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Research Article

The Risks and Risk Prevention Measures of Dairy Industry's Supply Chain Finance

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Abstract: The aim of this study is to provide existing supply chain financing products with reasonable risk prevention measures. Recently banks have developed various supply chain financing business and there are large differences among industries because of their characters, development and status. By taking Chinese dairy industry as an model to analyze the characteristics of the main parts of dairy industry's supply chain, this study analyzes the risks in the existing supply chain financing products and puts forward reasonable risk prevention measures to them. So more and more effective supply chain financing products will create a win-win a situation between dairy enterprises and banks.

Keywords: Dairy industry, risk prevention, supply chain finance

INTRODUCTION

With the continuous development of China's economy, the demand of financing also reveals an increasing trend for the various walks of life and the traditional financing products have already been unable to satisfy the different demands from these industries. Thus, some experts start to study a new form of financing: supply chain financing. Berger and Udell (2006) put forward the framework and the design of supply chain financing, which can be applied to small and medium-sized enterprises. Leora (2005) deployed the analysis of the principles and functions for the application of inventory financing model in small and medium-sized enterprises. Gonzalo *et al*. (2007) studied short-term supply chain management and combined production with financing plans. He thought that a suitable supply-chain management not only can has a direct influence for the financing and concrete operation of an enterprise, but also can further increase profits. The study of supply chain financing started in China in the 1980s. Yang (2005) defined supply chain financing as the efficient integration of funds in the supply chain management. He considered it can both provide financial service for enterprises in the supply chain and supply weak enterprise with new financing service. Yan (2007) used practical examples to prove the fact that small and medium-sized enterprises can acquire benefit from supply chain financing. He defined the connotation of supply chain financing as a model that there was a closely connection between upstream and downstream enterprises and core enterprise by commercial banks and financial products and financial service could be flexibly used. Chen and Chen (2008) offered the decision-making basis for the government's popularize of supply chain financing and the reference for relevant enterprises by the systematic discuss of supply chain financing's physical flow and theoretical basis.

Dairy industry usually can be a sign of the development degree of a country's agriculture and animal husbandry. The beginning of dairy producing industry was late in China. Some dairy enterprises, especially some small and medium-sized enterprises have the problem of capital shortage. After the disturbance of food quality and safety, financing has been even more difficult than before. In 2008, NDRC issued <Industrial Policy for the Dairy Products Industry> and required that financing institutions, especially policy bank, should give priority to for large dairy enterprises and characteristic projects of dairy producing industry. Be lack of support of government's policies, it is harder for small and medium-sized enterprises to finance. Thus, we choose Chinese dairy supply chain as the main objective of this study and analyze the possible risks in the existing supply chain financing products according to the characteristics of the main parts of dairy industry's supply chain. Meanwhile, risk prevention measures are put forward.

MATERIALS AND METHODS

Supply chain management theory: The supply chain concept originated in the value chain concept in 1895 which was put forward by American scholar Porter. With the global economy, more and more attention focused on it, scholars of different angles based on different analysis gave different interpretations. Until the 20th century, the concept of supply chain has been determined and been applied widely in manufacturing

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management. Supply chain refers to the focus on the core business, through the capital flow, information flow, logistics control and from the manufacturer, distributor, retailer to the end user to form a functional network chain structure. The biggest feature of supply chain is the competitive and cooperative relationship between node enterprises, which is not simply trading. On the one hand, the node enterprises have the common goal to provide customers with quality products and services. For the same goal, they cooperate with each other. On the other hand, each node enterprise as an independent organization, in order to maximize their own interests will compete with each other. Thus, there is a competitive and cooperative relationship between node enterprises in the supply chain.

Supply chain finance theory: From the perspective of commercial banks, supply chain financing can be defined as a new bank financing model to add value and maximize the benefits, where based on supply chain structure and transaction characteristics during merchandise trade, banks and other financial institutions have a comprehensive analysis of the risk factors to control the supply chain and provide both strong and weak enterprises with holistic financial services according to the core enterprises' credit strength and guarantee ability. For an enterprise, its cash flow gap often occurs in three stages-procurement, operation and marketing. Then the main mode of supply chain financing is mainly raised against these three stages:

Procurement stage:
Advance financing model: Specifically, marketing companies ask financial institutions for financing in the form of prepayment, which is marketing companies pay to upstream suppliers. Typically, confirming warehouse business is the most representative financing products.

Operational phase: Chattel mortgage financing model. It refers to a business that applicants treat own owned assets as pledge to get financing. Because of the relevant laws and regulations in China and strong liquidity of traditional chattel, financial institutions are strict in the business process and have many limitations. In supply chain financing model did financial institutions often sign the pledge repurchase agreements or guarantee contracts with core enterprises in the supply chain.

Marketing stage: Accounts receivable financing model. It is a financing provided for Small and Medium Enterprises (SME) in the supply chain. In practical terms, SME with their accounts receivable from core enterprises as pledge, apply to banks for short-term loans whose time is limited to the aging of accounts receivable.

Risk management theory: So far, there is no clear definition of risk in academia, but scholars agree that the definition should be based on two aspects of the development of things-loss and uncertainty. Loss refers to the reduction of enterprises' interest. Meanwhile uncertainty means the possibility of the development of things, including the uncertainty of the results and processes.

Risk management is the management process of taking various measures and methods to minimize the risks, including risk identification, risk analysis and risk control. Risk identification refers to the judgment and classification of the risks which are potential or a business is facing. Risk analysis is to analyze the possible impact or loss caused by an event or a thing. After risk analysis is risk control that enterprises work on measures to guard against and ward off the risks according to risk nature and their own risk tolerance.

RESULTS AND DISCUSSION

The analysis of main links in dairy industry's supply chain: It can be seen from Fig. 1 that dairy industry's supply chain in China consists of upstream supplier, Well-known dairy manufacturers and downstream distributors. The analysis of these three parts is as follows:

Dairy industry's upstream includes a number of suppliers who provide packing material, raw milk and equipment. These upstream suppliers are different from each other because of the characters of various industries and enterprise scale, but most of SME are labor-intensive. For instance, most raw milk are local milk stations, which can both reduce cost and guarantee quality by concentric acquisition of raw milk. Therefore dairy enterprises have strong control on milk stations. Dairy enterprises usually take advantage of milk stations to buffer fund by Extend the settlement period so that milk stations will have large amount of long-term accounts receivable.

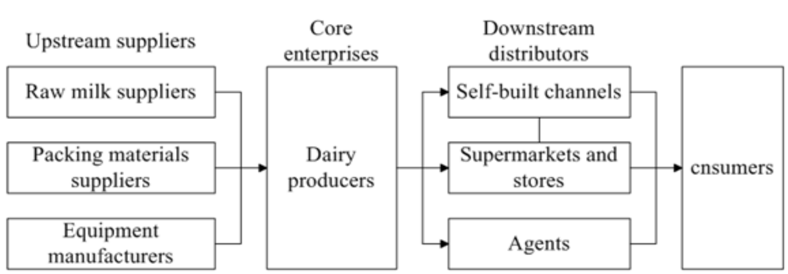

Fig. 1: Flow chart of dairy supply chain

Dairy processing is usually accomplished by dairy enterprises who have own bands. Such nationally-known enterprises have not only a strong control and bargaining power over the upstream and downstream companies, but also more rights to choose. They get most profits compared to enterprises in other segments of the supply chain. Dairy enterprises have sufficient customer resources and cash flow as well as superb financing capacity and various financing channels. So they stay in a strong position in negotiations with the bank or financial institutions. To gain such customers, banks compete fiercely with each other by providing loose credit line and high credit rating. In addition, the financing cost is low and there are littler financial terms.

There are three organization modes in dairy sales sections, including agency, distribution channels built by dairy processing companies and commercial retail outlets such as supermarkets and stores. When the agency get a huge amount of orders, the customers often require to buy on credit. At the same time, strong core enterprises ask the agency first payment. The scale of downstream dealers is various, the larger of which can get loan easily from banks because of their own credit and property. But despite of the financing difficulties SME generally have, the small agency is limited to internal policies of Chinese Commercial Banks, such as internal trade credit policies of China Construction Bank in 2010-Banks will never newly increase credit line for retail commercial enterprises.

Risk identification of China's dairy industry supply chain financing: After analyzing main links and characters of dairy industry's supply chain finance, we can find out that the upstream suppliers and downstream dealers of dairy industry have pressing financing needs. At present, the supply chain financing products provided by banks which are appropriate for dairy industry include accounts receivable financing products, order mortgage financing products and inventory mortgage financing products. With the limitation to data, this study mainly study accounts payable financing products and accounts receivable financing products, analyzing their potential risks and coming up with reasonable measures.

Risk analysis of accounts payable financing products: Confirming warehouse business is typical of an accounts payable financing product and applies to downstream enterprises in the supply chain, so this study's main analyze the risks when downstream enterprises use the confirming warehouse business from four perspectives.

The risk of choosing pledge: In confirming warehouse business, banks' risk exposure is mainly the control of goods ownership, so it is essential to choose goods whose price is stable within a period. Choosing appropriate dairy products is the emphasis of the risk resistance of this business, because dairy products' market liquidity and price stability are affected by their popularity and quality.

The risk of general agents' qualification: As financing entities, it is general agents' business development abilities, occupancy in particular sales territory, marketing capabilities and the acceptability to well-known dairy producers that affect the return of purchase price, which was the first source of repayment in confirming warehouse business. Therefore it seems particularly important for core dairy enterprises to choose qualified general agents as partners.

Operational risks inside the banks: In the operating process of confirming warehouse business, banks gradually release the control rights of goods according to general agents' collateral and growing return of purchase price. During the work are signing legal texts, banks' complex internal approval procedures and frequent flow of fund and goods. Thus the risk of goods' early release will greatly increase due to bank staff's unsuitable operation.

Risks of the authenticity of trade transactions: Supply chain financing products are designed based on trade transactions which did exist. As providing funds, banks should control each link comprehensively and assess trade cautiously. So the authenticity of trade contracts is the key to good running of supply chain.

Risk analysis of accounts receivable financing products: The suitable objects of accounts receivable financing products are upstream suppliers in the supply chain. Companies can take advantage of accounts receivable pledge business to apply for working capital loans from banks, When they need to buy raw materials. Based on the characteristics of upstream suppliers in the dairy supply chain, this study analyze the risks of accounts receivable financing products as follows.

Risk analysis of the quality of accounts receivable: Sometimes banks have to transfer defective creditor's rights in some situations where there are limiting conditions in accounts receivable, dispute in the terms of contracts and problems of the authenticity and legitimacy of trade transactions, which finally result in not getting enough accounts receivable back on time. So it is crucial to control the risk in this business.

Risk analysis of business operations: Compared to traditional credit business, accounts receivable financing products have the characteristics of heavy workload and high-demanding skills. For instance, bad debts often result from improper business process and poor-quality accounts receivable. Thus it is of great importance to be cautious with business operations.

Risk analysis of sellers' credit: Now upstream suppliers in dairy supply chain mainly consist of family business and private business. Their credit status is of great difference that it is hard for banks to choose proper clients. Usually this risk includes risks of sellers' contractual capacity, reputation and management.

Risk analysis of buyers' credit: Banks need to take credit risks guarantee if buyers not paying in full on time, colluding with each other to evade debts from banks, have difficult financing situation or even go bankrupt resulting from poor operation and management.

Risk analysis of management after loan: Taking the example of raw milk suppliers, both received payments of selling raw milk and expansion of marketing channels are filled with risks. So it is critical to control loan collection ratio and know recent situations of famed dairy enterprises.

RECOMMENDATION

Measures to keep away the risks in accounts payable financing products:

The choose of general agents: Excellent general agents in the downstream distributors should be equipped with strong marketing capabilities, high market share even regional monopolization and highly regarded by the well-known dairy producers. Banks select general agents from the following aspects. Firstly general agents should have sales agreement with well-known dairy producers about brand monopoly or regional monopoly to avoid the risks of core dairy enterprises' supply interruption and adding general agents in the same area. Next, banks shouldn't select core dairy enterprises' related parties. Finally banks must look at general agents' written material, including transaction records and annual plans of purchase and sale. In brief, banks should strictly select general agents centered on core enterprises.

The choose of pledge: According to the development trend and characters of dairy industry, banks should choose dairy products of high-end quality within high-profiled brands as the pledge. Because these products have high brand value and few alternatives. Meanwhile both their sale quantity and market barrier is high. Due to the particular characteristics of dairy products, the possibility of sharply falling in price won't increase with time.

Measures to operational risks inside the banks: In the first place, banks should create efficient data models for its confirming warehouse business to verify its risk points, perfecting operational process and management to make core dairy enterprises realize the responsibilities they need to take. In addition, banks can set up regulatory body to supervise the operator whether strictly follow the procedures. Banks' risk-control departments conduct regular risk assessment and random inspection. In the end, banks sign agreements with core dairy enterprises, which include whether dairy producers agree to refund or take joint guarantee before delivering goods to the location, whether core enterprises directly bring the pledge to banks assigned by banks after delivering goods and whether banks check in warehousing formalities after inspecting the quantity and quality of the pledge.

Measures to the authenticity of trade transactions: While paying, banks should ask general agents to make money to the only designation account dairy core enterprises opening in the lending bank and banks have regulatory power over the fund. Meanwhile operators in the bank should trace the data of confirming warehouse business, such as VAT invoice and set up subsidiary accounts of related business to strictly confirm the authenticity of the trade.

Measures to keep away the risks in accounts receivable financing products:

Measures to risks prior to the loan: These measures are mainly about the choose of clients including upstream suppliers and core dairy enterprises. On the one hand, banks could consult their transaction records to know the frequency of their disputes, the willingness to pay and the quality of contract compliance. On the other hand, core enterprises are required to have strong abilities and consciousness to manage the upstream and downstream enterprises in dairy supply chain. Banks can take a well-known dairy company with high volumes and quality as an example to promote this supply chain financing product.

Measures to risks during the loan term: These measures can be classified into two groups. One is external control, which means the investigation of clients' general conditions. The other is internal control, including reasonably determine the enterprise's credit period, credit amount and the price. Specifically, banks organizing investigation and evaluation according to the changes of dairy supply chain, making sure about trade information and the responsibility of cash and delivery, establish a professional team and an efficient information management system to avoid operational risks. To assigning of receivables, banks should open a special account for applicants to deposit money used to pay principal and interest.

Measures to risks after the loan: Banks ought to regularly check up the statements of the contracting parties' transaction settlement and urge the seller to strictly observe the contact to avoid its default leading to the buyer's exercising the right of defense. What' more, the use of loan fund should be stipulated that it is mainly out into routine production and management instead of flowing into stock or futures market in any form. Last but not least, the operator must record the movements of the funds in the special account item by item to make the account agree with other accounts and documents.

CONCLUSION

In recent years, more and more banks choose SME as customers instead of large enterprises. SME in dairy industry are mainly assembled up and down the supply chain. There are two types of supply chain financing products provided for these enterprises. Banks should analyze the optional risks according to the characteristics of various industries and take measures to minimize them as much as possible.

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