new way to solve this problem. Based on the theory of accounting and finance, this paper discusses how the supply chain finance accounting model can effectively alleviate the financing constraints of small and medium-sized enterprises by optimizing the quality of financial information, enhancing credit transmission and improving the transparency of capital use. The results show that the innovative supply chain financial accounting model significantly reduces the information asymmetry, strengthens the credit radiation of core enterprises, improves the credit rating of assets such as inventory and receivables, optimizes the level of risk control, significantly expands the financing channels of small and medium-sized enterprises, reduces the financing cost, and shortens the financing cycle. The research results have important theoretical value and practical significance, and provide reference for enterprise practice and policy making.*

Keywords: *Supply Chain Finance; Accounting Model; Small and Medium-Sized Enterprises; Financing Constraints; Mitigation Effect*

1. Introduction

In today's global economic pattern, as an important driving force of economic development, small and medium-sized enterprises play an irreplaceable role in promoting employment, promoting innovation, increasing tax revenue and enhancing market vitality. However, in the process of development, small and medium-sized enterprises have been facing the dilemma of financing constraints for a long time, which seriously restricts their further development and expansion. From the perspective of financing channels, it mainly relies on indirect financing methods such as internal financing and bank loans, while direct financing channels are relatively narrow. The scale of internal financing is limited, which is difficult to meet the capital needs of rapid development of enterprises. In terms of bank loans, due to the small scale of enterprises, fewer assets, insufficiently sound financial system, relatively low credit rating and other reasons, banks often set high loan thresholds for risk control considerations, and the approval procedures are cumbersome, making it difficult to obtain bank loans. In terms of direct financing, it is difficult for smes to enter the capital market, and equity financing and bond financing face many obstacles, making it difficult for most smes to obtain sufficient financial support through the capital market.

In order to effectively solve the financing constraints of small and medium-sized enterprises, supply chain financial accounting model emerges at the historic moment. As an emerging financing mode [1], supply chain finance relies on the core enterprises in the supply chain and transmits the credit of the core enterprises to the upstream and downstream small and medium-sized enterprises by integrating the information, capital and logistics resources in the supply chain, providing a new financing way for small and medium-sized enterprises. With the rapid development of globalization and Internet technology, supply chain finance has gradually become an important means for enterprises to improve supply chain efficiency and reduce financing costs. It is developing in the direction of more intelligent, digital and globalization. This paper mainly analyzes the problems existing in supply chain finance, and puts forward corresponding countermeasures. In the supply chain finance mode, financial institutions no longer only pay attention to the credit status of small and medium-sized enterprises themselves, but comprehensively consider the overall strength of the supply chain, the authenticity of transactions and

the credit level of core enterprises. Through a variety of innovative financial products such as accounts receivable financing, inventory financing and advance payment financing, it provides flexible and diversified financing services for small and medium-sized enterprises, effectively reduces the financing threshold of small and medium-sized enterprises, improves financing efficiency, helps small and medium-sized enterprises solve capital turnover problems, and promotes the development of small and medium-sized enterprises.

2. Supply Chain Finance Accounting Model

The supply chain financial accounting model takes the core enterprises as the center, closely connects the upstream and downstream small and medium-sized enterprises, and realizes the coordinated development of all links of the supply chain and the optimal allocation of resources.

2.1 Types of Supply Chain Finance Accounting Models

First, accounts receivable financing model, smes transfer their accounts receivable from core enterprises to financial institutions, and financial institutions provide corresponding financing services for smes according to the amount and quality of accounts receivable. Accounting treatment mainly involves the transfer of accounts receivable, the recognition and measurement of financing funds, etc. Second, the inventory pledge financing model, smes use their inventory as collateral to apply for financing from financial institutions. Financial institutions entrust third-party logistics enterprises to supervise the pledged inventories to ensure their safety and stable value. Accounting needs to accurately record the pledge of inventory, the calculation of financing interest and the disposal of pledges. Third, the prepayment financing model, downstream firms apply for financing from financial institutions, which is used to pay the prepayment for purchasing goods from core firms. Core enterprises deliver goods according to the instructions of financial institutions, and set up collateral after the arrival of goods as financing guarantee. Accounting treatment covers the payment of prepayments, the confirmation of financing and the accounting of goods warehousing.

2.2 Advantages of Supply Chain Finance Accounting Model

First, from the perspective of financing channel expansion, it breaks the restrictions of traditional financing mode and opens up new financing channels for small and medium-sized enterprises. By making use of the credit of core enterprises and the overall strength of the supply chain, it can obtain more financing opportunities and solve the financing difficulties caused by its own small scale and lack of credit. Second, in terms of financing cost reduction, through the integration of supply chain resources, the intermediate links and information asymmetry are reduced, and the risk assessment cost and operation cost of financial institutions are reduced. These cost reductions enable financial institutions to offer more favorable financing rates and terms, which effectively reduce financing costs. Thirdly, in terms of risk control capability, it is able to detect and warn risks in a timely manner through real-time monitoring and management of capital flow, logistics and information flow along the supply chain. At the same time, the risk sharing mechanism makes the risk reasonably distributed among the participants of the supply chain, reduces the risk exposure of a single enterprise, and improves the anti-risk ability of the whole supply chain.

3. Financing Constraints of Small and Medium-sized Enterprises

Financing constraints of small and medium-sized enterprises refer to the difficulties and restrictions they face in obtaining external funds, and they cannot obtain sufficient funds to meet the needs of production, operation and development, thus restricting the growth and expansion of enterprises.

3.1 The Causes of Financing Constraints of Small and Medium-sized Enterprises

First, from the perspective of enterprises themselves, due to their small scale, limited asset scale and lack of sufficient collateral, financial institutions tend to give high risk ratings, which increases the difficulty of financing. The financial system is not sound enough, the information disclosure is not sufficient, and it is difficult for financial institutions to evaluate their financial status and solvency, which aggravates the information asymmetry and raises the financing threshold [2]. The operation stability is relatively poor, the market competitiveness is weak, and financial institutions are cautious

about its financing. Second, from the perspective of financial markets. When financial institutions provide financing services for small and medium-sized enterprises, they need to invest more costs for risk assessment, while the financing scale of small and medium-sized enterprises is relatively small and the returns are limited, which leads to the low enthusiasm of financial institutions to provide financing for them [3]. The imperfect financial market and the lack of financial institutions and financial products that specifically serve smes also limit access to financing. Third, from the perspective of macroeconomic environment, the uncertainty of the economic situation, as well as the fierce competition in the industry, have an impact on financing. In the period of economic recession, market demand decreases, operating difficulties intensify, risk appetite of financial institutions decreases, and financing support is further reduced.

3.2 The Negative Impact of Financing Constraints on Small and Medium-sized Enterprises

In terms of enterprise production and operation, financing constraints make it impossible for small and medium-sized enterprises to obtain sufficient funds in time for purchasing raw materials, updating equipment and expanding production scale, resulting in low production efficiency, difficulty in improving product quality and declining market competitiveness. Financing constraints also limit the technological innovation capacity of small and medium-sized enterprises. Financing constraints also hinder market expansion and business growth, making it difficult for enterprises to carry out effective marketing activities and expand market share, which limits their development space. Small and medium-sized enterprises also face difficulties in attracting and cultivating talents, and due to the shortage of funds, it is difficult to provide competitive salaries and a good development environment, resulting in a serious brain drain, which further affects the development of enterprises.

4. The Mitigation Effect of Supply Chain Finance Accounting Model on Financing Constraints of Small and Medium-sized Enterprises

4.1 Reduce Information Asymmetry

Under the traditional financing model, there is a serious information asymmetry between financial institutions and smes. Due to the small scale, imperfect financial system and insufficient information disclosure of small and medium-sized enterprises, it is difficult for financial institutions to fully and accurately understand their operating conditions, financial conditions and credit level, which leads to great difficulties for financial institutions to evaluate the credit risks of small and medium-sized enterprises. At the same time, information asymmetry may also cause adverse selection and moral hazard problems, which further aggravates the financing difficulties of small and medium-sized enterprises.

The supply chain finance accounting model reduces the information asymmetry between financial institutions and smes through information sharing and integration. Through the establishment of a supply chain financial information platform, core enterprises share this information with financial institutions, so that financial institutions can fully and accurately grasp the relevant information of small and medium-sized enterprises, so as to assess their credit risks more accurately. With the help of information technologies such as big data and blockchain, the supply chain finance accounting model can realize real-time information sharing and transmission, and improve the accuracy and transparency of information [4]. Big data technology can collect, sort out and analyze the massive information in the supply chain, mine valuable information, judge the operating status of small and medium-sized enterprises, and provide support for financial institutions to make decisions. Blockchain technology has the characteristics of decentralization, immutability and traceability [5]. Financial institutions can view the details of transactions at any time through blockchain browsers, ensuring the authenticity and reliability of supply chain financial information and enhancing the trust of financial institutions in the information of small and medium-sized enterprises.

4.2 Enhance Credit Transmission

In supply chain finance, the credit of core firms plays an important role in the transmission of the whole supply chain. Core enterprises usually have strong strength and high credit rating, and enjoy a good reputation in the market. Due to the close business cooperation between core enterprises and upstream and downstream small and medium-sized enterprises, the credit of core enterprises can be transmitted to small and medium-sized enterprises through the supply chain, so as to improve the credit

level of small and medium-sized enterprises, small and medium-sized enterprises can obtain more financing opportunities, meet the capital needs of production, operation and development, and promote the development and growth of small and medium-sized enterprises.

Credit transmission mechanism is mainly realized through the following ways: first, accounts receivable confirmation. In the supply chain, accounts receivable are formed after upstream smes sell goods or provide services to core enterprises. Core enterprises confirm the rights of accounts receivable, that is, confirm the authenticity and amount of accounts payable, which is equivalent to providing credit endorsement for the financing of upstream small and medium-sized enterprises. Second, guarantee or counter-guarantee. When downstream smes apply for advance financing from financial institutions for purchasing goods from core enterprises, core enterprises can provide guarantee for the financing of downstream smes, promising to assume repayment responsibility when smes fail to repay on time. Or core enterprises provide counter-guarantee to reduce the risk concerns of financial institutions. Third, build a supply chain finance platform. Core enterprises cooperate with financial institutions to build a supply chain finance platform and open supply chain data on the platform. Financial institutions obtain real transaction information on the supply chain through the platform, so as to have a more comprehensive understanding of the operating status and credit status of small and medium-sized enterprises, and reduce the degree of information asymmetry.

4.3 Optimize Capital Flow Management

Capital flow management is an important link in the operation and management of small and medium-sized enterprises, which directly affects the survival and development of enterprises. Under the traditional model, smes often face problems such as capital turnover difficulties and low efficiency of capital use due to limited capital scale and narrow financing channels. By optimizing capital flow, financing constraints are effectively alleviated. The timely withdrawal and efficient use of funds can better meet the capital needs of production, operation and development, and reduce the dependence on external financing. Sufficient and rational use of funds can also enhance market competitiveness, promote the development and expansion of enterprises, and further enhance financing capacity.

The supply chain financial accounting model optimizes the capital flow and improves the efficiency of capital use in various ways. Under the accounts receivable financing model, smes transfer their accounts receivable to financial institutions to obtain funds in advance, shorten the collection cycle of accounts receivable, and speed up the recovery of funds. After adopting the accounts receivable financing mode of supply chain finance, enterprises transfer the accounts receivable to financial institutions, and the speed of capital recovery is greatly improved. This enables enterprises to timely invest funds in the procurement of raw materials, equipment renewal and other production links, which improves the efficiency of the use of funds and promotes the production and operation activities of enterprises. The inventory pledge financing model also helps optimize the flow of funds. Smes use inventories as collateral to apply for financing from financial institutions, which can transform inventories into funds and improve the liquidity of inventories without affecting normal production and operation. Advance financing mode ensures the supply of goods for small and medium-sized enterprises, enhances market competitiveness, optimizes capital flow, and realizes rapid turnover and value-added of funds [6].

5. The Challenges and Countermeasures of Supply Chain Finance Accounting Model to Alleviate the Financing Constraints of Small and Medium-sized Enterprises

5.1 Analysis of Challenges

The supply chain financial accounting model faces a series of challenges in practical application, which restricts the wide promotion and effective implementation of this model, and affects the alleviation effect of financing constraints on small and medium-sized enterprises. First, laws and regulations are imperfect. At present, the special laws and regulations for supply chain finance are not perfect, there are many legal gaps and fuzzy areas, financial institutions face great compliance risks when carrying out supply chain finance business, which limits their enthusiasm for business innovation and expansion. Second, high credit risk. Due to the small scale, imperfect financial system, relatively poor operation stability and other reasons, small and medium-sized enterprises have relatively high credit risk. Some small and medium-sized enterprises may have problems such as false financial information and concealment of true operating conditions, which makes it difficult for financial

institutions to accurately evaluate their credit status and increases financing risks. Core firms may also have moral hazard, which triggers credit risk. Third, it is difficult to share information. There are differences in the information system among the participants and the data format is not uniform, which makes it difficult to effectively connect and share information. The level of informatization of small and medium-sized enterprises is relatively low, and they lack a perfect information management system. Fourth, there is a shortage of professionals. The supply chain financial accounting model involves knowledge and skills in many fields, which requires compound professionals who understand both financial business and accounting, and have the ability of supply chain management and information technology application. At present, such professionals are relatively scarce, which affects the development and innovation of supply chain finance business.

5.2 Coping Strategies

In order to effectively deal with the challenges faced by the application of supply chain finance accounting model and give full play to its mitigating effect on the financing constraints of small and medium-sized enterprises, targeted coping strategies are taken from the following aspects. First, we need to improve laws and regulations. The government should strengthen the legislative work in the field of supply chain finance, formulate special laws and regulations, clarify the rights and obligations of each participant in supply chain finance, standardize the business operation process, provide a clear legal basis for the application of supply chain finance accounting model, and safeguard the legitimate rights and interests of each participant. Second, strengthen the construction of credit system. The government should establish a comprehensive supply chain financial credit assessment system, using technologies such as big data and artificial intelligence to conduct precise evaluations of the credit risks of small and medium-sized enterprises, and provide scientific basis for the financing decisions of financial institutions. The government should also strengthen credit management of core enterprises, establish a credit rating system for core enterprises, and conduct real-time monitoring and dynamic assessment of the credit status of core enterprises. Third, promote the integration and standardization of information systems. All participants in the supply chain adopt unified data standards and interface specifications to achieve seamless system docking and real-time data sharing [7]. The government and industry associations play a leading role in formulating standards and norms for information sharing. The government and the industry have established an incentive mechanism for information sharing, and will offer certain rewards and preferential policies to enterprises that actively participate. Fourth, strengthen the training of professional personnel. Colleges and universities should strengthen specialty construction, optimize curriculum setting, and cultivate professionals with compound knowledge structure. Colleges and universities strengthen cooperation with enterprises, establish internship and training bases, and provide students with practical opportunities. Colleges and universities establish talent incentive mechanisms to attract and retain outstanding talents [8], and encourage employees to continuously learn and innovate.

6. Conclusions

The innovation of supply chain finance accounting model is becoming a key catalyst to relieve the financing constraints of small and medium-sized enterprises by reshaping information transparency, risk measurement means and credit value transmission path. This study deeply analyzes the mitigation effect of supply chain finance accounting model on the financing constraints of small and medium-sized enterprises, comprehensively reveals the operation mechanism, advantages and existing problems of supply chain finance accounting model, and puts forward targeted application suggestions, so as to provide theoretical support and practical guidance for better use of supply chain finance accounting model to solve financing problems. However, large-scale empirical studies are lacking, and the universality and reliability of the research results need to be further improved. The research on the risk assessment and control of supply chain finance accounting model is not deep enough, and it fails to fully discuss how to effectively prevent and deal with various risks that supply chain finance accounting model may face under the complex and changeable market environment. In the future, we will expand the research sample, strengthen the research on the risk assessment and control of supply chain finance accounting model, pay attention to the innovative development trend of supply chain finance, promote the healthy development of supply chain finance accounting model, and better serve the financing of small and medium-sized enterprises.

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