An Empirical Study on China's SME Relationship Loan and Its Availability and Loan Cost

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Abstract

China's small and medium-sized enterprises are mainly financed by bank loans, and there are some issues such as limited financing amount and financing difficulties. Under the background of fierce competition in large banking business, community banks mainly provide personalized financial services, and gradually form the relationship loan model for SMEs. On the basis of literature review, this paper uses questionnaires and data analyze to study the availability and cost of SME loans, in order to provide new ideas and paths for SME loans in China.

The research results show that: 1) the long-term business relationship with banks help enterprises to obtain loans; 2) the establishment of business relationship between enterprises and banks will lead to a reduction in the amount of loans from each bank, but also reduce the cost of loans; 3) the closer the business relationship between enterprises and banks, the availability of loans and loans in the bank. The lower the cost. Relational lending model has a good prospect in China. It is necessary to guide and gradually develop this new lending model, which can not only improve the performance of banks, but also help to solve the financing problems of small enterprises in China.

Key words: Relationship Loans; SME financing; Bank-firm Relationship; Community Banks;

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1. Introduction

Financing difficulties are one of the main problems that restrict the development of SMEs in China. It is necessary for China to imitate the way used by foreign community banks and establish a long-term and stable bank-enterprise relationship with SMEs through relationship loans. Relationship loan is the major means of lending by US community banks. The American Independent Community Bankers Association (ICBA) defines community banks as: Community banks are independent institutions that aiming at promoting regional economic development, with asset scale

ranging from less than $10 million to billions of dollars, providing financial personalized services to clients. The definition of community banks by the US Federal Depository Corporation in 2012: Community banks mainly engage in personalized deposit and loan business in specific regions, and establish long-term and stable cooperative relationships with customers through relationship financing methods. It has five main characteristics: (1) the asset size is less than 1 billion US dollars; (2) the loan is greater than 33% of the total assets; (3) the core deposit is greater than 50% of the total assets; (4) it has more than 1 and less than 75 branches; (5) the branches are established in no more than three states.

This paper takes “relationship loan” as the starting point, firstly comprehensively analyzes the influence of various financial factors and non-financial factors, and designs relevant indicators to establish an empirical model. Secondly, this paper analyzes the impact of bank-enterprise relationship factors on Chinese SME loans taking the Chinese banking industry as a sample based on the basic situation of China. Besides, this paper obtains information on financial data, corporate characteristics, bank-enterprise cooperation and loan status of small and medium-sized enterprises through questionnaires and uses principal component analysis to figure out the optimization indicators of the basic situation of the enterprise and the relationship between the bank and the enterprise, and analyzes the relationship between the optimization indicators and the availability of SME loans and the loan cost through the Logit model and the ordinary linear regression model. Finally, through the significance test of each variable, the availability and cost of relationship loans are judged, and their applicability in China, and feasible suggestions are proposed accordingly.

2. The special advantage of relationship loan in China

Chinese society is a typical relation-oriented society. A huge network of relationships is built around relatives, friends and colleagues with a hidden and binding unspoken rule in the network, which provides a good social foundation for relationship loan since it is conducive to make up for the lack of credit in China and realize the optimal allocation of credit resources. In the process of resource allocation, the distribution of interests affects the affinity of interpersonal relationships in the network, and it is also an important factor influencing the intimacy of interpersonal relationships. The interest-based resource allocation can not only promote the optimal allocation of credit resources, but also control the risk of relationship loans and obtain considerable returns.

China's SME industry cluster provides a good environmental foundation for relationship loans. Since the implementation of reform and opening up policy, many industrial clusters have spontaneously formed in China's fast-growing regions such as Guangdong and Zhejiang. Industrial cluster is established for the geographical convenience of trade, and enterprises are all engaged in a specific or related industrial field. They have strong commonality and complementarity. Many industrial clusters also have chambers of commerce and other organizations. It is a huge network of social relationships. The sample collected in this paper has the same characteristics. The products produced by the enterprises in a small town in Guangdong are almost all

lighting products, and on this basis, the trading companies specializing in the sale of lighting products and related supporting service contracting companies have been established in this region forming the great environmental conditions for relationship loans.

First, the social network of industry cluster can provide enough soft information and solid information support for relationship loans. Under the conditions of the industrial cluster, the “distance” between the credit officer and the loan customer is close, the personal social relationship can be used to investigate the situation of the local enterprise. Banks can collect valuable soft information through the good social relations of their employees, thereby reducing the cost of decision-making information for banks. At the same time, the loans of many small and medium-sized enterprises in the industry cluster will have corresponding scale effects to offset the diseconomies of scale of SME loans.

Second, the mutual cooperation between enterprises in the industrial cluster has created a good credit environment and behavioral norms, which can reduce the transaction costs and supervision costs of banks as well as the bank credit risk. It can be imagined that when a credit officer of a small or medium bank in a certain place finds that a company has a bad behavior such as arrears of payment, he will make more careful decisions when issuing loans to the enterprise. On the contrary, if the enterprise is punished for defaulting on bank loans, such punishment messages will soon spread to the industrial cluster of the enterprise, and the hidden rules of the industrial cluster can be used to prompt the loan enterprises to fulfill their obligations in time to protect the credit of the industrial cluster and the credit of the company, which in turn reduces the credit risk of the bank. In order to promote regional economic development, the government can also provide relevant corporate information for community banks, including “soft information” and “solid information”, which provides convenience for community banks in understanding and selecting customers. In 2013, the Notice of the China Banking Regulatory Commission on the Establishment of Community Sub-branches and Small and Micro-branch Branches of Small and Medium-sized Commercial Banks made more specific regulations on the scope of licenses, business functions, supervision and management of community banks, it not only simplified the administrative approval process, but also ensured the legality and rationality of the community banks. This provides convenience for regional development of community. In June 2014, the China Banking Regulatory Commission also issued the “Notice on Promoting the Administration of Decentralization and Decentralization to Improve Market Access”, proposing that city commercial banks should have new branches in the province. This provides an opportunity for the implementation and development of relationship lending by community banks.

3. Empirical study on the availability and loan cost of SME loans

3.1 Sample description and indicator design

This paper has obtained data on SMEs who have applied for loans from commercial banks in the past three years through 200 questionnaires. The questionnaire is divided into four parts. The first part is the basic information of the

enterprise, including the organization form of the enterprise, the industry in which it is located, whether it is listed on the small and medium-sized enterprise board, the number of employees and the market share of the enterprise in the industry. The second part is the financing situation of the enterprise, including the number of loans the enterprise applied for in the past three years, the number of loans approved, the amount of loans, the difference between the average actual loan interest rate and the benchmark loan interest rate, the loan repayment status, and whether the latest loan has a mortgage guarantee and other indicators. The third part is the financial status of the enterprise; the fourth part is the relationship between the bank and the enterprise, including the time span of the bank-enterprise relationship, the number of banks with which the enterprise establishes a relationship, and whether the enterprise can obtain specific financial products or preferential services from the bank. This paper also standardizes the data: remove all the data of enterprises listed on the small and medium-sized board; remove the samples missing values of the variables reflecting the relationship between the bank and the enterprise; the samples selected generally have uniform distribution on indicators such as organization form, industry, number of employees, etc. so as to eliminate the impact of these factors on the results of the study. Finally, only 95 companies are selected as the research sample. SPSS software was used for the calculation of sample data in this paper.

Based on the information obtained from the questionnaire, this paper designed the following indicators:

SPREAD: The loan spread (the difference between the average real loan interest rate in the last three years and the benchmark lending rate) reflects the bank's evaluation of the borrower's loan risk and the enterprise's loan cost.

P: Probability of the company's loan application being approved (the ratio of the number of loans approved by the bank to the number of times the company applies for loans in the past 3 years) reflects the availability of the loan.

LENGTH: The time span of the bank-enterprise relationship refers to the length of time the enterprise establishes a relationship with the bank. When the enterprise terminates the cooperation with a bank that has established a long-term relationship with to find other cooperative banks, the conversion cost will also increase. Therefore, the first hypothesis H1 is proposed: there is a positive correlation between the time span of the bank-enterprise relationship and the availability of corporate loans, and a negative correlation between the bank-enterprise relationship and cost of corporate loans.

SCOPE: The size of the bank-enterprise relationship (the number of banks that have relationships with the company). The more banks the company has established relationship with, the higher chance the banks will lower interest rates in order to win customers. However, the establishment of a relationship between a company and a number of banks may result in less contact between the company and each bank, thereby reducing incentives for banks to provide relationship loans. Therefore, we propose a second H2 hypothesis: there is a negative correlation between the availability of corporate loans and the scale of bank-enterprise relationships, and there is a negative correlation between the scale of bank-enterprise relationships and the

cost of corporate loans.

DEPTH: Depth of bank-enterprise relationship (this variable is a dummy variable, which is 1 when the company can obtain a specific financial product or preferential service from the bank, otherwise 0). Whether a company can obtain a specific financial product or preferential service from a bank reflects the relationship between the company and the bank. The greater value of depth of the bank-enterprise relationship, the closer the relationship between the company and the bank. Therefore, we propose a third hypothesis H3: there is a positive correlation between the depth of bank-enterprise relationship and the availability of corporate loans, and a negative correlation between the depth of bank-enterprise relationship and corporate loan costs.

ASSET: The total assets (ten thousand yuan) at the end of the year before the company's interview, reflecting the size of the company.

DEPTR: The asset-liability ratio at the end of the year before the company's interview, which reflects the financial risks of the company and measures the extent to which the interests of creditors are protected during the liquidation of the company.

PROFITR: The profit margin of the main business at the end of the year before the company's interview, reflecting the profitability of the company.

LIQUIDITYR: The liquidity ratio at the end of the year before the company's interview, which reflects the short-term solvency of the company.

In summary, SPREAD and P are the explained variables, reflecting the loan cost and loan availability respectively; LENGTH, SCOPE and DEPTH are explanatory variables, reflecting the length, scale and depth of the relationship between banks and enterprises; ASSET, DEPTR, PROFITR and LIQUIDITYR are control variables that reflect the financial situation of the company.

3.2 Using Logit Model to Analyze the Factors Affecting the Availability of Corporate Loans

Logit regression method assumes that the probability of event occurrence obeys the conditional probability of cumulative logistic distribution. It is a statistical method of nonlinear classification, which is often used for the problem that the dependent variable is a qualitative indicator. A series of financial ratio indicators, enterprise characteristics indicators and bank-enterprise relationship indicators are adopted in this paper to predict the probability of loan issuance and analyzing the impact of bank-enterprise relationship on the availability of loans.

Suppose the probability that the bank agrees to lend to the enterprise is P, 1-P is the probability that the bank refuses to lend to the enterprise, and LogitP=Ln(P/1-P) is defined, obviously $-1 \leq P \leq 1$.

Let

$$LogitP=a0+a1Ln(1+LENGTH)+a2Ln(1+SCOPE)+a3DEPTH+a4LnASSET+a5DEPTR+a6PROFITR+a7LIQUIDITYR$$

Correlation analysis of explanatory variables and control variables does not prove that there is a highly significant correlation between variables, so in general there is no obvious multicollinearity between these variables.

The Logit model parameters obtained by SPSS software are shown in Table 3-1.

It can be seen from the results that there is a significant positive correlation

between the availability of loans for SMEs (the probability that banks agree to lend to enterprises) and the time span and the depth of bank-enterprises relationship, and a negative correlation with the scale of bank-enterprise relationships, which is in line with the assumptions.

It's proved that the accuracy of the Logit model established in this study is 60%, and the prediction ability is 70%, therefore the judgment result has high credibility. This paper focuses on the impact of bank-enterprise relationship indicators on the availability of corporate loans. The impact on control variables is not discussed.

Table 3-1 Logit model parameters

	B	S.E.	Wald	df	Sig.	Exp(B)
Ln(1+LENGTH)	0.326	0.120	7.302	1	0.007	0.722
Ln(1+SCOPE)	-0.271	0.127	4.552	1	0.033	0.762
DEPTH	0.260	0.128	4.139	1	0.042	0.771
LnASSET	0.350	0.139	6.299	1	0.012	0.705
DEPTR	0.230	0.118	3.836	1	0.050	0.794
PROFITR	0.272	0.134	4.096	1	0.043	0.762
LIQUIDITYR	0.283	0.126	4.312	1	0.047	0.759
CONSTANT	0.540	0.119	20.509	1	0.000	0.583

3.3 Using linear regression model to analyze the influencing factors of corporate loan costs

The following linear regression model is adopted to analyze the correlation between corporate loan costs and bank-enterprise relationship indicators.

SPREAD=a0+a1Ln(1+LENGTH)+a2Ln(1+SCOPE)+a3DEPTH+a4LnASSET+a5DEPTR+a6PROFITR+a7LIQUIDITYR

The test results are shown in Table 3-2.

It can be seen from the test results that there is no significant correlation between the loan cost of SMEs and the time span of bank-enterprise relationship, which is inconsistent with the assumption; there is a significant negative correlation between the depth of bank-enterprise relationship and the scale of bank-enterprise relationship, which is in line with the assumptions. The linear regression model has a good goodness of fit, and the F value also shows a good significance, which means the test results have a high degree of confidence. In addition, there is a significant negative correlation between the indicators of corporate assets and the profit rate of the main business and the cost of corporate loans. Other control variables do not show

significant correlation.

Table 3-2 Linear regression model parameters

CONSTANT	1.548（4.56）
Ln(1+LENGTH)	0.062（0.69）
Ln(1+SCOPE)	-0.091（-0.78）
DEPTH	-0.128（-1.33）
LnASSET	-0.059（-2.02）
DEPTR	0.170（0.83）
PROFITR	-0.128（-1.75）
LIQUIDITYR	-0.135（-1.26）
Adj R∧2	0.0767
F value	7.84

4. Conclusion and Recommendations

This paper uses the data information of SMEs that have applied for loans from commercial banks in recent years, and conducts empirical research on the correlation between the availability of loans, the loan cost of Chinese SME and the relationship between banks and enterprises. The following conclusions are drawn:

(1)The establishment of long-term business relationships between banks and enterprises will benefit companies in obtaining loans from banks, but the impact on corporate loan costs is not significant. According to the related theory of relationship loans, since the long-term contact between banks and enterprises will effectively alleviate the problem of information asymmetry, banks can assess the risks of enterprises more accurately, thus screening out potential enterprises, instead of blindly rejecting the SMEs lacking of “solid information”. However, the impact of bank-enterprise relationship on corporate loan costs is not clear. On the one hand, the bank gets more proprietary information about the company, the supervision costs are lower, the bank may adjust the credit contract, charge lower interest rates and lower the requirements for collateral; on the other hand, the bank will find the enterprise facing higher “conversion cost” when cooperating with another bank, and the "information monopoly" will enable the bank to charge higher interest rates, thereby increasing the loan cost of the enterprise.

(2) Establishing a business relationship with a number of banks will reduce the availability of loans from each bank, but it will also reduce the cost of loans. According to the related theory of relationship loans, the more banks that the enterprise establishes business relationships with, the lower the degree of information monopoly of each bank, and the less profit the bank earned from the loans, in consequence the motivation for the bank to issue relationship loans is lowered. However, from the perspective of the market, the availability of loans does not necessarily decrease, depending on the extent to which the increase in the size of bank-enterprise relationship affects the loan motivation of each bank. Due to increased market competition, each bank can only charge lower interest rates, which reduces the cost of loans.

(3) The deeper the business relationship between the enterprise and the bank, the lower the loan availability and loan cost of the bank. For example, if a company's main deposit account is in a bank and provides a large amount of financial information to the bank, and its management also has sufficient communication with the bank's relevant personnel, the greater the probability that the bank agrees to issue loans to the enterprise, and the lower the interest rate charged by the bank.

(4) There is a certain correlation between the financial characteristics of the enterprise and the loan availability and loan costs of the enterprise. The empirical research found that there is a positive correlation between the asset size of the enterprise and the availability of the loan, and a negative correlation between the asset size of the enterprise and loan cost; there is a significant positive correlation between the asset-liability ratio and the loan availability, and an insignificant relationship between the asset-liability ratio and loan cost. In addition, the current ratio and the profit margin of the main business will also have a significant impact on the financing situation of the enterprise.

In summary, the relationship loan model has a good development prospect in China. It is necessary for the Chinese banking industry to gradually develop this new lending model under the guidance of relevant policies. On the one hand, it can improve the bank's business performance, and on the other hand, it can create a good financing environment for Chinese SMEs.

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