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## Research on financial risk management of logistics financial business of Chinese logistics enterprises

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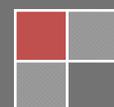
### ABSTRACT

Logistics finance has become maturity in the foreign countries which have mature system and advance skills. On the contrary, it is just introduction level of industry life cycle in china. As a new product of finance and logistics service is launched into the market, it has rapidly grown in china, and market become competitive for financial and logistics organizations join into competition.

First of all, this essay is according to the development of logistics financial service in our country, and it focuses on selection of the basic theories which include the theory of risk, financial risk and financial risk management. And then we analyze the current situation of financial logistics service, application model of service, potential problem and financial risk, etc. The financial risk of financial logistics service is identified and analyzed by using above analysis and combination with different service models.

### KEYWORDS

Logistics financial; Financial risk management; Logistics enterprise.



March 7, 2014, the National Development and Reform Commission, the National Bureau of Statistics, China Federation of Logistics and Purchasing release a joint announcement that the total amount of social logistics grows rapidly in 2013. The data show that in 2013 the country's total amount of social logistics reaches 197.8 trillion yuan. According to comparable prices, there is a year-on-year growth of 9.5%. With China's rapid economic development, the importance of the logistics industry in the national economic system has gradually emerged and become a new growth point of China's economic development. Under the general background that financing is hard to small and medium-sized enterprises, by drawing on foreign mature practical experience in the logistics industry, logistics financial business with Chinese characteristics emerges, China's third-party logistics companies has begun to try to develop logistics financial business on the basis of traditional logistics services which not only solves the funding problem for SMEs but also enhances their market competitiveness and helps them to seek innovation and growth continuously.

### **BASIC CONCEPTS OF LOGISTICS FINANCIAL SERVICES AND FINANCIAL RISK MANAGEMENT**

① Logistics finance is the product of the combination of logistics business and financial services, i.e. logistics business integrating financial services. It is a kind of value-added innovative service integrating logistics and finance provided by third-party logistics companies in the supply chain, including logistics (warehousing, loading and unloading, etc.), processing and distribution, finance, assessment, asset disposal, regulatory, financial advisory and other services. Meanwhile, it is also an effective integration of logistics, capital flow and information flow. The financial logistics at least involves in logistics enterprises, customers and financial institutions. The favorable combination of the two is more conducive to the market liquidity of social commodity, and can promote the smooth reform of circulation system.<sup>[1]</sup>

② American scholars believe that the purpose of the enterprise's risk management and business purpose is unified. Business goal is to survive, gain efficiency, develop and perform social responsibility and risk management is to control the potential and actual losses. British scholars believe that the risk is to plan, arrange and control the enterprise's various business activities and resources in order to reduce the impact of uncertain events on the enterprise.

We believe that the financial risk management is that the business entity identifies, measures and analyzes its various financial risks arising in the money management process and then takes appropriate measures to prevent and control financial risks in order to maximize the protection of the scientific management process that financial activities conducts safely and orderly.

### **DEVELOPMENT STATUS OF LOGISTICS FINANCIAL BUSINESS OF CHINESE LOGISTICS ENTERPRISES**

Unlike the logistics financial services of other countries that relies on financial institutions, Chinese logistics financial services is based on the third-party logistics enterprises and evolves. The reason why the logistics financial business is admired by Chinese logistics enterprises and it makes benefits and rising development at the beginning mainly lies in its high market demand and the business basic and industry advantage of logistics enterprises.

Firstly, as for the market demand, the market demand of China's logistics enterprises on logistics financial business is reflected in many ways and one is that China is shifting from the traditional logistics to modern logistics. The establishment of more and more logistics companies and the continuous influx of a large number of foreign logistics companies since China's reform and opening up change the pattern of Chinese traditional logistics industry and promote the market-oriented transformation of the logistics industry. In the process of transformation, the logistics financial services provided by the cooperation of logistics enterprises and financial institutions is a good attempt and the transformation background provides a good integration environment for such business. Besides, the bridge role of logistics enterprises are unanimously recognized by financial institutions and financing parties. By participating in the logistics financial services, logistics companies can play a good bridge role. On the one hand, they solve the financing problem for financing enterprises; on the other hand, they can reduce the cost of funds and risks of banks and other financial institutions by increasing the efficiency of fund. Thus, banks and other financial institutions and financing companies want to seek cooperation with logistics companies, which provides a realistic feasibility for logistics companies to carry out logistics financial business of the logistics.

Secondly, the development of the logistics financial business of Chinese logistics enterprises has its own business base. Logistics financial business is increasingly becoming a major source of profit for Chinese logistics services. In the foreseeable future, the logistics financial business is likely to become China's largest source of profits of logistics enterprises. The good benefits and development that Chinese logistics enterprises get at the beginning of carrying out the logistics financial business are inseparable from the business basic of logistics enterprises themselves, because the industry nature of logistics enterprises determines its ability to expand their business space and range. First of all, their experience in logistics management, logistics facilities and logistics infrastructure assets make logistics companies have unique foundation for the development of logistics financial business and enough space for logistics business; secondly, the traditional customers of 3PL logistics enterprises are likely to become their new customers to carry out logistics financial business, developing new business in the original business basis to magnify infinitely without generating a lot of business pressure.<sup>[1]</sup>

### **FINANCIAL RISK ANALYSIS OF LOGISTICS FINANCIAL BUSINESS OF LOGISTICS ENTERPRISES**

The risk identification of logistics enterprises participating in the logistics financial business is to analyze the practical operating mode and operation process, divide the complex systemic financial risk in all stages of business procedure

into simple financial risk factors, find out the main risk factors of the objective from the complex causal relationships and then analyze their influence on project financial risks by means of certain technical methods based on the concept of practicality and from an overall and systematic point of view.<sup>[3]</sup>

As a financial innovation integrating logistics, capital flow and information flow logistics financial services is characterized of information technology, standardization, long-range, continuousness, controllability and standardization and its financial risk factors are also quite complex and diverse. Thus, it is very necessary to consider the important factors in the study of possible financial risks of business development, which is also necessary to study the financial risks that logistics enterprises carry out logistics financial business. Through the analysis of the operation mode of logistics financial business, the financial risk factors possibly caused in the logistics financial business can boil down to the following aspects; management risk factors, regulatory risk factors, pledge risk factors, credit risk factors and environmental risk factors.<sup>[4]</sup>

### **Identification and Analysis of Management Risk Factors**

The management risks that logistics companies may encounter when involved in logistics financial services mainly include whether the management system is reasonable, the responsibility assignment is clear, security measures and security checks are effectively implemented, qualities of managers are high or not. Management risk is an important aspect of affecting financial risk, because the rationality and effectiveness of corporate management are the basic guarantee to avoid financial risks. To identify the management risks of logistics companies in their new business, it is necessary to scan the appearance and nature of enterprises at all management levels according to the special needs of logistics financial services, look at the nature from the phenomenon, analyze the management risks that enterprises may face according to the nature and then confirm and analyze again until risk factors are found out.

### **Identification and analysis of regulatory risk factors**

Regulatory risks, by definition, are caused by poor regulation. One important role of logistics enterprises in the logistics financial business is to bear the supervisory responsibilities of pledge during the period of pledge, which is also a more important stage in the logistics financial business. The primary task of logistics enterprises in the logistics financial business is to ensure the safety of the pledge and to undertake the unexpected damage of the pledge; meanwhile, as the issuer of warehouse receipts, logistics enterprises has the obligation to deliver the goods unconditionally according to warehouse receipts, so they must strictly take care of the amount, quality and value of the pledge to ensure that it is fully consistent with the warehouse receipts; in addition, the logistics companies must act strictly in accordance with the contract as “deliver goods by virtue of receipts”. Therefore, the integrity of regulatory system, the reasonability of regulatory measures, the security of regulatory tools, the advancement of systems, the standardization of operation, the qualities of supervisors and other factors will affect an enterprise's regulatory effects and the adverse effects of each factor possibly bring regulatory risks to the enterprise.

### **Identification and analysis of pledge risk factors**

Pledge risk factors, also referred to as the risk of the pledge itself, means the financial risks for logistics enterprises once the loan enterprise can not repay on time or is unable to pay and these pledge of goods in warehouses of logistics companies can not be auctioned or sold as expected for various reasons, or when the auction is still insufficient to repay the loan and interest. As the business development and maturity, the financial services logistics will deal with a variety of goods, diversified specifications, different shapes and qualities. Some of the items themselves will generate physical or chemical changes in a particular environment, resulting in the decline in the quality or quantity; the value of other many commodities will go up or down with time or market, so not all products are suitable for the pledge. When logistics enterprises selects the pledge, they should combine with a reasonable evaluation method to comprehensively study their legitimacy, liquidity, market demand, quality, performance, etc., to avoid financial risks caused by them. Because once the pledge is in the event of adverse conditions, the outcome would be a serious financial risk. Thus, it is also generally agreed that the pledge risk is one of the most important risks in logistics financial business.

### **Identification and analysis of credit risk factors**

Credit risk refers to the real or potential risks caused for logistics enterprises when the client has assets and credit problems or is in other adverse conditions. Because China neither establishes a unified sound evaluation system nor has corresponding severe punitive measures, which naturally leads to the lack of technical support and community credit protection of the new logistics financial services in the course of the actual operation, when the business gets access to financial social ecosystem, it will lead to imbalances in the logistics financial services once the credit collapses. Credit risk of customers becomes the root of hard loaning. From the perspective of the banks, on the one hand, given the information asymmetry and the avoidance of doubtful debts and bad debts and the lack of sound credit rating system to follow, and on the other hand because of the difficult in the full and valuable measurement of customers' market position, profitability, solvency, previous business level, previous credit status and others, the always cautious lending of the banks generates “credit crunch”, “high loan threshold”, “cumbersome loan procedures”, “higher intermediate costs” and other phenomena. It is the banks' prudence that leads to a lot of difficulty for logistics enterprises. If financing enterprises have thorny credit problems, there may be nothing to do for logistics enterprises to resist the impact on financial risks although logistics enterprises have the pledge in hand.

### **Identification and analysis of environmental risk factors**

Environmental risks here refer to companies' external environmental risks, including risks caused by changes in legal, macroeconomic environment and industry environment for enterprises' logistics financial business. The relevant Chinese laws and regulations on logistics financial business are not perfect. Although the macroeconomic environment appears stable but the economic policy about the logistics finance is not very clear. In terms of various industries, logistics industry has been in the rapid and steady development in China and got good benefits, but China is still in the trial stage on the cooperation and integration of the logistics industry and the financial sector with inexperienced business. Therefore, logistics enterprises must carefully consider these objective and systemic risks they are facing before they are engaged in the logistics financial business.

### **CONSTRUCTION PRINCIPLES OF FINANCIAL RISK EVALUATION SYSTEM OF LOGISTICS ENTERPRISES' LOGISTICS FINANCIAL BUSINESS**

① Objective principle. Each study is derived from a specific purpose. Financial risk evaluation index serves for certain specific study, so it must be of strong purposiveness and objectivity. The purpose of this paper is to analyze financial risks that logistics enterprises will encounter when they are involved in logistics financial business, so the established risk indicators should be able to reflect all aspects which may cause impact on the financial situation of logistics enterprises.

② Scientific and normative principles. The scientificity and normativity of designed indicators will directly affect the quality of indicator evaluation and correctness of risk analysis, so the financial risk evaluation indicator system should be clear, practical and keep objective in the evaluation information carried by indicators.

③ Operability principle. The operability also refers to the study feasibility of indicators. During setting indicators, avoid copying. Even though all indicators reflect the financial risk, indicators required by different business are still different. Therefore, indicator setting should follow pertinence and practical operability.

④ Representative principle. Because the research has strong purposiveness and there are various relationships among some indicators, the selected financial risk indicators of logistics financial business must be representative. Tedious and exhaustive indicator system will make the problem more complicated while too simple indicators can not reflect the nature and the whole picture of studied problems, so controlling the indicator's representativeness is very important.

⑤ Comparability principle. The setting of financial risk evaluation indicators should pay particular attention to the vertical and horizontal comparability so that indicators can not only be used to compare in different timing, but also compare between different enterprises.

### **RECOMMENDATION ON FINANCIAL RISK MANAGEMENT OF LOGISTICS ENTERPRISES' LOGISTICS FINANCIAL BUSINESS**

As a new type of multi-body multi-link financial services involving banking, enterprises, logistics companies and others, although logistics financial services achieve multi-party win-win situation, their high-risk business nature has also been of great importance to all stakeholders. For consideration of their own interests, every business body is trying to avoid the negative impact brought by business risks to them. Even though logistics enterprises play the role of a bridge in logistics financial business, they will inevitably suffer this potential risk, which is also confirmed by the empirical results of this study. Therefore, logistics enterprises should adhere to the principle of "safety first", understand and control these financial risks different from regular business, and regard "prevention" as a first step and priority in the development of logistics financial business. Oriented by the empirical analysis of the study, the thesis below will make some reasonable and feasible proposals to control financial risks caused when logistics enterprises carry out the logistics financial business to provide a reference for policy makers. The thesis divides financial risk management into three stages; the first stage is the preliminary work of financial risk management, i.e. preventing the loss caused by financial risks through transferring financial risks to a third party; the second stage is the implementation of the specific financial risk prevention and control measures; the third stage is risk warning and contingency plans after generating financial risks.

#### **Financial risk transfer - insurance & contract**

The transfer of financial risks is to share possibly generated financial risks together, i.e. reducing the impact on them through transferring financial risks to other units or individuals involved in the project. From the business itself, the transfer of financial risks does not reduce the probability of risk occurrence or mitigate the consequences resulting from the risks. Its purpose is just to transfer a portion of risks to other organizations or individuals involved in the project by agreement or contract when financial risks happen and to let the project participants jointly undertaken the loss brought by financial risks. This strategy is more appropriate for the situation that project resources are limited and financial risk mitigation or prevention strategies can not be implemented, or the project's occurrence probability is not high but the losses or damage caused by potential financial risks are pretty severe. According to the nature of financial risks that logistics enterprises may face while carrying out logistics financial business, the insurance transfer of financial risks is one of innovative measures when logistics enterprises guard against financial risks in logistics financial business. In the specific implementation process, logistics enterprises can transfer the financial risks they may face by insuring the pledge and logistics liability insurance.

### **Insuring the pledge**

In terms of the insurance of the pledge, logistics enterprises can adopt two methods; one is to require or negotiate with the money borrowers to insure the pledge before the pledge is stored in logistics enterprises depending on the variety, the nature and attributes of the pledge when signing a pledge supervising contract with money borrowers in order to compensate for the accidental damage, loss... in transportation or on other occasions.

The other is logistics enterprises can insure all accidents and risks that the pledge may encounter when stored in their warehouse after receiving the pledge supervision in order to reduce the impact of risks caused by the damage of the pledge in the business implementation process or the failure of business implementation on them.

### **Logistics liability insurance**

China's existing logistics liability insurance is an annual insurance product whose insured objects are all cargo, avoiding the insurance mode of "one policy for one lot of cargo" and simplifying the operation. Logistics liability insurance can provide a comprehensive and full guarantee for the business process, becoming a new insurance product tallying with the modern logistics development trend.

Logistics liability insurance's coverage includes all liability to damages and damage of all logistics cargo borne by the insured in accordance with the law in the course of the logistics business. It systematically integrates the carrier's liability, loading and unloading, liability of warehousing persons, liability of depository persons during the distribution processing in the process of logistics transportation, which is of practical feasibility, effectively transfers risks and achieving the sharing of financial risks.

### **Specific measures of financial risk prevention and control**

#### **Credit risk control**

Firstly, borrowing enterprise access control provisions should be established inside the logistics enterprises. For logistics enterprises themselves, on the basis of laws, policies and industry constraints, the logistics enterprises' own judgment and analysis on borrowing enterprises is very important. Customers' credit analysis and evaluation provided by the market may be not completely correct due to the perspectives, different focuses and service objects, making its reference for logistics enterprises value decline. To curb the occurrence of client companies' credit risk at the beginning, logistics enterprises should tailor to their own client companies access analysis and control standards to themselves, verify the authenticity and reliability of customers and their financing background, strictly control financing purposes and ensure their closeness and self-liquidating.

Secondly, establish customer credit files and credit tracking after access. Even though a rigorous investigation and analysis has been carried out in the customer access phase, it is also necessary to conduct the real-time tracking of customer credit status in the cooperation process and timely grasp the adverse financial condition and credit status of client companies in order to make full preparation and self-protection before risks occur and to reduce the occurrence of the financial risks.

#### **Technical risk control**

As to technical risk control, firstly it is necessary to focus on inspection and updating of risk assessment system; the technology assessment system here includes assessment technique on the pledge, regulation technique, risk prediction technique, risk assessment technique and so on, and assessment techniques and evaluation system may need to update continuously with the changes in business scope and business form or economic development. Secondly, pay attention to the synthesis and auxiliary of a variety of assessment methods. Since different assessment methods have different emphases and each method has its own advantages and disadvantages, the integrated use of multiple assessment methods can achieve supplement each other so as to improve the accuracy and practicality of the assessment. Thirdly, choose authoritative evaluators with certain knowledge, education as well as experience, in that evaluators' professional proficiency has a direct impact on the results of the risk assessment, and experienced evaluators have professional sensitivity, which results in little probability of omissions of principle risks and misjudgment. Fourthly, logistics companies make sure to sign standard pledge contracts and pledge supervision agreements; define the quality of pledge goods and physical and chemical properties of the pledges in a strict and clear way in order to ensure complete, comprehensive and detailed contracts.

#### **Risk control of the pledge itself**

To the reasonably control risks arising from the pledge itself, the first thing is to lay emphasis on the choice of pledge varieties, and logistics enterprises should pay attention to choosing commodities which are easily standardized, of high market demand and good fluidity as pledge goods of logistics financial business, meanwhile identify and assess the quality of the pledge as transferred, put it on record in the form of data and reflect it in the agreement in order for the later reference and basis. Secondly, focus on the stability and cashability of pledge market prices. In case the market prices of pledge good have no enough stability or cashability, once the borrowing company breaks a contract, logistics companies will be faced with serious financial risk. Meanwhile focus on whether the pledge is insured; as insured pledges add a layer of protection for logistics companies, in the event of unforeseen circumstances, logistics enterprises can obtain the compensation from the insurance company wholly or in part, thus ease its own financial risk pressure.

#### **Environmental risk control**

Environmental risks belong to systematic risk, which is usually can not be eliminated, or can not take some specific measures in advance to avoid, therefore it is unable to achieve effective prevention against environmental risks for a logistics

enterprise, only dependent on a good industry environment and legal environment provided by the industry and relevant government departments. However, what logistics companies can do is to make appropriate analysis and judgment on the surrounding business environment; cautiously consult and strictly enforce the provisions stipulated in the existing articles of law of China, such as *Guarantee Law*, *Contract Law* and *Property Law* in China as well as China's current open and restriction policies on logistics finance; meanwhile be wary of business scope, pledge varieties, etc. on which the laws and policies have limitations, and the properly control the involvement in these industries or goods.

### **Regulatory risk control**

The first is the review of regulatory environment. The regulatory environment assessment is an important aspect of the project inspection and regulatory risk control. The review of regulatory environment is primary aimed at the storage capacity of regulatory sites, safety of the storage, operability of the procedure and implementation conditions of supervision, and conducts a comprehensive investigation and evaluation. Typically, the project needs to choose evaluation for reference, including the warehouse ownership, whether the size of the warehouse fits the cargo, safety inspection measures of the warehouse, whether operation procedures of the supervision are standard and feasible as well as the investigation of the quality and working attitude of supervisory personnel.

Secondly, the regulatory agreement should be strictly controlled. Logistics companies should adhere to signing an agreement in accordance with the tripartite agreement version and strictly enforce it, make good agreement for the matching between the agreement and the regulatory model, as well as the feasibility of accessories. On this basis, establish a sound and effective implementation system of the agreement with a combination of regulatory service scope; ensure the implementation of risk responsibility in order to effectively avoid financial risks, including transport reinsurance agreement, warehousing reinsurance agreement, warehouse leasing agreement and so on.

Thirdly, focus on the review of regulatory program. Regulatory program is based on the business service scope and regulatory responsibilities, and the review focuses on project profiles, control of the pledge regulatory process, the feasibility of regulatory measures, and problems encountered in implementation programs. The review of regulatory program helps to implement and realize regulatory programs. In addition, it's a non-negligible part of the regulatory process to check the pledge regularly, detect the regulatory environment of the pledge periodically, train and supervise regulators regularly. With these routine inspection, supervision and training, on the one hand, the security of daily supervision on the pledge will be effectively guaranteed, on the other hand, once the accidental potential risks occur, regulators can make remedial and responsive measures in advance, reducing the probability of occurrence of financial risks or mitigating the losses arising from financial risks.

### **Financial risk pre-warning and contingency plans**

Risk pre-warning and contingency plans are a kind of feedback mechanism in the emergency form, whose main function is to feed back and analyze risk changes occurring in the process of logistics financial business, and quickly make reaction, launch contingency plans or implement emergency procedures, and conduct emergency management and control.<sup>[5]</sup>

### **Establishment of perfect risk pre-warning mechanism**

Organizational structure; an effective risk pre-warning mechanism must adapt with the organization, and then the establishment of a sound risk pre-warning mechanism needs to adjust the organizational structure. According to the current development of logistics financial business, it is a good try and innovation for logistics enterprises, banks and other financial institutions to set up a special pre-warning and emergency mechanism together, develop appropriate rules and regulations, clarify the responsibilities of different departments, and effectively improve pre-warning and emergency procedures through intercoordination. Information feedback mechanism; with the support of conformable organization and management team, the effective information feedback mechanism is essential. Through the establishment of information feedback mechanism, form cross-industry information platform, make rapid feedback to signals of risk changes so as to smoothly realize the risk pre-warning and make targeted reaction. Information communication mechanism; information communication mechanism is an effective channel for the main parties involved in the business to effectively realize information sharing and isochronous operation. Because the logistics financial business involves in many sectors and complicated operation, when logistics enterprises conduct this business, it's inevitable necessary for each procedure, each link and each department to cooperate, especially in the face of emergencies, communication, coordination and cooperation of all departments become even more important.

### **Establishment of contingency plans**

Establishment of contingency plans should be based on the emergency pre-warning platform. By the above analysis of establishment of emergency pre-warning mechanism, with reasonable organizational structure, the establishment of contingency plans won't make sense without timely information feedback mechanism and effective communication mechanism, and thus it has the practical feasibility. The establishment of contingency plans should include the selection of emergency techniques and construction of plans.

On the basis of pre-warning and emergency platform, with the support of a variety of security mechanisms and information systems for logistics enterprises, construct risk event base and its corresponding technology and plan base, and conduct effective pre-warning and emergency management control on specific risk changes through a standard plan

implementation procedure. Based on the logistics companies, banks and other financial institutions' setting up a special pre-warning emergency mechanism, monitor various risk change events in real time, through comparative analysis on these risk events and case base, reasoning analysis, conduct rational analysis, select the appropriate criteria and basis for pre-warning, determine the financial risk level, thus initiates the appropriate contingency plans, and take appropriate emergency control technology and emergency measures for emergency control.

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