

## PAPER

# Research on Influencing Factors of Corporate Credit and Credit Availability in SME Industrial Cluster

Ji Hongyu(✉)

Business School, Sichuan University, Chengdu, China

[2442253856@qq.com](mailto:2442253856@qq.com)

## ABSTRACT

In this study, firms in the enterprise cluster were selected for investigation, focusing on the current situation and demand characteristics of small and medium-sized enterprise clusters, and making descriptive statistics from the scale, use and cost of enterprise loans in small and medium-sized enterprise clusters. Further empirical analysis of the factors affecting the credit availability of small and medium-sized enterprises clusters, through data analysis of the factors affecting the credit availability of small and medium-sized enterprise clusters and the influence mechanism of influence, analyzes the results of the empirical test combined with the actual situation and finally puts forward policy suggestions. The study has the following conclusions: First, small and medium-sized enterprises cluster financing demand is relatively common. Traditional financial institutions such as banks are still the main sources of funds; second, the large capital demand and long-term capital demand of small and medium-sized enterprise clusters have been suppressed. Financial institutions such as banks have always provided relatively small credit lines. The credit cycle is also relatively short and cannot meet the financing needs of the SME cluster; third, SME cluster financing is affected by guarantee institutions, government policies, their own financial status, and bank-enterprise relations. Some factors are the direct effects; some factors are manifested as indirect effects; government policy also has a regulatory effect; fourth, ensuring credit availability to SME clusters can be driven from a number of factors.

## KEYWORDS

enterprise cluster, small and medium-sized enterprises, financing needs, credit availability

## 1 INTRODUCTION

Small and medium-sized enterprises in our country play an important role in economic development. In the rapid development at the same time, the contribution rate of national GDP is above 60%, more than 50% of tax revenue, and more than 90% of new labor employment. To solve employment, stable stability, and promote market prosperity has an outstanding supporting effect, especially in the current

Hongyu, J. (2024). Research on Influencing Factors of Corporate Credit and Credit Availability in SME Industrial Cluster. *IETI Transactions on Data Analysis and Forecasting (iTDAF)*, 2(4), pp. 4–19. <https://doi.org/10.3991/itdaf.v2i4.52357>

Article submitted 2024-08-22. Revision uploaded 2024-09-27. Final acceptance 2024-10-06.

© 2024 by the authors of this article. Published under CC-BY.

national economy in the old and the new kinetic energy conversion and industrial structure adjustment period. Improving the ability of sustainable development of small and medium-sized enterprises has important significance. At present, the central and local governments are also very concerned about the development of small and medium-sized enterprises and have issued a series of supporting policies to support small and medium-sized enterprises in government subsidies and tax incentives. In this background, many areas formed the small and medium-sized enterprise cluster; for example, Zhejiang province is one of the most concentrated provinces of small and medium-sized enterprises in China. The small and medium-sized enterprise cluster output value is more than 1 billion yuan of hundreds, in the province of nearly 90 counties, most formed by “small capital, large agglomeration” plate economy, accounting for about 50% of the province’s industrial output value, including the shoe-making industry in Wenzhou, which is the most typical.

Due to the limitation of operation scale, the agglomeration of small and medium-sized enterprises is also faced with problems such as insufficient self-owned capital, low corporate credit rating, imperfect financial management, and weak anti-risk ability. In particular, they have frequent difficulties in financing, and they are unable to compete with large enterprises in product innovation and market expansion. Even though the local government proposes to help the SME cluster in financing and provides preferential policies, the financing difficulty that generally appears in the SME cluster is still inevitable. The financing difficulty seriously hits the development of small and medium-sized enterprise clusters. The capital chain of many small and medium-sized enterprises is broken, and the financing problem is increasingly prominent. However, the existing financing scale is difficult to meet the needs of small and medium-sized enterprise clusters, which is urgent to be solved by relevant parties.

## 2 LITERATURE REVIEW

Scholar Collins G. (2013) believes that in order to effectively allocate various resources of enterprises, equity financing and debt financing should be combined. Once the small and medium-sized enterprise cluster enters a stable growth period, short-term debt financing will become the main source of funds, and the enterprise may obtain medium-term loans; when the enterprise enters the mature stage, it will focus on long-term loans. His research does not specifically involve the financing difficulties of small and medium-sized enterprise clusters, but its research lays the research foundation for later related research [1]. Long (2011) states that the geographical agglomeration effect makes the growing competition between small and medium-sized enterprises, to a certain extent, reduce the enterprise information deliberately conceal behavior, making the financial institutions and financing needs information asymmetry between enterprises, reducing the enterprise moral hazard and adverse selection behavior [2]. Allen N. (2015) through the analysis of the loan relationship, the small and medium-sized enterprise cluster of the lending relationship situation, and solve the cluster financing loan problem, and through the example study, the size of the bank and bank loans to small and medium-sized enterprises is a negative relationship between the small Banks are more inclined to provide loans to small and medium-sized enterprises. Because compared with the big banks, the service object of small and medium-sized banks is relatively concentrated. This can have a deep understanding of the reasonable management and credit status of the region, so as to accumulate information, so as to alleviate the in

coordination of information. This theory provides a theoretical basis for actively cultivating small and medium-sized financing institutions and improving the indirect financing channels [3]. Long and Zhang (2011) discussed the impact of the economic environment (such as local policies, market demand, etc.) on financing needs in the process of cluster industrialization in China. Economic growth tends to increase the financing needs of SMEs, especially in rapidly developing clusters [4].

Cassar (2004) pointed out that factors such as enterprise size, industry characteristics, and development stage directly affect financing needs. Start-ups tend to face greater financing challenges, while mature companies are relatively easy to finance [5]. Kumar and Singh (2015) emphasized the importance of social capital, the relationship between enterprises and banks, and network support, all of which affect the availability of credit [6]. Berger and Udell (1998) pointed out that the degree of competition in the credit market and changes in credit policy will affect the availability of credit for SMEs. Financial institutions will take into account the financial situation and market environment of enterprises [7]. Mazzarol and Reboud (2019) proposed that enterprises in a cluster can enhance access to credit by sharing resources and supporting each other. A good reputation and credit record within the cluster can improve the success rate of financing [8].

In summary, the SME financing needs and credit availability are a complex system, influenced by many factors. Policymakers and financial institutions should pay attention to these factors and improve the financing capacity of SMEs by optimizing the financing environment and providing more support, so as to promote the sustainable development of the economy. It can be seen that, due to the different geographical environments and industry backgrounds of the SME cluster, there has been no unified and effective mode to solve the financing problem of the SME cluster. Based on the above reasons, this study starts with the investigation data of the Wenzhou shoe enterprise cluster, constructs the structure equation of the action mechanism of factors affecting their credit availability, and puts forward some policy suggestions.

### 3 THEORETICAL BASIS

#### 3.1 MM theory

Financial scientists Modigliani and Miller put forward the MM theorem and put forward a famous theory: under certain rigorous assumptions, the value of an enterprise has little to do with the financial structure of the enterprise. And then, two scholars to further research on the theory put forward the revised MM theorem. The theorem in Modigliani and Miller thinks interest can produce a “tax shield effect,” that enterprises through certain debt financing can improve the company value in the market, so for enterprises, certain debt financing is not a burden; it also has its value. However, the revised MM theorem proposed by them is not perfect, and the biggest defect is that it does not fully consider that the excessive debt of the company may also bring the post-financing risk to the enterprise. Follow-up scholars of the “tax shield effect” further research and put forward the balance theory, which states that enterprises in debt financing must find the optimal balance decision, and the optimal balance is the “tax shield effect” and enterprise bankruptcy risk to find one of the best points: on the one hand, effectively avoid enterprise debt risk, on the other hand, can make the debt increase the value of the company [9–11].

### 3.2 Theory of information asymmetry

After the 1970s, the theory of information asymmetry has attracted the attention of a large number of economists, including Arklov and Stiglitz. Acklov put forward the famous “lemon theory” for the research of the second-hand car market. The theory of information asymmetry has become one of the mainstream problems of research. Many economic phenomena can be explained and analyzed by information asymmetry theory [12–14]. In the research related to financial behavior, especially in the credit process, information asymmetry leads to the low efficiency of credit allocation between commercial banks and credit demand subjects. In the credit market, the income of commercial banks mainly comes from the loan interest rate and the probability of the enterprise repaying the principal and interest rate, but the probability of the enterprise repayment is largely related to the performance of the internal operation of the enterprise. In the lending process and the subsequent process, it is generally difficult for banks to observe the risks and benefits of the enterprise operation project. When the bank cannot fully observe or obtain the real risks and benefits of the enterprise project, the bank can only use the average risks and benefits of all enterprises to determine the loan rate. As a result, there are two kinds of enterprises in the market: a kind of enterprise investment project risk is low, and another enterprise investment project risk is higher. Low-risk enterprises consider the bank borrowing rate to be higher and not are willing to borrow, equivalent to launching the market, and high-risk enterprises feel with the current interest rate, borrowing is cost-effective, so they have greater enthusiasm to borrow. As a result, high-risk enterprises stay in the lending market, while low-risk enterprises exit, and the credit risk faced by banks increases significantly. In the case of information asymmetry, on the one hand, banks actively establish and continuously improve the information collection and credit evaluation system of small and medium-sized enterprises to obtain the real and effective operation information of small and medium-sized enterprises; on the other hand, enterprises are required to have credit guarantees or collateral in the borrowing process, so as to reduce their own credit risk and overcome information asymmetry.

### 3.3 Credit rationing theory

According to the theory of information asymmetry, glitz credit rationing theory, even in the lending market, sometimes banks have enough money to lend, and companies are willing to pay higher interest rates to get money, but banks are still not willing to lend to these enterprises, glitters from the perspective of information economics of credit rationing phenomenon system analysis [13]. For financial institutions, when the borrowing rate increases, the income from lending will rise, and the expected income of banks will also increase. However, when the borrowing rate is high to a certain extent, enterprises may choose some projects with greater risks in order to offset these high interest rates. When banks consider these factors, they are unwilling to provide enough funds to these enterprises, and the unbalanced supply and demand will lead to the phenomenon of credit rationing. From the broad perspective of credit allocation, if the loan interest rate may be smaller than the actual equilibrium rate, then there is an excess demand for credit. If the excess demand for credit is caused by policy control, then the credit allocation itself is unbalanced at this time. In fact, the regulation here sometimes comes not

only from government agencies but also from the institutions or policies of financial institutions themselves. According to Foldermann's handbook of monetary economics, credit rationing can be divided into four different types: interest rate rationing, divergent opinion rationing, red line write-off, and pure credit rationing. Credit rationing imbalance refers to the credit market; the main participants are the demand for credit enterprises and credit supply of financial institutions, all for their own interest's maximization goal and make the corresponding rational decision, but the market eventually still has the existence of credit rationing, the credit market stable equilibrium interest rate level in Pareto improvement, so said credit market rationing for credit rationing imbalance.

The importance and scarcity of capital exist widely in the micro-financial market of enterprises in China. Under the special institutional environment in which enterprises are located, the connection between enterprises and the government will inevitably become an important factor affecting the allocation of credit resources of financial institutions. Credit allocation discrimination caused by political correlation may lead to the loss of investment efficiency, which often makes enterprises that do not establish close relations with the government be at a disadvantage, receive unfair treatment, face serious credit constraints, and cause greater losses [15]. Some studies also show that financing channels are one of the important factors affecting enterprise investment for small and medium-sized enterprises. It is an extremely important financing mode for state-owned holding companies to innovate investment when credit funds, which has a significant positive impact on enterprise innovation. The credit rationing theory just shows that the cluster of small and medium-sized enterprises is facing good opportunities and may miss good investment opportunities due to the lack of endogenous funds. However, it may also be another situation. Through relational credit rationing, a new method to solve the credit problem of small and medium-sized enterprise clusters is formed, which has useful theoretical support for this paper.

#### **4 EMPIRICAL ANALYSIS OF THE INFLUENCING FACTORS OF CREDIT AVAILABILITY OF INDUSTRIAL CLUSTER ENTERPRISES**

In stark contrast to the booming development of SME clusters, their financing needs still exist to a large extent with various obstacles. Due to the internal and external adverse conditions, such as insufficient financial standards, unreasonable asset structure, weak industrial competitiveness, and large operating risks, the financing difficulties through commercial banks and other formal finance have not been fundamentally solved. With the rapid development of small and medium-sized enterprise clusters and economic system reform, small and medium-sized enterprise clusters are rising in status in the industrial economy. Many scholars for the government support small and medium-sized enterprise cluster financing problems and give great attention to them; research focuses on analysis of small and medium-sized enterprise cluster enterprise financing problems and the influence of credit availability factors and puts forward policy suggestions. This paper analyzes the influencing factors of financial credit theory, the technology acceptance model, and the financial risk control theory model; considers the characteristics of small and medium enterprise clusters and the actual operation of shoe enterprise cluster; integrates the enterprise financial situation, the enterprise relationship, credit guarantee, and government support, and includes the influencing factors of credit availability.

## 4.1 Research hypothesis

**Government support and credit availability.** The cluster of small and medium-sized enterprises plays an important role in a regional economy and is the main backbone of creating regional employment opportunities, promoting technological development, and promoting regional economic growth. In the current critical period of economic and industrial structure transformation, the healthy development of small and medium-sized enterprise clusters are one of the important driving forces to promote the supply-side reform of China's economy. However, the cluster of small and medium-sized enterprises has always been a financing problem that the government has to face. Although the overall financing difficulties of SME clusters can be attributed to the small scale, low profit, low credit level, and lack of guarantee, But is there a good macro environment for SME cluster financing? For example, a sound credit investigation system, an active atmosphere of financial product innovation, and good communication and contact between financial institutions and enterprises. All these require the government to make efforts in the administrative mechanism, institutional norms, financial support policies, and environmental construction. Give small and medium-sized enterprise cluster financing to positive condition support. Efforts to create a sound financial environment for the development of SME clusters, Of particular importance are the government's fiscal and tax policies, which are an indispensable part of it. By summarizing the fiscal and financial policies of developed countries for the development of small and medium-sized enterprises, we should give full play to the guiding role of fiscal policies in financial capital investment in small and medium-sized enterprises and leverage the surface of financial capital through a point, which is an effective way to solve the financing difficulties of small and medium-sized enterprises [15–16].

Accordingly, this paper proposes the hypothesis that:

H1a: Government support has a direct positive effect on the availability of credit in SME cluster enterprises.

**Guarantee mechanism and credit availability.** Guarantee is defined from an academic perspective, that is, the commitment to specific matters is a commitment model with an intermediary function produced with the development of market economic activities and the development of the commercial credit system. In view of the possible moral hazard problems of small and medium-sized enterprises, banks and other financial institutions require collateral in the financing process of small and medium-sized enterprises. In order to meet the financing constraints, financial institutions will have high requirements for the value of enterprise collateral. Many companies face harsh collateral guarantee requirements and have to give up or reduce credit.

Therefore, in order to solve this problem, the financing guarantee mechanism arises at the historic moment, a financially related intermediary service system provided by the financing guarantee institutions through their own credibility or asset liability guarantee [17]. The establishment of a financing guarantee system is of important value for resolving the phenomenon of low credit possibility caused by problems such as limited assets, imperfect financial and credit records, and difficulties in bank-enterprise cooperation. The financing guarantee industry plays an irreplaceable role in further promoting the construction of financing systems for small and medium-sized enterprises and promoting the allocation of financial funds.

In general, a lot of cooperation between banks and long-term cooperation between guarantee institutions, banks and guarantee companies are varieties of

many, such as working capital loan guarantees, project financing guarantee, and bill acceptance business guarantees, etc. In the financing guarantees industry, rapid growth at the same time also set up the middle of the credit capital investment platform for the small and medium-sized enterprises in the real economy development.

Accordingly, this paper proposes the hypothesis that:

H1b: The guarantee mechanism has a direct positive effect on the availability of credit of SME cluster enterprises.

**Corporate financial position and credit availability.** Small and medium-sized enterprises, especially private small and medium-sized enterprises, after entering the market, scale expansion plans completely depend on the enterprise head's subjective opinion, which may be a lot of liquidity borrowing or current assets in long-term assets, which also caused the problem of insufficient liquidity, letting enterprise capital form a certain gap, the disorderly long-term imbalances, letting financial institutions [18]. On the other hand, a certain period of enterprise solvency is financial institutions are very concerned about; high liquidity reflecting the enterprise can effectively guarantee short-term liabilities to repay in time, while enterprise asset liquidity is low, reflects the enterprise may not be able to timely repay short-term liabilities, which gives financial institutions the ability to form a credit that can recover after the signal in time. The low capital liquidity and solvency of small and medium-sized enterprises, as well as the loss of financial stability, such as high risk, low cost, and high return, is another obvious obstacle in the credit approval of financial institutions [19]. In addition, the small and medium-sized enterprise management decision-making randomness is bigger, influenced by its moral hazard; it is easy to contract default, financial accounting fraud, credit fraud, illegal financing, and so on and so forth, which eventually leads to banks and other financial institutions daring not to rush to loans to small and medium-sized enterprises. These factors will also aggravate the small and medium-sized enterprise clusters enterprise credit difficulty.

Accordingly, this paper proposes the hypothesis that:

H1c: The financial situation of SME cluster enterprises has a direct positive effect on the credit availability.

**Bank-enterprise relationship and credit availability.** Due to the problems of qualification, scale, reputation, and lack of qualified collateral, the enterprises in the small and medium-sized enterprise cluster are often at a disadvantage in the credit application. The development of a good bank-enterprise relationship can make up for these defects to a certain extent and solve the financing difficulties of small and medium-sized enterprises from another perspective. Small and medium-sized enterprises here should actively strengthen the connection between the banks and other financial institutions, who take the initiative to establish and maintain the relationship between banks and other financial institutions. These activities are integrated into the enterprise daily management process, according to the enterprise characteristics of reasonable choice, and set the bank, from the function of systematic, streamline positioning of small and medium-sized enterprises, will get credit advantage. Bank-enterprise relationships are also reflected in the case of limited resources for small and medium-sized enterprises. It can focus on maintaining the core partnership with banks and other financial institutions and carefully maintain the cooperative relationship established in the long-term cooperation, which is conducive to the

possibility of small and medium-sized enterprises obtaining bank-enterprise relationship financing and greatly strengthen [20]. In addition, a good bank-enterprise relationship is also beneficial to banks and other financial institutions, which is conducive to providing differentiated and personalized professional services for small and medium-sized enterprise clusters. It can also develop more targeted credit products according to the enterprise background and expand the financial service field.

Accordingly, this paper proposes the hypothesis that:

H1d: Bank-enterprise relationships have a direct positive effect on the availability of credit.

**The influence of government support on other factors.** Government financial support is necessary; fiscal policy should be distinguished, and bank financing, and financial support objects should be further expanded to those who have development potential, urgent need of money, and difficulty obtaining credit from financial institutions of small and medium-sized enterprises. In the choice of small and medium-sized enterprises, the combined enterprise industry characteristics, and development prospects for should be considered comprehensively. Government support, especially in fiscal taxation and direct subsidies for industries, can make a significant change in the financial situation of SMEs [21]. The financial performance of enterprises receiving government subsidies is significantly stronger than those without government subsidies. Government subsidies play a significant role in improving the financial performance of enterprises [22].

Accordingly, this paper proposes the hypothesis that:

H2a: Government support has a direct and positive effect on the financial situation of enterprises.

Small and medium-sized enterprise financing difficulties one of the main cruxes are the enterprise credit level is not high; the object of financing guarantee generally is small and medium-sized enterprises. Guarantee institutions, through their own credit and asset guarantee, are embedded in small and medium-sized enterprise credit to make it so can reach the threshold of the financial institutions credit, enhance the financing channels and financing ability. Financing guarantee institutions to a certain extent and scope to reduce the obstacles encountered in SME financing, making many small and medium-sized enterprises with relatively low credit levels or no credit record have a certain credit level. Due to the characteristics of high risk and low yield in the cluster financing guarantee of small and medium-sized enterprises, many regional governments give some support, and the appropriate intervention of the government plays an important role in the sustainable and stable development of the financing guarantee system.

Accordingly, this paper proposes the hypothesis that:

H2b: Government support has a direct and positive effect on the guarantee institutions.

The government improves the information disclosure mechanism of enterprises and promotes the information interaction between small and medium-sized enterprises and banks through various channels. The government's policy support for enterprises in SMEs' industrial clusters is also conducive to the business cooperation between SMEs and banks and promotes SMEs to conduct financing activities



through formal channels such as banks. Under the coordination of the government, small and medium-sized enterprises can let banks and other financial institutions understand the enterprises and form a good relationship and influence. On the other hand, the coordination of the government can enable banks to explore high-quality small and medium-sized enterprises smoothly and at low cost, provide the most efficient credit solutions for enterprises, and reduce the risks of banks.

Accordingly, this paper proposes the hypothesis that:

H2c: Government support has a direct and positive effect on the relationship between banks and enterprises.

Government support can effectively promote the improvement of corporate financial situations, which has the confidence to give guarantee institutions to guarantee but also can be more favored by banks. For example, government subsidies and tax incentives to seek cooperation from banks and guarantee companies. Government support can also provide a credit guarantee for SMEs, play a role in enhancing their credit, and be more conducive to their consolidation of good informal relations with various external institutions. In addition, the size of government support is to a certain extent dependent on the financial situation of SMEs and external institutions (see Figure 1).

Accordingly, this paper proposes the hypothesis that:

H3a: The financial status of the enterprise has a significant intermediary role between the government support and the guarantee institutions.

H3b: The financial status of enterprises has a significant intermediary role between government support and the relationship between banks and enterprises.

H3c: Government support plays a significant role in regulating the financial situation of SMEs and the relationship between banks and enterprises.

H3d: Government support has a significant role in regulating the financial situation of SMEs and the guarantee institutions.

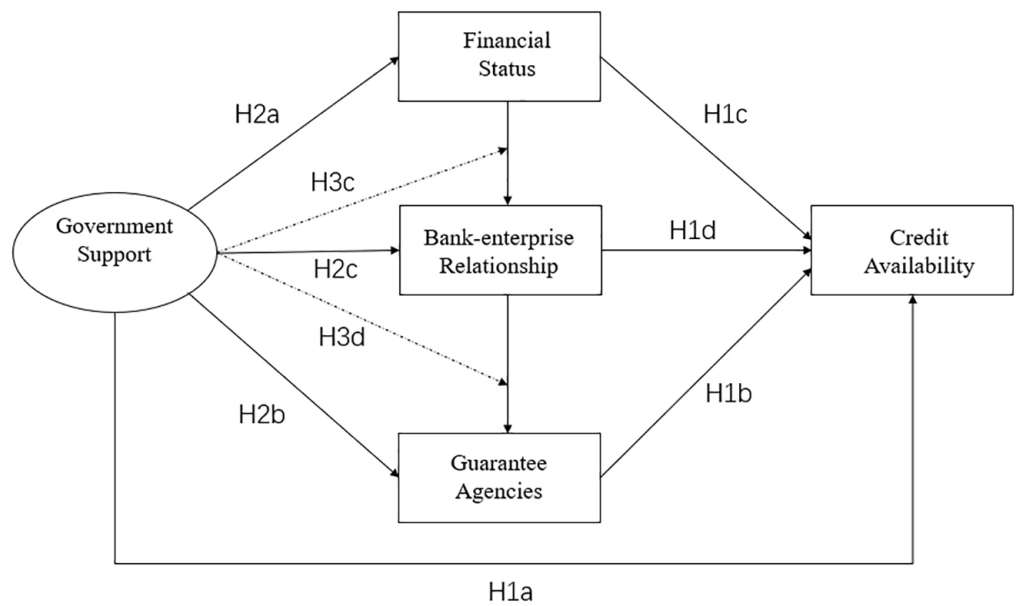


Fig. 1. A conceptual framework for the impact of policy support on the credit availability of SME clusters

## 4.2 Study design and process

**Questionnaire design.** In order to ensure the validity and reliability of the questionnaire designed in this study, we refer to the questionnaire design methods in much domestic and foreign literature. At the same time, to achieve the objectives of the study, the initial items in the design of the questionnaire mainly come from the classic papers of related studies. As the basis for the design of the research questionnaire, after multiple considerations, In the process of revision, I consulted with relevant scholars and financial industry managers, Exploratory factor test using small-scale pre-survey methods, While simultaneously performing a reliability test, result display, Except that the government support has an option with a load coefficient of less than 0.500, the other variables and this variable correspond to a load coefficient much greater than the critical value of 0.500. And the Cronbach  $\alpha$  value of each variable is greater than 0.700. After deleting the unqualified option, the final draft of the questionnaire was formed. The final draft of the specific questionnaire is shown in Table 1.

**Table 1.** Description of the observed variables for each potential variable

Variable	Number of Observed Variables	Note the Observed Variables	Reference Documentation
Credit availability	2	Financing can be met Financing costs are relatively low	[18]
Government support	3	The government provides fiscal and tax support The government provides the industry to support it The government helps with the external coordination	[16] [21] [22]
Financial Status	3	High credit level High solvency Low proportion of risk and return	[19]
Guarantee agency	2	A guarantee institution may provide a guarantee The guarantee operation cost is low The guarantee procedure is simple and convenient	[17]
Bank-enterprise relationship	3	Long-term cooperation Relationship stability High degree of trust	[20]

**Data collection and analysis.** The survey time of this study was from July 2024 to August 2024. The questionnaire was distributed to the main leaders of shoe enterprises in Wenzhou, Zhejiang province, and filled in face to face. The research group selected 180 enterprises from the cluster of shoe enterprises in Wenzhou for field research, and the first-hand data related to enterprise finance were obtained through field research. In the statistical process, 19 enterprises were excluded from filling in information vacancies and not filling in data carefully. The remaining 161 enterprises, the effective questionnaire accounted for about 89%. In addition to the basic situation of the enterprise, the answers to the questions are on a Likert 5-point scale. Most of the respondents are in the financial management positions of the enterprise, so they should be able to understand the content of the questionnaire in detail and accurately, which meets the most basic requirements of the respondents and also improves the validity of the questionnaire survey.

For the possible unbiased response, the questionnaire is divided into two parts according to the order of the questionnaire recovery. The other part is the questionnaire of the first half of the survey, the other part is the second half of the survey. The test shows no significant difference ( $p > 0.05$ ), in the survey data; considering that the questionnaire is collected by one person from beginning to end, common method deviation may occur. The test method was to put all factors of the questionnaire together for non-rotational factor analysis, and the first principal component without rotation analysis was 33.908%, which was not a majority, indicating that this study was not significantly affected by common methodological bias.

### 4.3 Measurement model

This paper uses the structural equation model as the main research method. Structural equation modeling is a statistical method for analyzing complex relationships between variables and is suitable to assess the effects of multiple dependencies and underlying variables simultaneously. The partial least squares PLS is used to analyze the hypothesis model and fit and verify the model. The main reason for choosing the least squares method is as follows: first, the data acquisition is difficult, resulting in the relatively small number of sample enterprises, while PLS makes the number of data samples less suitable for small sample research; secondly, this study is exploratory research rather than validation research; compared with AMOS, the least squares method is more suitable for exploratory analysis of problems. Among all the partial least squares software, Smart PLS is the most easily available and the most mature for commercial promotion. The software interface is very friendly, and the operation is relatively simple, so this paper uses the latest version, SmartPLS3.0, for data analysis. In the study of credit availability of SEMs, SEM can effectively deal with the direct and indirect effects between variables, provide more accurate results, combine theoretical models with empirical data, and reveal multiple factors affecting credit availability through path analysis. Specifically, this study considers factors such as financing demand, guarantee mechanism, government policies, own financial status, and bank-enterprise relationships as potential variables and tests their comprehensive impact on the availability of SME credit through structural equation models.

The test of the measurement model is mainly divided into two aspects: reliability and validity tests, and the specific test results are shown in Tables 2 and 3. Reliability detection is usually described using the reliability of the individual items (individual item reliability) and the component reliability of the latent variables (composite reliability, CR). As shown in Table 2, all variables have a Cronbach alpha greater than the suggested critical value of 0.700 and combined reliability greater than 0.800 and far greater than the proposed critical value of 0.700. It shows that all the measured indicators in this study have good reliability and good internal consistency of the latent variables. Validity tests the two important constructs of validity in the general test model: convergent validity (convergent validity) and discriminating validity (discriminant validity). At SmartPLS, convergent validity can be judged by the average variance extraction (average variance extracted, AVE). As shown in Table 3, the average variance extraction is above the critical standard of 0.500, indicating convergent validity. At the same time, according to Table 3, the AVE open root value of the latent variables on the diagonal is greater than the shared variation value among the latent variables, indicating the differential validity among the latent variables in this study.

**Table 2.** Structural validity and reliability tests

	Cronbach $\alpha$	Rho A	CR	AVE
Credit availability	0.821	0.821	0.918	0.848
Guarantee agency	0.924	0.924	0.952	0.868
Government support	0.802	0.834	0.880	0.711
Financial Status	0.789	0.793	0.877	0.704
Bank-enterprise relationship	0.741	0.738	0.852	0.658

**Table 3.** Differential validity test

	Credit Availability	Guarantee Agency	Government Support	Financial Status	Bank-Enterprise Relationship
Credit availability	0.921				
Guarantee agency	0.561	0.932			
Government support	0.372	0.456	0.843		
Financial Status	0.447	0.412	0.465	0.839	
Bank-enterprise relationship	0.297	0.116	0.156	0.222	0.811

**Table 4.** The measurement of the load coefficient of the model

Potential Variable Name	Observational Variables	Load Coefficient	Significance
Credit availability	Financing can be met	0.921	***
	Financing costs are relatively low	0.921	***
Government support	The government provides fiscal and tax support	0.786	***
	The government provides the industry to support it	0.895	***
	The government helps with the external coordination	0.845	***
Financial Status	High credit level	0.871	***
	High solvency	0.847	***
	Low proportion of risk and return	0.797	***
Guarantee agency	A guarantee institution may provide a guarantee	0.916	***
	The guarantee operation cost is low	0.947	***
	The guarantee procedure is simple and convenient	0.932	***
Bank-enterprise relationship	Long-term cooperation	0.763	***
	Relationship stability	0.861	***
	High degree of trust	0.808	***

Notes: \*\*\*indicates  $P < 0.001$ , \*\* $P < 0.01$ , \* $P < 0.05$ .

#### 4.4 Structural model analysis

In this paper, using SmartPLS as the data analysis tool, the field survey data was used to fit the study model, and the path coefficient of the structural model was significantly tested by the bootstrap algorithm (N = 1000). The fitting results of the model showed that the path coefficients between enterprise financial condition, bank-enterprise relationship, guarantee agency, and credit availability were 0.203 (P < 0.05), 0.4, 0.194 (P < 0.05) and 0.431 (P < 0.001), with 39.4%. H1b, H1c, and H1d were verified, but the path coefficient of government support for credit availability was 0.051 (P > 0.05), and H1a was not verified.

In order to further explore and study the mechanism of government support, this paper directly connects government support with the financial status of new agricultural business entities, bank-enterprise relationships, and guarantee institutions. The fitting results showed that the path coefficient between government support and corporate financial position was 0.465 (P < 0.001), R<sup>2</sup> = 0.216, It shows that the government support has a direct positive effect on the SME cluster and the financial situation of enterprises. The H2a hypothesis was verified. The path coefficient between the government support and the guarantee agency is 0.337 (P < 0.001), R<sup>2</sup> = 0.250, H2b assumes that it is supported, but the path coefficient between government support and bank relationship is 0.067, and the P-value is greater than 0.05. The relationship between bank-enterprise relations is not significant; the H2c hypothesis is not supported. It shows that the government support cannot be directly translated into an influence on the banks.

On the one hand, the government support for the relationship is not significant; on the other hand, the enterprise financial situation and guarantee agency path coefficient is 0.255, and the P value is less than 0.01, verifying the enterprise financial intermediary effect. The H3b hypothesis is verified, that the government support through the new agricultural operators financial intermediary influences the guarantee institutions, because the financial situation of the relationship is not obvious, so the H3a hypothesis cannot be verified.

**Table 5.** Overall effect estimates table

Transmission Path	Coefficient	P Value	Conclusion
Guarantee agency → Credit availability	0.431	0.000	Support
Government support → Credit availability	0.372	0.000	Support
Government support → Guarantee agency	0.456	0.000	Support
Government support → Financial Status	0.465	0.000	Support
Government support → Bank-enterprise relationship	0.156	0.157	Nonsupport
Financial Status → Credit availability	0.350	0.000	Support
Financial Status → Guarantee agency	0.255	0.004	Support
Financial Status → Bank-enterprise relationship	0.191	0.079	Nonsupport
Bank-enterprise relationship → Credit availability	0.194	0.030	Support

From the Table 5, it can be seen that the guarantee agency has the greatest impact on credit availability, with a coefficient of 0.431, which is the sum of the direct and indirect effects. The influence of government support was followed by a coefficient of 0.372, again by the influence of financial position and the bank-enterprise relationship.

According to the regulatory effects analysis tool provided by SmartPLS and using the bootstrapping test for coefficient significance. Figure 1 reveals that the standardization coefficient of government support for financial position and guarantee institutions was  $-0.117$  ( $P < 0.01$ ), which achieved a significant effect, while the standardization coefficient of government support for financial position and guarantee institutions was  $-0.086$  ( $P > 0.05$ ), which had no a significant effect, representing no support for the adjustment effect. Thus, the H3d hypothesis is verified, and the H3c hypothesis is not verified.

## 5 RESEARCH CONCLUSION

Through path analysis, the research hypothesis is fully verified, and the results show that the financial situation of the enterprise and the relationship between the guarantee institution have a close relationship to the availability of credit [23–24]. In the total impact, the guarantee institution plays the biggest role, and the government support plays an indirect role. Government support has a significant positive impact on the financial situation of enterprises and guarantee institutions, but government support has no significant effect on the relationship between banks and enterprises, and financial status and guarantee institutions play an important intermediary role in the availability of credit. On the other hand, the government supports plays a reverse adjustment role in the financial situation of enterprises on guarantee institutions and weakens the impact of the financial situation of enterprises on guarantee institutions.

The following implications can be obtained from the model study:

1. The government has a great impact on the finance of guarantee institutions and enterprises. For the government, guarantee institutions have a certain attribute of quasi-public goods, which can promote all aspects of funds to support small and medium-sized enterprises and relieve the financing pressure of SMEs. Financing guarantee institutions are an important link between small and medium-sized enterprises and banks and other financial institutions, and they are important link to promote small and medium-sized enterprises to expand investment, innovation, and entrepreneurship. It is not only important for the development of small and medium-sized enterprises but also an important guardian force affecting the healthy and sustainable development of the financial system. As the national and local governments attach great importance to the guarantee institutions, they can be managed according to the existing management methods of financial institutions, and the guarantee willingness of the guarantee institutions can be significantly affected through the industrial support policies. On the other hand, the government's financial subsidies, tax relief, and other measures to enterprises can significantly change the financial situation of enterprises. A regional government has implemented a financing subsidy policy specifically for small and medium-sized enterprises. The research shows that the degree of corporate perception of government policies directly affects their financing decisions. The SEM analysis results showed that the policy incentives significantly increased the loan application rate of small and medium-sized enterprises and promoted the smooth issuance of loans [25–26].
2. The financial status of the enterprise affects the guarantee institution. Enterprises to obtain guarantee agency guarantees, first of all from the establishment of modern enterprise financial systems, only to solve the current small and medium-sized

enterprises of poor financial situation, enhance the importance of the financial situation, establish a higher credit level, strengthen the appropriate liquidity management, break the barriers between enterprises and guarantee agencies, and improve the willingness of guarantee agency guarantees, on the basis to further expand the enterprise financing channels. In a cluster of small and medium-sized enterprises, the enterprise provided a third-party guarantee when applying for a loan, and as a result, the loan amount was significantly increased. Through the analysis of the structural equation model, it is found that the introduction of the guarantee mechanism improves the credit rating of enterprises in the credit market, thus obtaining more financing support.

3. The financial condition of the enterprise and whether to obtain the guarantee make the very important direct factors that affect the availability of the enterprise credit. The financial status of an enterprise is the basic understanding for financial institutions to evaluate whether an enterprise is worth lending money to and whether the enterprise can guarantee the amount of repayment on time. Its quality is the key point for an enterprise to obtain financing. Guarantee is an effective means for financial institutions to control their own risks. Guarantee banks can effectively avoid most of the risks, thus being in a favorable position. Guarantee can enhance the willingness of banks and other financial institutions to lend.

## 6 REFERENCES

- [1] G. N. Collins and T. Soobaroyen, "Corporate governance and performance in socially responsible corporations: New empirical insights from a neo-institutional framework," *Corporate Governance: An International Review*, vol. 21, no. 5, pp. 468–494, 2013. <https://doi.org/10.1111/corg.12026>
- [2] C. Long and X. Zhang, "Cluster-based industrialization in China: Financing and performance," *Journal of International Economics*, vol. 84, no. 1, pp. 112–123, 2011. <https://doi.org/10.1016/j.jinteco.2011.03.002>
- [3] A. N. Berger and G. F. Udell, "Relationship lending and lines of credit in small firm finance," *Journal of Business*, vol. 68, no. 3, pp. 351–381, 2015. <https://doi.org/10.1086/296668>
- [4] C. Long and X. Zhang, "Cluster-based industrialization in China: Financing and performance," *Journal of International Economics*, vol. 84, no. 1, pp. 112–123, 2011. <https://doi.org/10.1016/j.jinteco.2011.03.002>
- [5] G. Cassar, "The financing of business start-ups," *Journal of Business Venturing*, vol. 19, no. 2, pp. 261–283, 2004. [https://doi.org/10.1016/S0883-9026\(03\)00029-6](https://doi.org/10.1016/S0883-9026(03)00029-6)
- [6] S. Kumar and R. Singh, "Determinants of credit access for small enterprises in India," *Journal of Entrepreneurship and Innovation in Emerging Economies*, vol. 1, no. 1, pp. 33–45, 2015.
- [7] A. N. Berger and G. F. Udell, "The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle," *Journal of Banking & Finance*, vol. 22, nos. 6–8, pp. 613–673, 1998. [https://doi.org/10.1016/S0378-4266\(98\)00038-7](https://doi.org/10.1016/S0378-4266(98)00038-7)
- [8] T. Mazzarol and S. Reboud, "Access to finance for small firms: A comparative study of small enterprises in developing countries," *Small Business Economics*, vol. 52, no. 1, pp. 239–252, 2019.
- [9] F. Modigliani and M. H. Miller, "The cost of capital, corporation finance and the theory of investment," *American Economic Review*, vol. 48, no. 3, pp. 261–297, 1958.
- [10] F. Modigliani and M. H. Miller, "Corporate income taxes and the cost of capital: A correction," *American Economic Review*, vol. 53, no. 3, pp. 433–443, 1963.

- [11] R. A. Brealey, S. C. Myers, and F. Allen, *Principles of Corporate Finance* (13th ed.). New York, NY: McGraw-Hill Education, 2020.
- [12] G. A. Akerlof, "The market for 'lemons': Quality uncertainty and the market mechanism," *Quarterly Journal of Economics*, vol. 84, no. 3, pp. 488–500, 1970. <https://doi.org/10.2307/1879431>
- [13] J. E. Stiglitz and A. Weiss, "Credit rationing in markets with imperfect information," *American Economic Review*, vol. 71, no. 3, pp. 393–410, 1981.
- [14] P. Bolton and X. Freixas, "Equity, bonds, and bank debt: A simple theory of capital structure," *The Journal of Business*, vol. 73, no. 1, pp. 1–28, 2000.
- [15] T. Mazzarol and S. Reboud, "SME financing: Evidence from a study of the Australian market," *International Journal of Entrepreneurship and Small Business*, vol. 40, no. 1, pp. 1–18, 2020.
- [16] C. Criscuolo and C. Menon, "The role of public policy in supporting SME financing," *OECD Economics Department Working Papers*, 2015. <https://doi.org/10.1787/5js6b6v8h44j-en>
- [17] P. Klein and H. Hohmann, "The impact of public guarantees on SME financing: Evidence from Germany," *Journal of Business Economics*, vol. 84, no. 1, pp. 43–63, 2014.
- [18] R. A. Cole, "What do we know about the credit experiences of small businesses?" *Journal of Business Venturing*, vol. 23, no. 5, pp. 563–579, 2008.
- [19] A. N. Berger and G. F. Udell, "A more complete conceptual framework for SME finance," *Journal of Banking & Finance*, vol. 28, no. 4, pp. 553–574, 2004.
- [20] A. W. A. Boot, "Relationship banking: What do we know?" *Journal of Financial Intermediation*, vol. 9, no. 1, pp. 7–25, 2000. <https://doi.org/10.1006/jfin.2000.0282>
- [21] T. Mazzarol and S. Reboud, "The impact of government financial support on SME growth," *International Journal of Entrepreneurship and Small Business*, vol. 40, no. 1, pp. 1–18, 2020.
- [22] R. T. Harrison and C. M. Mason, "Influence of entrepreneur type, region and sector effects on business self-confidence: Empirical evidence from Argentine firms," *Entrepreneurship & Regional Development*, vol. 19, no. 1, pp. 25–48, 2007. <https://doi.org/10.1080/08985620601043372>
- [23] M. R. Binks and C. T. Ennew, "The business of banking: A study of the effect of relationship banking on SME lending," *International Small Business Journal*, vol. 14, no. 3, pp. 44–58, 1996.
- [24] R. A. Cole, "The importance of relationship banking to small business lending," *The Journal of Banking and Finance*, vol. 22, nos. 6–8, pp. 959–977, 1998. [https://doi.org/10.1016/S0378-4266\(98\)00007-7](https://doi.org/10.1016/S0378-4266(98)00007-7)
- [25] J. Zhang and J. Wang, "Government policy and SME financing: Evidence from China," *Finance Research Letters*, vol. 31, p. 101231, 2020.
- [26] Z. Huang and A. Brown, "The role of guarantee institutions in SME financing: A structural equation modeling approach," *Journal of Small Business Management*, vol. 59, no. 4, pp. 712–734, 2021.

## 7 AUTHOR

**Ji Hongyu** is with the Business School, Sichuan University, Chengdu, China (E-mail: [2442253856@qq.com](mailto:2442253856@qq.com)).