

# *Research on the Influencing Factors of SME Credit Risk from the Perspective of Supply Chain Finance*

**Zhou Mi**

*Hunan Modern Logistics College, Hunan, China, 410131*

**Keywords:** Influencing factors; SME credit risk; Supply chain finance

**Abstract:** Commercial banks mainly take individual financing enterprises as the main body in evaluating credit risk of SMEs, and pay attention to financial indicators of financing enterprises. This kind of risk assessment neglects the enterprise as a part of the supply chain, and its credit risk largely depends on the key factor of the supply chain. Financing difficulties of small and medium-sized enterprises have been restricting the development of small and medium-sized enterprises. As a result, supply chain finance came into being. Under this model, financial institutions evaluate the credit status of SMEs, no longer considering SMEs themselves, but based on the theory of supply chain management, and analyze the influencing factors of SMEs' credit risk under the mode of supply chain finance, including financing enterprises, core enterprises, supply chain relations, pledge material quality and macro environment. Through the analysis of the influencing factors, this paper points out their influence on SMEs' credit risk. Combining the complexity and subjectivity of SMEs' financing risk factors, this paper establishes a credit risk evaluation system by using structural equation model.

## **1. Introduction**

The development of various business of supply chain finance is beneficial to both enterprises and banks. However, the related concepts and business models are much more advanced, but the business scale is not large. Financial institutions evaluate the credit status of SMEs, no longer considering SMEs themselves, but based on the theory of supply chain management; analyze the influencing factors of SMEs' credit risk under the mode of supply chain finance. From the perspective of supply chain, when evaluating the credit risk of SMEs financing, it is included in the supply chain. The financial situation of SMEs financing, the financial situation of the core enterprises in the supply chain, their relationship with the supply chain and the industry situation are considered comprehensively. Discuss the influencing factors of SMEs' credit risk, and urge the enterprises in the supply chain to take active measures to ensure the smooth financing of SMEs under the supply chain finance.

## **2. The connotation of supply chain finance**

Supply chain finance is not limited to trade financing business. In practice, from the perspective

of supply chain, considering the relevant factors of supply chain, including the status of core enterprises in supply chain and the status of supply chain relations, providing financing services for enterprises can be regarded as supply chain finance business.

## **2.1. Credit management of small and medium-sized enterprises**

Credit of SMEs refers to the trust that SMEs can obtain by fulfilling their promises agreed with customers and society. It is a stable expectation of the possibility that SMEs can fulfill their promises in accordance with the interests of the parties concerned. Investment opportunities, cash flows, the size of enterprises, the vitality of enterprises and the ability of credit management have an important impact on the credit behavior of small and medium-sized enterprises. The credit management of many enterprises only pays attention to collecting arrears, but does not pay attention to establishing feasible credit policies and risk prevention measures, so there will be arrears. In recent years, studies have shown that not only the financial status of enterprises has an impact on corporate credit, but also the quality of corporate credit, which is centered on the quality of corporate leaders and senior team members. Therefore, in the study of credit evaluation of small and medium-sized enterprises, the quality of corporate credit has begun to be taken into account as an important aspect.

## **2.2. Risks in supply chain finance**

The biggest difference between supply chain financial business and traditional credit business is that it is the unification of logistics, business flow and capital flow. Inventory pledge financing business is a typical and more complex type of business. It involves not only commercial banks, financing enterprises and their supply chain, but also third-party logistics companies. Based on the principle of financial risk assessment of supply chain, supply chain risk is divided into two parts: systemic risk and non-systemic risk. The systemic risk includes macro and industry systemic risk, supply chain systemic risk, and non-systemic risk includes credit risk, inventory liquidation risk and operational risk. Under the hypothecation mode of dynamically controlling the lower limit of inventory value, the model of liquidation time is constructed by considering the influence of market effective circulation speed, stock holdings and liquidation ability of logistics enterprises on liquidation time, and then the model of measuring the risk level of this business value is put forward on the basis of liquidation time model.

## **3. The influencing factors of credit risk of small and medium-sized enterprises**

### **3.1. The impact of financing enterprise qualifications on credit risk assessment of SMES**

Financing enterprise qualification refers to whether the financial indicators and non-financial indicators of small and medium-sized enterprises meet the loan conditions of commercial banks. As the demander of financing, the better the conditions of SMEs themselves, the higher the credit rating of commercial banks, and thus easier to obtain commercial loans. From the characteristics of SMEs' credit risk, we can see that high uncertainty and instability and high default rate are the main reasons for the lack of SMEs' credit risk.

### **3.2. The impact of core enterprises on credit risk assessment of SMEs**

As the link between upstream and downstream SMEs in the supply chain, core enterprises play the role of power source in the overall operation of the supply chain. As an indirect participant in

supply chain finance, core enterprises have the characteristics of high credit rating, high industry status and large scale, and maintain good credit relationship with banks. The key factor for the success of the implementation of supply chain finance is the credit status of core enterprises, the higher the credit quality of core enterprises, the more conducive to the financing of SMEs in the chain.

### 3.3. The impact of supply chain relationship on credit risk assessment of SMEs

Economic globalization has led to closer economic links between countries around the world, and the accelerated flow of capital and resources around the world. As a result, a single enterprise no longer has a strong competitiveness. It is necessary to improve the supply chain system where the enterprise is located and strengthen the competition between supply chains. Supply chain links small and medium-sized enterprises with core enterprises as a whole. The relationship between supply chain and its position in the industry has become an important factor for commercial banks to judge whether to provide financial support to the supply chain.

### 3.4. The impact of pledge material quality on credit risk assessment of SMEs

The pledge material quality refers to the quality of assets mortgaged to banks by small and medium-sized enterprises, i.e. the speed of realizing assets and the value profit and loss of assets. Therefore, the pledge material quality is an important aspect for banks to consider when evaluating whether to lend to SMEs.

### 3.5. The impact of macro-environment on credit risk assessment of SMEs

The change of macro-environment has an important impact on the asset quality, production and marketing of SMEs, thus indirectly affecting the credit level of SMEs. Therefore, as an external factor, the macro environment affects the credit level of SMEs, the better the situation, the better the credit status of SMEs. The influencing factors of credit risk assessment of SMEs under supply chain finance are show in figure 2.

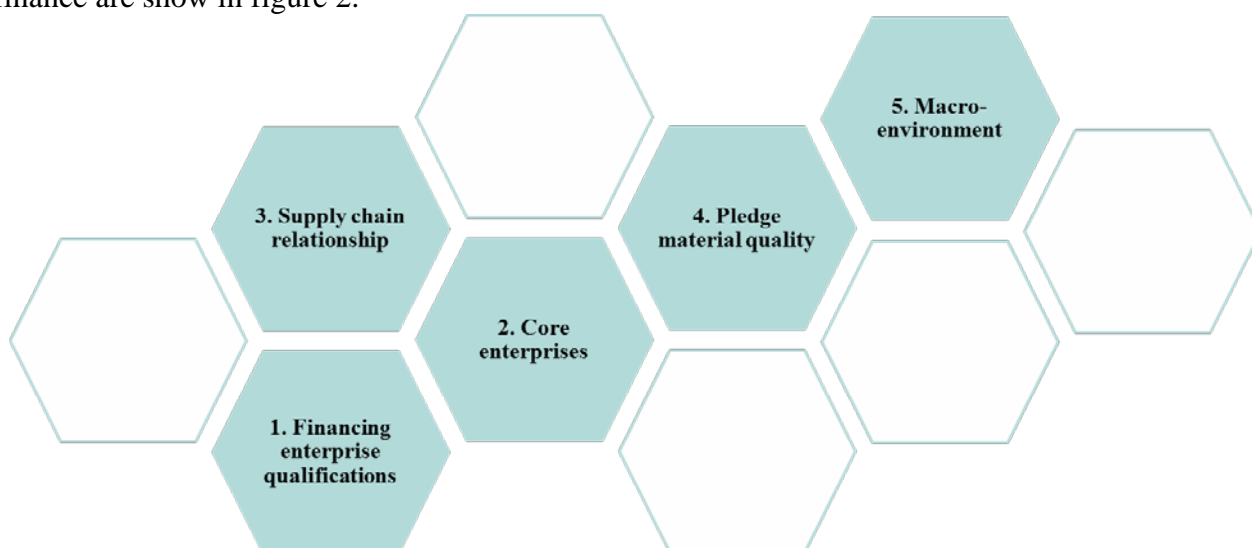


Figure1. Influencing factors of credit risk assessment of SMEs

#### 4. Analysis on the influencing factors of SMEs' credit risk

The core enterprises have the greatest impact on the credit risk of SMEs. Under the mode of supply chain financial financing, SMEs should always develop and maintain the relationship with the core enterprises in the chain, maintain good credit qualifications and avoid default. As the direct participants and beneficiaries of supply chain finance, the financial status and non-financial factors of SMEs directly affect the willingness of core enterprises in the chain to provide loan guarantees for them, thus indirectly affect whether commercial banks provide credit support to SMEs. The impact of pledge material quality is general. In order to compensate for the losses caused by default of SMEs, banks need SMEs to provide assets equal to the value of the borrowed items as collateral when borrowing. The quality of collateral affects the amount of loans provided by banks to SMEs. The higher the quality of collateral, the more relaxed the credit conditions of commercial banks. The influence of supply chain relationship is small. Although the impact of this factor is less than that of core enterprises, financing enterprises and pledge materials, the objectivity of its existence cannot be ignored. SMEs should always maintain the relationship with the enterprises in the supply chain, especially the core enterprises. The impact of macro environment is the smallest. The macro environment is the objective existence of SMEs' survival and development. Although SMEs cannot change their living environment, they should strengthen their ability to adapt to the environment.

#### 5. Conclusions

Under the mode of supply chain finance, there are many factors affecting the credit risk of SMEs, and there are complex relationships among them. In this paper, many factors are transformed into a few unrelated indicators by principal component analysis. It is found that financing enterprises, core enterprises, supply chain relationship, pledge material quality and macro environment have significant positive effects on SMEs' credit risk under supply chain finance. The most influential factor is the core enterprise, followed by the financing enterprise, then the pledge material quality, and then the supply chain relationship. The least influential factor is the macro environment. The research results fully reflect the concept of supply chain finance, that is, compared with the traditional financing mode, banks do not consider SMEs' own qualifications alone, but mainly consider the credit of core enterprises and the real transaction background between core enterprises and SMEs.

#### Acknowledgement

Research project of legal supervision of Internet logistics finance by hunan education department, subject no. : 16C1116

Hunan philosophy and social science foundation project "research on legal regulation of logistics financial innovation mode in hunan logistics park from the perspective of industrial Internet", subject no. : 18YBG027

#### References

- [1] Chen Changbin, Sheng Xin. *Research on the construction of credit risk evaluation system in supply chain finance. Journal of Fujian Normal University (Philosophy and Social Sciences Edition)*, 2016 (24): 93-94.
- [2] Xia Liming, Zong Hengheng, Meng Li. *The construction of credit risk evaluation index system for SMEs is based on supply chain finance. Financial Forum*, 2016, (4): 179-185.
- [3] Zhang Daohong. *Research on Credit Risk Assessment of SMEs from the Perspective of Supply Chain Finance, Operation management*, 2017 (1): 23-26.