STUDY ON DEVELOPING WAREHOUSE RECEIPT HYPOTHECATION FINANCING METHOD IN CHINA

Xiao Xiang, Xue Shengjie, Yang Chengcheng and Zhao Zheng School of Economics and Management, Beijing Jiaotong University, Beijing, P.R. China

Keywords: Logistics Financing, Warehouse Receipt, Hypothecation, SME.

Abstract: Small and Medium-sized Enterprises (SME) play an important role in the development of national

economy, but financing difficulty has always been one of the major obstacles in their development. How to broaden financing channels and innovate upon financing methods are problems need urgent resolve. Logistics and finance is combined to logistics finance, and warehouse receipt hypothecation financing method starts an effective approach for providing cash flow to SME. The paper give an instruction to concept and operation flow of warehouse receipt hypothecation, and analyze it's operation mode and benefits, in the same time ,analyze it's risks control, furthermore ,the paper put forward some suggestions

for developing it in China.

1 CONCEDES AND LITED ATVIDE institution logistics financing service on

1 CONCEPTS AND LITERATURE REVIEW

1.1 Concept of Logistics Finance

Logistics finance is the logistics-oriented operation, by developing, providing and applying various financial products and services it organizes and adjust the movement of capital and credit in the field of logistics effectively, so as to achieve organic unity of information flow, logistics and cash flow. Judging from the enterprise practice in recent years, developing logistics finance business is of great importance and significance to the sustainable development of entire national economy. As to logistics enterprises, logistics finance can improve the integrated service level of enterprises, strengthen the competitive ability of enterprises, enlarge the business scale of enterprises, add service function of high added value and extend the operational profit of enterprises; for supply chain enterprises, logistics finance can reduce financing cost of enterprises, broaden financing channels of enterprises, decrease the capital occupancy rate of raw materials, semimanufactured goods and products of enterprises, improve the capital utilization ratio of enterprises, and realize optimized configuration of the capital; cut down the purchasing cost or enlarge sales scale, improve the sales profit of enterprises; for financial

institution, logistics financing service can help the financial institution to enlarge loan scale and decrease credit risk.

1.2 Concept and Standard Operation Flow of Warehouse Receipt Hypothecation

The so-called warehouse receipt hypothecation means the enterprise stores its goods in the storage, then applies for loans from banks with the product warehousing certificate issued by the warehouse warehouse receipt, and the bank will provide a certain proportion of loans in accordance with the value of the goods, at the same time, the warehouse supervises the goods for the bank and collects certain payment. The flow chart of warehouse receipt hypothecation business can be expressed as in Fig. 1.

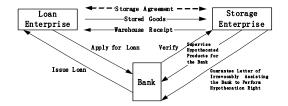


Figure 1: Flow chart of warehouse receipt hypothecation operation.

ISBN: 978-989-8425-53-9

Generally, the process of warehouse receipt hypothecation business includes six steps:

- The loan enterprise stores goods in the warehouse enterprise;
- The warehouse enterprise issues certificate of stored goods to the loan enterprise warehouse receipt;
- The loan enterprise puts forward mortgage loan application to the bank with warehouse receipt;
- The bank verifies the contents of the warehouse receipt of the warehouse enterprise;
- The bank provides loan to the loan enterprises and consigns the warehouse enterprise to supervise the goods;
- The monitoring and disposal of the goods.

The data reveal that the new business of logistics finance based on warehouse receipt hypothecation has boomed in China. In 2005, the line of credit of Chinese Material Storage and Transportation Company has surpassed two billion Yuan already, which was twice of that in 2004. And it's still has a stable increasing recently years. This good momentum of development precisely proves the financial product extended from logistics has not only withstood the market test, but also is developing and strengthening.

Most importantly, the warehouse receipt hypothecation financing business transforms the static storage into negotiable funds, promoting virtuous circle of economy and improving operational efficiency of economy, which is conducive to build a financial tie between banks and enterprises and dredge fund raising channels for enterprises. This innovation in financial business further promotes the logistics industry towards diversified. comprehensive and individual development, promoting not only the modernization process of logistics industry, but also the financing mode innovation of SME.

1.3 Literature Review

At the international level, the theoretical research of logistics financial service has tended to be mature. Europe, United States and other countries has got clear legislation on warehouse receipt hypothecation already. As to industry environment, as early as the beginning of the 20th century, United States enacted unified bill of warehouse receipt, ensured the standard of warehouse receipt, established socialized warehouse receipt system and enhanced the negotiability of the stored goods. The number one

profit source of the world's largest shipping company Maersk and the world's largest express logistics company UPS is from logistics financial service.

Wei S U N (2004) studied credit contract based on Stiglitz, Weiss model. Starting from the basic assumption of information asymmetric, he researched the balance and economic efficiency of the credit market. As to the study of credit contract design mechanism, there are two major categories, one is the signal model based on Spence (Stiglitz and Weiss, 1981), the other is the screening model based on Rothchild-Stiglitz (Spence, 1973), and the latter has very wide application in the credit contract design in hypothecated loan market (RothchildM, StiglitzJ, 1976; Yang, 1992; Brueckner, Borrower mobility, 1992; Brueckner Borrower mobility, 1994).

Logistics finance started relatively late in China, since 1991 Chinese Material Storage and Transportation Company has begun to study this business, but at that time banks were still under planned economic system in China and banks did not enter modern commercial operation mode fully, so it was until 1999 that Chinese Materials Storage and Transportation Company first started logistics financial operation business. Up to now, with the development of logistics financial business, Chinese Materials Storage and Transportation Company has completed hypothecated loan as high as 11.1 billion Yuan

Wang Dan and Gao Dali (2006) studied modern logistics facing innovation in financial services, and they proposed the innovative mode of the third-party logistics service to promote hypothecated loan and the development of SME as well as the business mode of SME financing in the supply chain system.

Of course, compared with foreign countries, domestic theoretical research still lags behind, the theory system construction of logistics financial needs further unified thought. Therefore, its operational mode, risk management and risk control should be analyzed.

2 OPERATION MODE AND BENEFIT OF WAREHOUSE RECEIPT HYPOTHECATION

Warehouse receipt hypothecation is an innovative service combining finance with logistics which is provided by the third-party logistics enterprise, and its basic operational principles are: the manufacturing enterprise is the capital demander and

Comparison items	Warehouse receipt hypothecation loan business	Conventional loan business
Judging criteria	Credit record, trade background, trade rivals	Enterprise scale, asset-liability ratio, capacity
		to make profit
Source of repayment	Enterprise sales income or future cash flow derived from	Sales income, profit, new debt
	trade	
Control process	Storage and trading process	Pay attention to the full process of manufacture
		and operation
The third party	By means of the professional advantage of the third party	Seldom by means of the third party
Guarantee method	Self reduce and keep away risks, and also ask related	Rigidly examine subject qualification before
	parties for joint guarantee	loan, basically with guarantee

Table 1: Comparison between warehouse receipt hypothecation loan and conventional loan business.

pledge provider, the third-party logistics enterprise is the provider of financing warehouse service, the bank is the provider of credit loan, and three parties sign a cooperation agreement called "warehouse hypothecation". The manufacturing enterprise makes the procured raw materials or finished products to be sold as pledge to enter the financing warehouse set up by the third-party logistics enterprise, meanwhile it proposes loan application to the bank; the third-party logistics enterprise is responsible for cargo inspection, value evaluation and supervision, and issues certificate document to the bank; the bank offers appropriate loans to the manufacturing enterprise based on the loan application and value evaluation.

This pledge financing method enables SME to provide financing warehouse service through third-party logistics enterprise, transforming movable pledge that banks are reluctant to accept into movable pledge that banks are willing to accept, such as raw materials and finished products, in order to build a capital financing bridge between the enterprise and bank. Warehouse receipt hypothecation loan and conventional loan business have the following differences, refer to Table 1.

3 RISK ANALYSIS AND CONTROL METHODS

Warehouse receipt hypothecation financing business is a new financial business with multi-win features, whose risks mainly involve the risk of commercial banks, risk of borrowers and risk of hypothecation guarantors (the third party logistics enterprises). The risk of commercial banks mainly includes the credit risk of borrowing enterprises, moral risk of storage enterprises, etc; the market risk of product owner enterprises is the chief risk. In real life, commercial banks usually extend loan credit to the third party logistics enterprise with powerful strength and perfect system, and logistics enterprises serve as the bridge to link three parties in the warehouse receipt

hypothecation financing business and often bear major risks in the business chain.

3.1 Risks of Warehouse Receipt Hypothecation Financing

For logistics enterprises, risky tache of warehouse receipt hypothecation financing business are as follows:

- Selection of movable pledge goods: fluctuation of market price and changes of financial exchange rate will result in the price and quality change of movable pledge in a certain period of time, and bring in the change of moveable pledge cashability, thus not all commodity are suitable for warehouse receipt hypothecation.
- Selection of client enterprises: the business capability, business volume and legitimacy of movable pledge products of the client are all potential risks for warehouses; during rolling extraction of goods, some manufacturing enterprises will take substandard products as fine products, so there is bad product risk and also shoddy quality risk. To gain more businesses, some third party logistics enterprise would practice fraud with the loan enterprise and make false asset evaluation to movable pledge products. Some loan enterprises collude with related staff of the third party logistics enterprise to issue warehouse receipt and apply loan from the bank though they have no actual products, etc.
- Determination of loan amounts: the scale and economic strength of loan enterprises are major elements for the bank to determine the loan amount. In the warehouse receipt hypothecation financing business in China, the bank usually extends credit to the third party logistics enterprise to decide the loan amount and ensure the safety of the loan.
- Management of warehouse receipt: the warehouse receipt is the voucher of hypothecated loan and taking delivery of goods.

they are valuable securities and property right securities, but the warehouse receipt issued by warehouses at present are not standard enough, for instance, some warehouses even regard warehousing entry as the hypothecated voucher and regard bill of loading as the voucher to take delivery of goods.

- Normative nature of supervision: the supervisory risk of pledge product is in the aspect of pledge supervision, any information asymmetry, information distortion or information lag between the third party logistics enterprises and the bank will lead to the faulty decision-making of any party and cause supervisory risk of pledge products.
- Internal management and operation: many warehouses are low in informationization degree, still lingering at the stage of manual work, which will increase the faulty operation of internal staff and result in management and operation risks.
- Trace back of related laws: clauses as to warehouse receipt hypothecation in "Guarantee Law" and "Contract Law" are not perfect, besides there are no other guiding documents for reference, so there is risk of legal disputes.

3.2 Measures of Risk Avoidance for Warehouse Receipt Hypothecation

Warehouse receipt hypothecation business is a winwin product for manufacturing enterprises, banks and the third party logistics enterprises. However, logistics enterprises which bear major risks in the business flow have to take the guarantee and supervision responsibility of hypothecated products and obtain new point of profit growth. Their measures to avoid risks should include the following aspects:

- Selection of hypothecated types. The products under hypothecated warehouse receipt should meet the following conditions: (a)clear ownership; (b)small intangible wear, difficult to get metamorphic, suitable for long-term storage; (c)stable market price, little fluctuation, not easy to be out of season; (d) multi-purpose, easy to become cash; (e) definite specification, easy to calculate; (f) eligible products which meet national standard involving warehouse receipt hypothecation business;
- Verify the property right of hypothecated products. To avoid the faulty operation when the product owner enterprise cheats about the product source, the logistics enterprise needs to

- verify the ownership, species, quantity and quality of hypothecated products. On one hand, they ask the pledgor to provide successive product ownership evidentiary materials, including sales contract, payment voucher, value added tax receipt, transport contract, navigational records, port supervision visa, etc. so as to ensure the authenticity of ownership and quality of hypothecated products. On the other hand, check the internal accounts and warehousing records to ensure that the quantity, quality and warehousing time of the hypothecated products match the storage voucher and materials provided by the pledgor. Meanwhile, the legality of hypothecated should source be taken product consideration.
- Quantity control. Due to features of warehouse receipt hypothecation, the hypothecated products can pass in and out continuously given the total amount of hypothecated products satisfy the requirements, which advances the supervisory difficulty of hypothecated products, thus the control of the quantity and quality of hypothecated products is another key point of risk control. So we can use principal difference to make evaluation from the angle of credit position, use liquidate line difference to give security with definite hypothecation rate from the aspect of default probability, and use warning line difference to give feasibility with definite hypothecation rate from whether the position of warning line is appropriate or not. The use of these indicators can play a positive role in the control of risks.
- Supervise and dispose hypothecated commodities. Storage enterprises should sign "storage agreement" with client enterprises, issue special warehouse receipt indicating that products have been hypothecated to the bank, apply for storage insurance to appointed insurance company, sign "Guarantee letter of irrevocable assistance to perform hypothecation right to the bank" with the bank, guarantee the warehouse receipt match the product storage situation, and with complete procedures; as to commodity disposal, when the loan is undue, storage enterprises can sell commodities by floating down the current market price to a certain extent, until loan principals are recalled. When the loan is due, storage enterprises can sell according quantity of stored products by floating down the current market price to a

- certain extent, until loan principals and interests are recalled.
- Release of warehouse receipt hypothecated products. Once warehouse receipt is granted by the bank and hypothecated loan begins to issue, the loan officer would register detailed account according to elements like warehouse receipt number, date, amount of money, storage place, etc. After each release, there should be cancellation record under the according warehouse receipt item until the sales complete and all loans are withdrawn.
- Speed up the information-based construction of logistics enterprises. Information system can reduce the faulty operation possibility for the sake of internal staff cheating, improve work efficiency, increase the efficiency of information communication and share between clients and banks, reduce risks of storage and banks, facilitate the supervision of bank to storage and perfect the logistics service provided to clients.

4 SUGGESTIONS OF DEVELOPING WAREHOUSE RECEIPT HYPOTHECATION IN CHINA

Based on the comparison of warehouse receipt hypothecation financing businesses both home and abroad, related case analysis, learning of advanced foreign experience, this thesis put forward the following related countermeasures so as to promote the development of warehouse receipt hypothecation financing business in China:

- In terms of system environment, refer to western experience and accelerate enacting of "Law of Property" that suits our national situation, make clear the ownership of property right, establish public, high-efficient, united registration system and electronic and network public notification system of property right. Meanwhile, perfect the processing mechanism after breaching the contract, enable loaner to precisely forecast the execution time and fees and the money recalled from disposing hypothecated stored products.
- For industry environment, banks, logistics storage enterprises cooperate with the loan enterprises closely, making normative and standard operation flow and detailed rules for different warehouse receipt hypothecation financing business modes. Cary out corporation

- qualification cognizance system to logistics storage enterprises taking part in warehouse receipt hypothecation financing business, in order to ensure the supervision level of warehouse receipt hypothecation financing business. Establish the information network among banks, logistics storage enterprises and clients, build the database related to warehouse receipt hypothecation financing business, gather information of hypothecated stored products, financing enterprises and related industries, and increase information share among various banks.
- As to basic business elements, related law and policy restriction should be broadened, and financing subjects should be enlarged to increase capital source. Various commercial banks, logistics enterprises and storage enterprises should accumulate and share related experience, make financial innovation actively, and endeavor to enlarge the species and scopes of pledges. Aiming at the special features of circulating mechanism in China, we should extend the financing strength for circulating enterprises continuously and explore financing approaches for manufacturing enterprises.
 - As to business control methods, each financing subject should make detailed analysis to the specific situation and requirements of loan enterprises, adopt appropriate storage and supervisory methods that suit loan enterprises, and provide more and more integrated high-quality services for clients. Chinese commercial banks should introduce credit grading techniques from the west gradually, adopt VaR method to determine the economic cost of the business, carry out RAROC, the measuring method of risk adjusting performance inside the bank, in order to enhance the risk management and control level of warehouse receipt hypothecation financing business.

5 CONCLUSIONS

Warehouse receipt hypothecation financing is an innovative financing method, one of the effective solutions to solve the financing difficulty of small and medium-sized enterprises and banks with difficulty loan. The key difference between warehouse receipt hypothecation financing loan and other loan business lies in the storage company, which serves as the credit agency between the loan bank and loan enterprise. Currently, warehouse receipt hypothecation loan business is still at the

starting stage in China, in view of the wide development prospect of warehouse receipt hypothecation financing loan and potential problems, analysis and control of business risk are of great importance. Meanwhile, the development of warehouse receipt hypothecation financing method should be accelerated in China.

REFERENCES

- Buzacott J. A., Zhang R. Q., 2004. Inventory management with as-set-based financing. *Management Science*.
- D'Souza Chris, Lai Alexandra, 2006. The Effects of Bank Consolidation on Risk Capital Allocation and Market Liquidity. *The Journal of Financial Research*.
- Wei Sun, et al., 2004. Business models and solution architectures for SMB financing in a supply Chain ecosystem. The Proceedings of the IEEE International Conference on E-Commerce Technology for Dynamic E-Business.
- Stiglitz J. E., Weiss A., 1981. Credit rationing in markets withimperfe et information. *The American Economic Review*.

PUBLIC

- Spence A. M., 1973.Job market signaling, *Quarterly Journal of Economics*.
- Yang T. L. T., 1992. Self-Selection in the fixed. Rate mortgage market, Journal of the American Real Estate and Urban Economics Association.
- Zhao Jingjing, 2007. Study on Credit Risk Management of Commercial Banks under the Theory of Logistics Finance, *Financial Aspects*.
- Zeng Wenqi, 2005. Analysis and Empirical Research of Warehouse Receipt Hypothecated Loan Business, Science and Technology of West China.
- Jiang Chaofeng, 2006. Hypothecated Supervision Financing: Closely Jointed Bond of Logistics Enterprise and Financial Enterprise, China Federation of Logistics Network.
- Jiang Chaofeng, 2006. Hypothecated Supervision has Bright Prospects.
- Li Yuan, Xu Ping, 2006. Risk Management Research on Warehouse Receipt Hypothecation Loan, *China storage & Transport Magazine*.
- Wang Yong, Chang Kai, 2007. Risk Optimization of Warehouse Receipt Hypothecation Operation, *Industrial Engineering*.

