Credit Risk Control of Investment-loan Linkage by Commercial Banks in China

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Abstract. The relationship between Chinese banks' venture capital and its subsequent lending can be considered as a new business for banks, and that is defined as investment-loan linkage in China. Investment-loan linkage is one of the important innovative businesses of commercial banks to solve the financing problems of small and medium-sized technology enterprises, to achieve synergistic development of science and technology and finance and to realize win-win situation for all financial institutions. At present, the credit risk control of investment-loan linkage of commercial banks in China is inadequate because of imperfect internal credit risk control, imperfect credit risk control of cooperation between banks and external investment institutions and mismatch between business development and credit risk control system, etc. Therefore, commercial banks should continuously improve internal credit risk management mechanism, establish good external cooperation mode of credit risk management and strengthen the management of professional talents. in order to establish and improve the credit risk management system of investment-loan linkage and promote the healthy and rapid development of commercial banks' investment-loan linkage.

Keywords: investment-loan linkage; commercial banks; credit risk control

1 Introduction

The investment-loan linkage business first appeared in the United States in the 1980s, Known as the banks entered into venture capital. At present, there are more than ten private enterprises and three large commercial banks in the United States conducting investment-loan linkage business. Among them, Silicon Valley Bank of the United States is the most famous, and its investment and loan cooperation model is relatively complete, while Chinese investment-loan linkage is still in its infancy. In the Guiding Opinions issued by the China Banking Regulatory Commission in 2015, the investment-loan linkage was clearly defined, pointing out that "the investment-loan linkage is the commercial bank responsible for providing loan to enterprises, while the investment subsidiary established by the bank group is responsible for equity investment, thus realize the combination of investment and lending. And through institutional arrangements, the excess investment returns can offset the credit losses, so as to achieve the matching of the credit risks of science and technology enterprises and their income, and

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provide continuous financial support for the financing of science and technology enterprises.”

The most important factor in the development of the banking industry is the risk factor. In 1997, the Basel Committee on banking published the Core Principles of Effective Banking Supervision, which listed credit risk, market risk and operational risk as the main risk types of bank risk management. Compared with traditional financial services, the credit risk caused by the exhibition of investment-loan linkage business has increased significantly. The credit risk of investment-loan linkage refers to the losses caused by imperfect credit management and the dishonesty of the target enterprise of investment and loan at all stages of the development of investment-loan linkage business. The target customers of investment-loan linkage business are scientific and technological small and medium-sized enterprises. These enterprises are mainly intangible assets, and the scale of fixed assets that can be mortgaged is small. Commercial banks have high requirements for the overall credit risk control of such enterprises, so we should use a set of effective credit risk management mode to carry out investment-loan linkage business.

2 Reasons for insufficient credit risk management in investment-loan linkage business

The current credit risk management of the investment-loan linkage of commercial banks in China is still based on traditional risk control model, which helps to divide the tasks and understand the work functions of the staff, and helps to control the credit risk [1]. There are many links in the investment-loan linkage business, and each link contains the unique credit risk characteristics of the investment-loan linkage. The vertical credit risk control process cannot support the smooth development of the investment-loan linkage business, resulting in many For credit risk management, banks need to provide a more specific way to reasonably control credit risk. the reasons for insufficient credit risk management in investment-loan linkage business are below.

2.1 Inadequate internal credit risk control system

In the credit risk control process of commercial banks, the most important department is the credit risk management department [2]. However, due to the complexity and particularity of the investment-loan linkage business, risk pressure can be exerted in each link. In bank operation and management, if a model of full participation cannot be established, credit risk control cannot be fully carried out. It is mainly manifested in that, on the one hand, as an emerging business, the original staff has no relevant equity investment experience, and the new staff are not familiar with the company's original business process, resulting in insufficient awareness and ability of staff to participate in risk management[3]; On the one hand, in the process of promoting the investment-loan linkage business and market development under the guidance of the policy, if the pressure of the risk assessment department is not considered, the work efficiency of the risk assessment department will decrease. It is impossible to scientifically assess risks when conducting investment-loan linkage business without the formation of qualified and compliant internal controls.

2.2 Incomplete credit risk control in cooperation between banks and external investment institutions

External investment-loan linkage refers to that a commercial bank chooses to cooperate with other entities with investment functions to carry out investment-loan linkage business, including cooperation with venture capital institutions or asset management companies and other institutions. The business model can be mainly divided into investment and loan alliance, option loan and industrial fund investment model [4].

In the external investment-loan linkage model, commercial banks will have principal-agent problems with external investment institutions. The principal-agent theory originated from corporate governance, but there is also a principal-agent relationship in the investment-loan linkage of commercial banks. In the external investment and loan linkage, external investment institutions are used as agents. They will use their own information advantages to seek maximum profits, thereby causing losses to commercial banks. On the one hand, foreign institutions have a high preference for high risk and high return. Commercial banks, on the other hand, tend to obtain lower returns with lower risks, so when choosing companies, they often run counter to the interests of commercial banks, thereby increasing credit risk [5]. But when the equity is held by an external investment institution, the exit node and exit method of equity investment will act against the interests of commercial banks due to conflicts of interest, resulting in the expansion of bank credit risks.

2.3 Business development does not match the credit risk control system

The main investment targets of the investment-loan linkage business of Chinese commercial banks are high-growth start-up enterprises or high-tech enterprises in the growth stage [6]. Compared with the traditional credit business, the investment-loan linkage business needs to establish a long-term close cooperative relationship with enterprises. According to the theory of enterprise development life cycle, enterprises will face different risks in different development stages.

2.3.1 Insufficient identification of credit risks in the start-up stage of enterprises.

In the long run, only 3% of the angel round projects that can enter the growth stage and obtain C round financing in the capital market, and the invested targets that can enter the IPO listing after that are even more sharply reduced. On the basis of investment and loan cooperation, commercial banks have huge risks in credit investment and equity investment. At present, China's capital market is insufficiently funded. Compared with the peak period of 2015, there were 2,970 early-stage financings, with a financing amount of 59.2 billion yuan. Various data showed a downward trend. By the end of 2021, the number of early-stage financings in China had dropped to 1,269. When a science and technology company is in the start-up stage, although the willingness to raise funds is relatively high, in the initial stage, the company is too small in scale and has a low market share. Compared with traditional credit business, commercial banks do not need to grant credit to companies, which simplifies the original complicated credit management process, reduces the requirements for corporate financing, and increases the uncertainty of risks at different stages. Although the investment-loan linkage business model pursues high risk and high return, under the condition of imperfect risk control, this investment method will conflict with management objectives. Once an enterprise makes a decision error or a risk event, and faces a business failure, the bank can neither repay the principal and interest of the loan nor obtain risk compensation from equity investment. If a commercial bank chooses to invest in technology-based SMEs at this stage, it is difficult to concretely measure the business risks and returns of the enterprise, determine the cost and income per share and loan, and face great credit risks.

2.3.2 Inadequate credit risk management in the growth period of enterprises.

At this stage, enterprises continue to expand their scale, and their financing needs are rising rapidly. Although the current anti-risk capabilities of enterprises are not strong enough, most enterprises are gradually making profits, showing the feasibility of investment and sustainable growth. According to research, 50% of PE, VC and private funds in the United States have invested in growth-stage companies, so the growth stage is a good opportunity for commercial banks to make equity investments. Since PE and VC invest more in high-growth companies, commercial banks can avoid risks by co-investing with investment institutions. However, compared with third-party investment institutions with rich experience and a long time in the investment field, Chinese commercial banks have certain limitations in the selection and management of investment projects, and it is difficult to identify and manage projects with investment value. On the other hand, when competing with venture capital institutions, commercial banks have low ability to obtain information and a high degree of specialization, and do not have an advantage in the competition of experienced venture capital institutions. Brings up the principal-agent problem. In addition, the team members of the bank have insufficient ability to operate the projects of science and technology enterprises, which increases the credit risk of investment.

2.3.3 The exit mechanism in the mature stage of the enterprise is not perfect.

The technological achievements of mature enterprises are recognized by the market, the profitability of enterprises is stable, and the ability to resist risks is also enhanced. Funds can be raised through the issuance of bank loans and bonds, or equity financing can be issued through public issuance. However, the biggest risk facing commercial banks' investment-loan linkage business is the imperfect exit mechanism. Commercial banks can exit through equity transfer, private placement of shares, equity repurchase, mergers and acquisitions, etc. However, China's capital market is still immature, and due to imperfect supporting measures, the transfer system at all levels cannot be effectively established. The market is not active, and there is no sufficient connection with banks and venture capital institutions, resulting in an imperfect capital market exit mechanism. For commercial banks, when the risk identification and prevention and exit mechanism are not perfect, in the face of major risk factors and corporate bankruptcy, mergers and reorganizations, commercial banks cannot choose an appropriate exit method and timing.

3 Credit risk control measures for China's commercial banks' investment-loan linkage in the future

3.1 Strengthen the identification of credit risk in investment-loan linkage

The identification of credit risk is the basis of credit risk management [7]. Through the identification of credit risk, the cause of the risk can be judged, thereby providing help for the development and sustainable development of the business. A scientific risk identification system can strengthen the risk identification work.

The investment banking department needs to formulate different management systems according to the investment-loan linkage business at different stages to guide the scientific development of the investment-loan linkage business, adapt to the needs of the current bank credit risk management work, and continuously optimize and improve the management system; The management department needs to evaluate the risk management work in a targeted manner based on the risk management system established by the bank headquarters. Based on the evaluation results, it will communicate with the head office to supervise and report the management and control of credit risks in a timely manner. The specific content of the risk management system shall be optimized; each branch under the bank shall conduct risk management according to its own business development and in combination with the characteristics of the investment-loan linkage business. The investment-loan linkage business can bring opportunities for the development of the bank, and it is easy to obtain extensive attention from various branches, but it must be combined with its own credit risk management work. Once various types of risks are found, the risk management system established by the bank and the specific factors to effectively control credit risk.

3.2 Improve the ability to assess credit risk in investment-loan linkages

Through the risk assessment of the investment and loan linkage, the hidden risks can be discovered in time. Different types of investment and loan linkage business have different risk management and control methods. Commercial banks need to combine their own credit risk management and control standards to apply the bank's risk resources to the most destructive investment. In the loan link, the comprehensive competitiveness of the investment-loan linkage business is improved, and the risk management and control resources are reasonably allocated. For investment-loan linkage business evaluation activities, it is necessary to formulate risk evaluation management methods in a targeted manner, and conduct evaluations according to the specific business conditions; commercial banks disperse large-scale credit risks by outsourcing risk evaluation, improve information collection capabilities, and make risk evaluation results more accurate; Strengthen cooperation with financing consulting companies to provide assistance in risk assessment work. This kind of credit evaluation mode can make the results more scientific and objective, and can also carry out credit risk evaluation for the problems ignored by the bank staff.

3.3 Seek mitigation of credit risk in investment-loan linkage business

Credit risk mitigation is an important part of credit risk management. In credit risk management, it is impossible to completely eliminate risks, but appropriate means can be selected to dilute risks. Due to insufficient collateral for small and medium-sized enterprises, it is difficult to provide other qualified collateral to cover risk exposure even if the credit risk increases. Commercial banks cooperate with insurance companies to invest and loan their own investment and loan based on the difference in credit risk at different stages of the investment-loan linkage. The linkage business is insured, which effectively dilutes the risk exposure part, and can also form a linkage development with the insurance industry, communicate information, and provide assistance in the investment and loan linkage business, and enhance the influence of the investment and loan linkage business. In addition, commercial banks can bypass insurance asset management for equity investment, and then seek multi-channel and multi-method credit risk mitigation plans.

Commercial banks can also establish a reasonable credit risk reserve system to dilute rising risks through the bank's on-balance sheet net deduction or off-balance sheet net deduction policies and procedures. When the credit risk management of the investment-loan linkage business generates pressure, an effective reserve fund can provide a buffer for a certain period of time, provide time for the relevant bank departments to solve the problem, and make the development of the business more stable and the fluctuation of credit risk reduced. When the credit risk of investment-loan linkage is effectively controlled, banks can replenish reserves in a timely manner, and can seek scientific credit risk buffer channels.

3.4 Build a good external cooperation model for credit risk management

3.4.1 Establish an access review department.

Commercial banks should examine whether third-party institutions meet the access standards of commercial banks from the perspectives of the company's equity structure, financial statements, operating conditions, and management capabilities. This list is regularly updated and reviewed by commercial banks, which can promptly delete institutions that do not meet the access standards and stop cooperation. The retained businesses should be managed through layers of screening, and risk control measures should be added to ensure the safety of loan funds.

3.4.2 Establish a joint investigation mechanism before cooperation.

Before a commercial bank provides a loan to a target company, it needs a third-party institution to provide relevant due diligence reports. The commercial bank will review its investigation process and methods, and send special personnel to participate in the third-party institution's customer investigation during the cooperation period.

3.4.3 Establish a post-investment cooperation mechanism.

Commercial banks manage and supervise target companies through cooperation with relevant departments and third-party organizations. When cooperating, the importance and difference of debt loans should be taken into account, and the shareholder seat of the target enterprise should not be occupied, and business affairs should not be interfered with. In the external investment and loan linkage, when the external institution cannot participate in the operation and supervision of the target enterprise, the commercial bank can request the institution to provide corresponding management reports and other relevant materials within a specified time in accordance with the contract, so as to supervise and analyze the risk management and control situation in a timely manner. Actual situation to take the next action.

3.5 Establish a complete enterprise life cycle credit risk management mechanism

The financing feature of technology-based SMEs is that their capital needs are cyclical. For technology startups, Chinese commercial banks must have an accurate understanding of their growth cycle. Commercial banks need to recognize their strengths and weaknesses in order to continuously innovate their businesses and prevent them from falling into homogeneous competition. As far as the enterprise is concerned, according to the characteristics of its life cycle, it can be divided into the seed stage, the start-up stage, the growth stage, the mature stage and the decline stage. Different stages of company development determine different investment strategies of commercial banks.

During the start-up period of the company, commercial banks can issue a part of the loan to the company and inject equity investment funds in installments. It can also cooperate with equity investment companies, and the rest of the funds are completed by third-party equity investment institutions. For example, commercial banks can cooperate with technology-based SME fund companies to obtain more overall information on corporate governance, financial data reporting and sustainable management capabilities, so as to strictly screen projects or target companies. Sign a cooperation agreement with the fund company to make small equity investments or loans in the form of installments, so that the fund company can participate in the company's business and strategic decisions to a certain extent, so as to ensure the company's standardized operation.

In the growth period, it is a golden period for commercial banks to carry out investment and loan linkage. The scale of loans can be independently selected by commercial banks, or they can further expand the scale of equity investment and credit loans according to agreements with equity investment institutions. Development to obtain a certain interest income.

In the mature stage, the company's capital demand has reached the highest point in the whole life cycle, and the financing channels have become increasingly diversified, while institutions such as private equity investment and venture capital have opted to withdraw. The company reduces the demand for bank loans, and the commercial bank needs to withdraw from the equity investment at this time, and enjoy the equity appreciation after the withdrawal according to the agreed proportion. Exit is the ultimate goal of equity investment. Commercial banks need to compare the advantages and disadvantages of different exit mechanisms and business operations to choose an appropriate exit method.

4 Conclusion

Through the research of this paper, it is found that scientific risk management is an important way to realize the sustainable development of the bank's investment-loan linkage business. However, due to the imperfect risk management system of Chinese investment-loan linkage, the control of credit risk is limited to a certain extent, which affects its further development and affects the bank's income level. Therefore, it is necessary to use reasonable methods to control the credit risk of the investment-loan linkage business. The conclusions of this study are as follows.

There are certain problems in the risk control of bank investment-loan linkage business. Commercial banks that mainly focus on credit business have insufficient experience in the field of equity investment. At present, the internal risk management system of Chinese banking industry is insufficient, and it is difficult to achieve effective supervision. At the same time, the cooperation between Chinese banks and third-party financial institutions lacks an effective risk management mechanism, which affects the development Chinese investment-loan linkage.

The paper discusses the countermeasures of credit risk management in Chinese commercial banks' investment-loan linkage. Starting from the bank's internal control, improve the internal credit risk control ability from the aspects of credit risk identification, assessment and mitigation. Secondly, by establishing a sound external cooperation model to avoid the credit risk of external investment-loan linkage. Finally, according to the enterprise life cycle, different credit risk control mechanisms are established to realize the coordinated development of risk control and enterprise growth.

Since the development of investment-loan linkage business in China is not yet mature, and various regions and commercial banks have different economic conditions, investment-loan linkage projects also have significant local characteristics. This paper does not put forward regional suggestions for the development of credit risk control in various places. For example: strengthen the improvement and establishment of high-tech areas. It takes a long time to establish a sound risk control system for investment-loan linkage, so professionals in various fields are required to conduct more in-depth exploration.

References

1. Morton Glantz (2003), Fundamentals of Credit Risk Rating [J]. Studies of International Finance, 2003, (7):90-94.
2. Abdou HA, Pointon J. Credit scoring, statistical techniques and evaluation criteria: A review of the literature[J]. Intelligent Systems in Accounting, Finance and Management, 2011, (18):59-88.
3. Long Wu, Lei Xu. The role of venture capital in SME loans in China[J]. Research in International Business and Finance, 2020, (51):81-101.
4. Zhang Xiaosong, Ye Jun. Commercial banks tried investment-loan linkage business with multi-channel and multi-mode[J]. Chinese Banking Industry, 2015, (07):36-68.
5. Sun Likang. Zhang Mu. Research on the credit risk evaluation index system of technology-based small and medium-sized enterprises: an empirical analysis based on the investment-loan linkage model[J].Science and Technology Entrepreneurship Monthly, 2016,(11):26-28.
6. Wang Xin. China's investment-loan linkage operation mode and risk prevention[J].Times Finance, 2017,(30):189-191.
7. Yu Ying. The Construction of Bank Technology Credit Risk Evaluation Index System——Based on the Investment and Loan Linkage Model[J]. Technical Economy and Management Research, 2021, (06):84-88.