Risk Identification and Evaluation in Trade Finance Innovation of Commercial Banks

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Abstract

Importance has been attached to trade finance innovation for it is essential for the competitiveness of commercial banks. Its risks mainly come from three aspects: market innovation, institutional innovation and portfolio innovation. These are the source of innovation risks. Based on the classification of innovation risks, identification framework and evaluation indicator system are introduced to manage the risks so as to ensure the success of trade finance innovation.

Keywords: Trade finance innovation, Risk identification, Risk indicator

1. Introduction

Trade finance of commercial banks is a financing business which is based on international commodity trading. Its major function is to bridge the financing gap for the applicant in the production process, from purchase of raw materials to recover funds. Most trade finance has actual transaction basis. It is of strong self-liquidation, has a clear transaction background and the source of repayment is based on actual trade transactions. Being a short-term, repeatable financing product, along with other distinctive characteristics, trade finance can generate steady and considerable profit for commercial banks. With the above advantages, trade finance has become one of the commercial banks' main focuses, especially as China's financial market is opening up to foreign banks. Faced with the increasingly fierce competition, commercial banks are required to maintain and increase market share through innovation, to enhance trade financing products competitiveness. Provide customers with more refined, more targeted service and support through trade financing innovation.

Commercial banks take "safety, liquidity and profitability" as their main business objective, in which "security" goes first. Trade financing has a short period, it also occupied fewer funds than other forms of financing, it is also a financing of high-income, and therefore, trade financing accords with commercial bank's operating targets in liquidity" and "profitability". Consequently, the "security" of the trade financing has become the primary objective of innovation. The process of trade financing innovation also creates new risks along with the new business. Compared with the traditional business, trade financing innovations have different characteristics in risk identification and evaluation. Trade financing innovations not only improve the competitiveness of commercial banks, but also brought new risks—the risks in banks' judgment and ability to prevent potential risks. Therefore, the composition of a scientific and accurate method for risk identification and evaluation for trade financing innovation has become the key to success.

2. Risk Identification Framework of Trade Finance Innovation

There are three major innovation path in trade financing innovation: First, market innovation based on the supply chain, which expand the scope of financing business; the second is trade financing institution innovation, which optimize and streamline existing business processes and operational approach; the third innovation path is portfolio innovation by the split and combination of existing business portfolio, the development of new trade financing business provides customers with more specific and convenient financing services. Market innovation, institution innovation and portfolio innovation are three basic channels for trade financing innovation, as well as three major sources of risks in trade financing innovation. The establishment of a framework for risk classification and identification based on these three paths is the prerequisites of a risk evaluation system.

2.1 External risks in trade finance market innovative

Traditional transaction-oriented trade finance simply focused on the documentations related to the international goods transaction, the risk mainly comes from the authenticity of trading background and the credibility of parties concerned in the transaction. Market innovation based on supply chain entitled the bankers to deeper involvement in enterprise operations through trade financing. As the bankers' involvements increase in operational process, the external risks appear as a side effect. In market innovation, the role of commercial banks expands along the supply chain; trade financing bankers will no longer be faced with the risk only in the point of international goods transactions, the risks they faced will expand both upstream and downstream in the supply chain. Therefore, while continuing to focus on customers' credit level and repayment ability, importance should also be attached to the goodwill of the upstream and downstream partners of the applicants at the same time. Financial status such as settlement method should be a factor of concern as well.

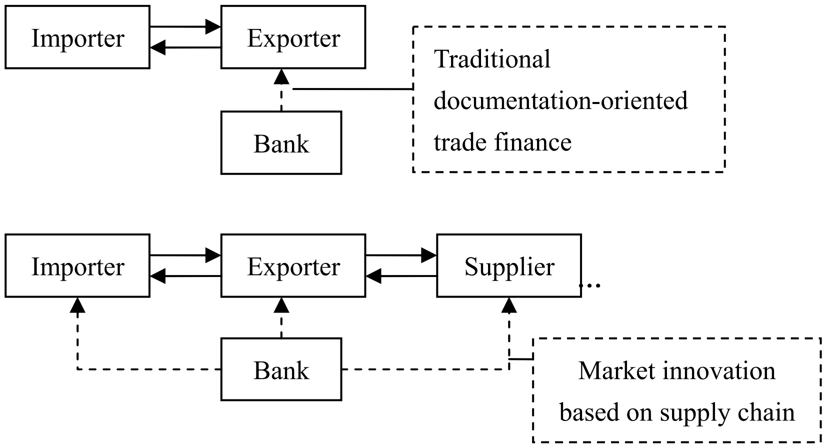

Figure 1. Market innovation based on supply

In addition, the financial analysis of financing applicants and their business associates entitles commercial banks to an early identification of potential risks. Traditional trade financing was often self-liquidating, since the bankers may control the goods and monitor the transaction process through documentations such as B/L and other customs documents. But as commercial banks are providing integrate financing to into the overall cash flow of enterprises, risk control has also spread from a single trade link to the entire enterprise business processes (Gong Fang, 2007). Therefore, it is necessary to perform a comprehensive analysis of the applicant and its related enterprises. By monitoring the financial statements and business operation, early identification and alert of the risks posed by innovation can be raised.

2.2 Internal risks of trade financing institutional innovation

External risks occur in the supply chain of the applicants, which banks can not directly control, while internal risk of trade financing process innovation occurred in the bank's internal process reengineering, process management, risk control, and other fields, therefore, it is more controllable. As a result, the correct identification and evaluation of internal risk is an important prerequisite to ensure that commercial bank's "security" objective. Business process innovation is a complex process, the risks are numerous. From different points of views, the understanding of risks will be different. P^2MT model will be used to perform comprehensive internal risk identification from four angles (Richard Barovick, 2007)—process risks, personnel risks, risk management and technical risks.

P^2MT (Process, Person, Management, Technology) model is a risk identification framework based on four dimensions—"process, personnel, management, technology". Therefore, the potential internal risks of institutional innovation should be analyzed by P^2MT Model from four angles.

Trade financing process innovation is bound to improve the existing business processes and adjustment of process results in risks. After a long period of practice, the commercial banks have already set up a mature and sound system to identify and monitor the existing process risk in various aspects. However, the innovated new process and risks differ with those involved in traditional business. Therefore, effective identification of risks in new process is an important precondition to reduce the potential internal risks. When performing process reengineering, bankers should start with the most sophisticated and mature link. Monitor emerging risks in the course of the new process; adjust the process in accordance with the risk; establish dynamic risks identification and control framework.

As for the risk of personnel, banking employees need an adaptive stage to transit from the traditional business to innovated ones. While the new process is still in exploration and early practice, the training of staff for the new business and the establishment of appraisal system are still lagging. Lacks of assessment means for new process, as well as the job descriptions are not clear enough in handling new process could lead to employees' lack of a sense of responsibility, even could result in handling errors. Therefore it is necessary to accumulate potential risks of the new processes in the reengineering stage; identify and prevent personnel risk through training and the establishment of relevant rules and regulations.

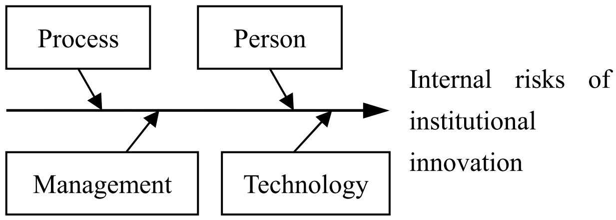

Figure 2. P^2MT risk identification model

With regard to management risk, along with trade financing innovation, and with commercial banks' infiltration along supply chain in particular, more and more trade links on the supply chain has brought new uncertainty. If the risk factors are not accurately predicted by scientific methods, it may result in decision-making errors of financing management. In addition, risk management elements also include scientific studies on the new link, customer's credit assessment, and follow-up survey after the loan, etc.

Technical risk is the risk brought by the use of new technologies in the process of financing business innovation. The use of new technology for customers to build a comprehensive platform for trade financing to facilitate customers with the entire process of reporting, query, monitoring and other facilitation services. However, the stability and security of new technology platform should also be given adequate attention to prevent the emergence of technical risks.

The risks of process innovation mainly come from the risk of process, personnel, management and technology. On the basis of classification of these four aspects, risk identification can effectively prevent the internal risk. Since the controllability of bankers' internal risks is relatively higher, precautions on risks of process innovation can significantly improve the success probability of innovation.

2.3 Derived risks of portfolio innovation

Trade financing innovation is not to create an entirely new process or business; many successful innovations are based on existing business. Existing businesses have long experience in practice, risk control mechanisms of these processes are relatively mature, and, therefore, innovations based on splitting and combination of existing business will become an innovative way with higher feasibility.

Split of the existing business portfolio is based on "safety, liquidity, and profitability "of the products. These three characteristics compose a three-dimensional space in which the innovation is performed. In innovation, first, "split" the existing product in accordance with its characteristics, then establish a new balance of the three characteristics within the innovative space according to the needs of the market. Combine these characteristics so that new finance products—new "portfolio" will be created on the basis of existing business. For example, a product Z is adopted by "split" and "combine" products X and Y based on the needs of the market, therefore Z is the combination of "liquidity and profitability" of original X and Y. Z has higher income than X, but lower liquidity, and compared to Y, Z is more liquid but lower in returns. The final composition of the new product is a new portfolio of "profitability, liquidity, safety". Portfolio innovation is also faced with new risks, manifested mainly in the following three aspects—operational risk, peer risk and legal risk.

Operational risk occurs in the concrete implementation of the innovation. In the practice of new business, operational risk is the possibility of errors or losses resulting from inappropriate operation due to bankers' failure in grasp the potential hazard of new business. Generalized operational risk is the risk of whether the banks have the ability to provide new financing products and profit from them. This is decided by the bankers' capacity of products innovation, operating cost control and risk management. Operational risk in narrow sense refers to the fault of bank staff in unregulated operations (Xu Hui, 2007, pp. 132-135).

Trade financing involves in the international logistics flow and flow of funds, under most circumstances, banks of one country can not deal with foreign customers directly, the transfer of funds between countries has to be completed through inter-bank transfers. Peer risk of trade financing innovation mainly comes from the possibility that innovated business can not be correctly understood by foreign commercial banks or agents. Product innovation does not occur at the same time within global range, but it is active commercial banks that take the lead. If the foreign correspondent banks failed to fully understand the new business processes, or they suffer a lack of experience in the business sessions, there will be errors that lead to risks in the implementation.

Besides operating risk and peer risk, portfolio innovation is also faced with potential legal risk in laws and international conventions. After years of practice, the existing trade financing business has been completely adapted to the relevant conventions and regulations, and even some international conventions and regulations are established upon these products. New business which roots from “split and combination” is the innovation of the original business; there is still controversial legal risk as to whether existing regulations can be applied to these new products. In the process of the implementation of trade financing, the design of new products has to be in line with international practices as well as the specific laws and regulations of different countries.

3. Risk evaluation index systems in trade financing innovation

All operations of commercial banks are accompanied by risks, facing new business scopes, new operating processes and new products, there will definitely be the emergence of new risks. Faced with these new risks, the commercial banks not only suffer a lack of experience but also a lack of necessary identification and evaluation system. Therefore, the establishment of a comprehensive risk assessment system is an important part of trade financing innovation risk management. A scientific and rational evaluation system based on innovative risk identification is the prerequisite for commercial banks to avoid risks and secure the success of innovation. Trade financing innovation risk identification system consists of two parts: the list system which assesses applicants’ credibility; and overall risk rating of trade financing innovative projects.

3.1 List system and the establishment of customer credit risk rating

List system takes trade financing’s extension on the supply chain as the theoretical basis; it is used mainly for the evaluation of the external risks in market innovation to evaluate the customer's credit and financial risks. List management is established as a risk evaluation system in order to meet the needs of trade financing innovation. Currently, this approach of evaluation system has been implemented in some commercial banks in trade innovative business (Han and Zhang, 2006, pp. 44-48). In particular, in trade financing innovation, commercial banks does not only provide financing to the simple trade link, as banks are playing a more and more important role in the supply chain, the focus of financial risks should not be confined to the refinancing applications itself, but should also include upstream and downstream partners of the supply chain as an important risk factor, assess risks of each link in the financing chain, evaluate every participants along the supply chain, so early warnings can be drown for potential risks.

List management system shifts banks’ focus of attention from the traditional trade link to relevant parties along the chain. After the inspection of credit conditions as well as transaction history between the applicant and its business partners, a list can be drown based on these factors. Through the application of list system, on the one hand, enterprises within the list may have a higher financing limit, therefore financing efficiency can improve, and on the other hand, the list may also help bankers to have a clear understanding of enterprises’ situation and their credit risk, so that bankers can make reasonable financing risk expectations.

At present, commercial banks mainly measure the risk through quantitative analysis; quantitative analysis measures the expected extent of the losses in the sense of probability. It will seek the fuzzy expected probability, and classify the risks corresponding to the risk rating, which determines customer's credit rate. Depending on the credit rating awarded, credit provisions are set up (Han and Zhang, 2006, pp. 44-48). Specifically, usual operation is to use a large number of historical data to establish linear probability model, the use of financial data as a model input data to illustrate the credit risks and forecast the probability of default. In the model, company's credit situation falls into default category (recorded as 1) or non-default category (recorded as 0), and then estimate enterprise’s default probability through a series linear regression using financial data.

Table 1. Credit Risk Rating

Default probability interval	Corresponding credit risk rating
0-0.1	AAA
0.1-0.2	AA
0.2-0.3	A
0.3-0.4	BAA
0.4-0.5	BA
Above 0.5	B or below

This evaluation method mainly based on the financial data of the enterprises; therefore, this rating system takes the safety of the principal as the core, which is whether the enterprise has the ability to repay the loan. In innovation, it should be considered from a higher perspective; enterprise’s credit risk should be considered from the perspective of business operating. Factors such as corporate credit record, partners' background should be considered along with the financial situation of enterprises to evaluate risks. In addition to the inspection of applicant, credit survey should also be carried out on relevant parties both upstream and downstream, develop the list based on the result, and use the list in future trade financing business to improve operational efficiency and reduce potential risks.

3.2 The selection of indicators in financing project risk evaluation

The main function of list system is to rate the credit of applicant and its associates, so that financing limits and scope can be set in accordance. However, trade financing project risk is relatively speaking in terms of commercial banks. Commissioner of the Department of the United States currency (OCC) divided credit risk into five levels, "LLL, LL, H, HH, HHH", which respectively means lowest, low, high, higher, highest five state (Zhong, 2006, pp. 42-43).

In addition, Chase Manhattan Bank developed a 10-level classification, a more detailed delineation of rating categories, grades 1-10 respectively means minimum, moderate average, acceptable, acceptable but should be given attention of, management concern, especially concern, not up to standard, suspicious, the loss (Huang, 2006, pp. 36-40).

In trade financing risk assessment, not only the traditional factors such as the safety of the principal, repayment sources should be taken into account, but also broader new factors should be considered from a broader perspective. Factors to be considered (major indicators) include: history of cooperation, settlement means between financing applicants and business associates; credit status, ability to make payments, as well as the liquidity of cargo. Specifically, if the two parties have a tight connection, have a good history of cooperation, financing risk for the project will be relatively low. But if the two sides are experiencing initial transaction, or have a bad record in the past, then bankers should be alert of the risk in advance. Settlement method is another important factor that impacts the extent of financing projects risks. Different method of settlement has different risks levels. The strong bargaining power of large enterprises may force the other party to deal with credit, but large multinational companies often have a good reputation, the return of fund can be guaranteed. Therefore, customer credit status, capacity to repay, means of settlement, etc. all these factors should be generally considered to assess the overall risk of trade finance innovation.

4. Conclusions

With the advantages of liquid and profitable, trade finance is a business that is actively promoted by commercial banks. Bankers wish to enlarge the business scope and increase market share through trade financing innovation. In this process, a large number of circumstances and problems that were not seen before would emerge. The process of business innovation is also a process of risks creation. New market, new institution, new portfolio are bound to be accompanied by new risks. Effective identification and evaluation of innovative risks are essential to the safety of commercial banks.

Market innovation, institution innovation and portfolio innovation are three major sources of innovative risks. Classification and identification of these risks can establish a framework for risks evaluation of trade financing innovation. Risk identification framework along with the establishment of risk evaluation indicator system will enable bankers to have an apprehensive understanding of the risks involved in trade financing innovation, and provide the bankers with early risk alert and guidance in the innovation.

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