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(Full Paper)

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ABSTRACT

Trade credit belongs to the scope of supply chain internal financing, which reflects the principal relationship between enterprises and suppliers. Based on the empirical data from a main board manufacturing industry companies of 2008-2018, we examine the influence of supplier concentration on trade credit financing in enterprises with different property rights in this paper. We find that the higher the concentration of suppliers, the less trade credit financing enterprises get from suppliers, indicating that the worry about "fleecing" and similar opportunistic behaviors reducing suppliers' willingness to provide trade credit. We also find that the negative impact of supplier concentration on trade credit financing of non-state-owned enterprises is stronger than that of state-owned enterprises.

Keywords: Supplier concentration, ownership type, trade credit financing.

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INTRODUCTION

In the early stage of trade credit, it was occupied as an important means of business promotion. In the mid-20th century, based on the doubts about the effectiveness of monetary policy, people began to pay attention to trade credit behavior from a financial perspective. Trade credit is based on corporate credit and obtains free cash flow from suppliers or customers through deferred payment, sales revenue received in advance, etc., which is essentially a financial communication between enterprises within the supply chain. Compared with traditional bank credit, the information advantage between enterprises within the supply chain can reduce the uncertainty and information asymmetry of trade credit transactions, reduce the information cost in the financing contract and the agency cost caused by the principal-agent relationship (Dou & Zhu, 2012). Trade credit can alleviate the financial difficulties of enterprises and improve their operational performance (Shi & Zhang, 2010; Cao & Kuang 2013). Gerard, Teresa, and Ronan (2018) suggested that trade credit has a great impact on the survival rate of SMEs in Europe. A standard deviation of trade credit can reduce the financial distress potential of enterprises by 21%. Therefore, in countries with more trade credit applications, it can be used to make up for the imperfection of the financial credit market (Annalisa & Klaas, 2013).

Currently, trade credit financing is being widely used by companies in many countries around the world. However, the application of trade credit will be affected by endogenous factors and the external environment such as business scale (Wei & Zee, 1997), cash flow volatility and external financing environment (Harris, Roark, & Li, 2019), religious and national culture (Markus Mättö & Mervi Niskanen, 2018), investors' sentiment (Huang & Bai, 2019), financial credit policy and financial constraints (Hill *et al.*, 2019). Considering that trade credit more reflects the business relationship between suppliers and enterprises, many scholars have studied the willingness of suppliers to provide trade credit financing for customers. Chludek (2011) proposes that companies with more inventories, larger market share, and economic difficulties provide less supply of trade credit; large companies with sufficient cash flow, high annual sales growth, large export propensity, and high bank credit lines will provide more trade credit. Daniela & Leora (2016) concluded that suppliers with weaker bargaining power would provide a greater proportion of credit sales and longer payment terms. Bank credit constraints would affect suppliers' provision of trade credit financing. Li & Liu (2016) found that supplier concentration, customer concentration and trade credit financing have different correlations. Sun, Zhai, and Wang (2017) proposed that supplier relations have a positive effect on trade credit financing, and the constraints of industry competition will inhibit the effect. Stanley & Harvey (2018) conducted a research on agricultural products manufacturing, and proposed that the diversification of suppliers' products, management experience, trade credits obtained from upstream enterprises, and bank overdrafts will affect their supply of trade credit. Zhu & Bai (2018) proposed that supplier concentration is negatively correlated with trade credit financing and studied the impact of non-standard audit opinions and supplier related party relationships on the negative correlation. The above scholars analyzed the factors affecting the supplier's trade credit provision from the aspects of supplier scale, credit constraints, supply chain cooperation, supplier concerns, etc. Some scholars have considered the role of industry competition, non-standard audit opinions, credit status and other parameters in the model design. Few literatures consider the willingness of suppliers to provide customers with delayed payments when downstream companies are of different nature.

As an easy-to-obtain and low-cost financing method, trade credit financing has a high universality in the financing activities of Chinese enterprises. However, at present, China's trade credit is still spontaneous. Due to the excessive fragmentation of trade credit and the difficulty of supervision, China's trade credit supervision system is incomplete and there are fewer supervision channels, resulting in the enterprise's account receivables being too old and unable to be used. Issues such as recovering bad debts are constantly emerging. The existence of these problems has caused certain obstacles to the popularization of trade credit financing methods. Therefore, under the current situation, it is very important to conduct research on trade credit financing, analyze the impact of supplier concentration on trade credit financing in the supply chain network based on the consideration of the nature of property rights, and find out the corresponding countermeasures.

The historical and institutional background of China's economic development determines the natural advantages of state-owned enterprises in economic transactions, which may lead to differences in the impact of trade credit on different ownership-structured enterprises. Regarding the consideration of the difference in the nature of property rights in the research of supply chain management and corporate relations, Bao & Zhao (2016) found that the concentration of private enterprise suppliers is significantly positively correlated with corporate risk. With the maturity of the Internet platform and the weakening of the enterprise, the positive correlation is relatively weak in state-owned enterprises. Zhou (2017) based on the consideration of the nature of property rights, the study found that when the primary supplier of private enterprises is a state-owned enterprise, the negative relationship between supplier concentration and corporate performance is more significant These documents have not yet dealt with the relationship between supplier relationships, property rights and trade credit financing. Zhang, Zhong, and Peng (2018) found that compared with state-owned enterprises, there is a more significant reverse "U" relationship between the concentration of non-state-owned enterprise customers and the supply of corporate trade credit. This paper focused on the impact of customer concentration on the willingness of corporate credit supply.

In summary, the literature has explored the relationship between supply chain relationships and business operations or trade credit from different perspectives and also discussed the impact of supply chain concentration on corporate risk and corporate performance for companies with different property rights. At present, the researches on supplier concentration, property rights and trade credit financing are rare. Therefore, this paper takes the 2008-2018 Shanghai and Shenzhen Stock Exchange A-share manufacturing listed companies as a sample to conduct an empirical analysis of the above issues. The aim is to reveal the influencing factors of trade credit financing from the perspective of supplier concentration and try to incorporate the economic effects of property rights into the theory of supply chain relationship management and provide decision-making suggestions for internal financing activities in the supply chain relationship network.

THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS
Supplier Concentration And Trade Credit Financing
According to the theory of new institutional economics, the more specific the asset investment is, the lower the application value will be in other best uses, which will easily increase the opportunistic risk of contract fulfillment and negotiation. The high concentration of suppliers means that upstream suppliers themselves have more investment in intangible assets related to the establishment of customer relationships. This will lead to an increase in the cost of conversion between the two parties, which will increase the risk of suppliers being "ripped" by customers. As a result, suppliers may lose interest in providing customers with a larger share of trade credit to reduce the chances of customers being squeezed into quasi-rents. Based on the theory of industrial organization, Michael Porter proposed the famous five-force competition model, pointing out that when the cost of switching suppliers is high, its bargaining power is weak. Higher supplier concentration will weaken customers' negotiating ability and companies will be required to pay in advance or be cut off. Suppliers form a strong position in the product market competition, which not only can bring the threat of termination of cooperation to upstream and downstream enterprises, but also impose capital squeeze on upstream and downstream enterprises (Dou, Ba, & Wu, 2014). In addition, the larger the large-scale purchase of the enterprise, the greater the risk that the supplier will bear, and the customer may be required to increase the proportion of the current purchase and reduce the purchase price (Ma, Zhang, & Yi, 2016). Therefore, this paper proposes based on the opportunistic hypothesis:

Hypothesis 1a: Supplier concentration has a negative impact on corporate trade credit financing.

American economist Manco Olson proposed the "free rider" theory in "The Logic of Collective Action: Public Interest and Group Theory". Due to the "free rider" problem, retailers may increase their cash purchases to other suppliers after obtaining trade credit financing, suppliers that provide trade credit bear all the costs but only get a portion of the benefits. Therefore, suppliers who account for a large share of retailers' purchases are willing to provide trade credit (Jiri, Evgeny, & Alex Yang, 2019). That is, when the enterprise purchases from the supplier on a large scale, the supplier will give more purchase credits. According to the theory of price discrimination, monopolistic suppliers often adopt differential pricing strategies in order to obtain excess profits. In order to stabilize the commodity settlement price, the supplier will unify the customer purchase price and impose price discrimination on different customers through the difference in trade credit supply (Schwartz & Whitcomb, 1979). As a result, suppliers will provide large retailers with a large credit share or a longer credit period to hide the information from the sale. At the same time, the stronger the bargaining power of retailers who buy more services from

suppliers, the more trade credits they receive (Giannetti, Burkart, & Ellingsen, 2011). In a collaborative supply chain, the core suppliers will actively develop trade credit financing plans for capital-constrained retailers to motivate retailers to order larger quantities of goods (Dou & Zhu, 2012). Therefore, this paper proposes the opposite hypothesis of hypothesis 1b based on economies of scale and synergistic effect:

Hypothesis 1b: Supplier concentration has a positive impact on corporate trade credit financing.

The Effect Of Property Rights On The Relationship Between Supplier Concentration And Trade Credit Financing
With economy entering into a new normal in China, the nature of property rights plays a more prominent role in the behavior of enterprises. State-owned holding means that the government provides invisible guarantee for state-owned enterprises. Therefore, when the state-owned enterprises deal with small and medium-sized private enterprises, they usually do not need to guard against similar opportunistic behaviors such as "ripping off". Generally, if there are a large number of related party transactions between suppliers and customers, even if both parties make special investment, they are rarely likely to be locked by partners. According to the relevant statistics of CSRC, compared with private enterprises, state-owned enterprises have more connected transactions. Therefore, if the opportunistic hypothesis has stronger explanatory power, the negative impact of supplier concentration on business credit will be relatively small for state-owned enterprises. Compared with small and medium-sized private enterprises, state-owned enterprises have more abundant resources, more choice space for suppliers, relatively small cost of switching suppliers, and are not easily threatened by suppliers. In addition, the state-owned enterprises have more sources of financing and the willingness to use trade credit financing is not as strong as that of non-state-owned enterprises, so the impact of supplier concentration will also be weak.

On the other hand, as China's economy changes from high-speed growth to high-quality development, the business objectives of state-owned enterprises are no longer limited to the pursuit of performance. When managers make business decisions, they should not only consider the business results, but also bear multiple social responsibilities such as employment and environmental protection. However, private enterprises pay more attention to their business performance and future growth, and their business objectives are relatively single. Therefore, compared with the state-owned enterprises, the private enterprises have stronger motivation to increase innovation investment and enhance competitive advantage by using the synergy effect of supply chain relationship network. There is no doubt that suppliers are more willing to provide trade credit financing to competitive customers. The management defense of state-owned enterprises significantly reduces the quality of information disclosure, while the management defense of private enterprises significantly improves the quality of information disclosure. High quality information disclosure can improve the relationship between supply chain partners, and close cooperation between suppliers and private enterprises will certainly stimulate their willingness to supply trade credit. Therefore, we continue to put forward hypothesis 2 in the form of opposite hypothesis on the basis of hypothesis 1:

Hypothesis 2a: negative effect of supplier concentration on trade credit financing is more significant in non-state-owned enterprises.

Hypothesis 2b: positive effect of supplier concentration on trade credit financing is more prominent in non-state-owned enterprises.

RESEARCH DESIGN
Research Model And Variable Definition
In this paper, models (1) and (2) are constructed to test the research hypotheses mentioned above:

$$TC_{it} = \alpha + \beta_1 TOP5S_{it} + \beta_2 DTA_{it} + \beta_3 CF_{it} + \beta_4 ROA_{it} + \beta_5 GROWTH_{it} + \beta_6 SIZE_{it} + \sum YEAR + \varepsilon_{i_t} \qquad (1)$$

$$TC_{it} = \alpha + \beta_1 TOP5S_{it} + \beta_2 OWNER + \beta_3 DTA_{it} + \beta_4 CF_{it} + \beta_5 ROA_{it} + \beta_6 GROWTH_{it} + \beta_7 SIZE_{it} + \sum YEAR + \varepsilon_{i_t} \qquad (2)$$

Models (1) and (2) are the main models used in this empirical study. In order to control the annual fixed effect, the annual dummy variable is added to the model.

Explained variable
In a purchase transaction on credit with a supplier, upstream and downstream companies often give credit sales quotas based on the business credit of an enterprise, thereby forming a short-term financing of the enterprise, namely trade credit financing. We use the results of "(accounts payable + notes payable) / total assets at the end of the year" to define trade credit financing (TC).

Explanation variables

①Supplier Concentration (Top5S). We draw on the definitions in the references to measure supplier concentration (Sun, Zhai, & Wang, 2017). The larger the value of Top5S, the higher the company's supplier concentration.
②Owner. According to the definition of the company's actual controller, state-owned holdings take 1, otherwise take 0.

Control variables

With reference to relevant references, trade credit financing is affected not only by the concentration of suppliers and the nature of property rights, but also by other variables. Therefore, the following control variables are defined in this article.

①Asset-liability ratio (Dta). It reflects the financial status of the enterprise. In general, companies with low asset-liability ratios have less risk of debt repayment, the company's financial situation is better, and it is easier to obtain trade credit financing. On the other hand, companies with higher asset-liability ratios have greater demand for trade credit financing.
②Cash flow (CF). It reflects the situation of the company's capital flow. Generally, companies with better cash flow conditions have lower operating risks and are more likely to obtain trade credit financing. On the other hand, companies with sufficient capital flows may have less demand for trade credit financing.
③Return on Total Assets (Roa). It measures the profitability of an enterprise. Generally, companies with high profitability are more likely to obtain trade credit financing provided by suppliers. On the other hand, these companies have relatively little demand for trade credit financing.
④Growth. Growth rate of operating income is used to measure the company's growth ability. Suppliers are often willing to support companies with strong growth ability.
⑤Company Size (Size). In the definition of variables in this paper, the company size (Size) = ln (year-end total assets).
An enterprise's asset size can increase its bargaining power when it expands. It is not easy to be threatened by upstream companies, its debt repayment ability is also high, and it is easier to obtain trade credit.
⑥We also set up annual dummy variables to control the impact of the year in this paper.

The names and definitions of variables involved in the model are shown in Table 1.

Table 1: Variable name and definition

	Variable name	Variable code	Variable definition
Explained variable	Trade credit financing	TC	(accounts payable + notes payable) / total assets at the end of the year
Explanatory variable	supplier concentration	Top5S	proportion of the top five suppliers' purchase amount to the total purchase amount
	Property nature	Owner	state holding takes 1, otherwise 0
Control variable	asset liability ratio	Dta	total liabilities at the end of the year / total assets at the end of the year
	Cash flow	CF	net cash flow from operating activities of the company / total assets at the end of the year
	Return on total assets	Roa	annual net profit / total assets at the end of the year
	Growth	Growth	growth rate of operating revenue
	Company size	Size	total assets at the end of the year
	Year	Year	Virtual variable of year, study interval span 11 years, set 10 virtual variables of year

Samples And Data

We select the listed companies of A-share main board manufacturing industry of Shanghai Stock in this paper. The listed companies of A-share main board manufacturing industry of Shanghai Stock Exchange and Shenzhen Stock Exchange from 2008 to 2018 are selected as the initial samples. According to the sample selection rules of most literatures, the following processing is carried out: ST enterprises and * ST enterprises are eliminated, and any value missing samples are eliminated. In order to eliminate the interference of specific value, winsorize processing of 1% and 99% quantiles was carried out for each continuous variable. The sample information of this paper comes from the CSMAR database. Excel 2007 is used for data preliminary arrangement. Stata 12.0 is used for statistical and regression analysis.

As shown in the descriptive statistical results in Table 2, the mean value of TC is 13.51%, the maximum value and the minimum value are 44.65% and 0.75%, respectively, indicating that the business credit scale of different enterprises in this industry is quite different. The average purchase proportion of top five suppliers (Top5S) is 34.82%, which is consistent with the data of existing research. Kong (2011) studied the data from 2001 to 2008, and the average value of Top5S is 39.26%, Lin

(2014) took the data from 2001 to 2011 as the sample, and the average value of Top5S is 30.63%. In addition, the extreme values of Top5S are 91.58% and 6.30% respectively, indicating that there is a large gap in the dependence of different enterprises in the industry on suppliers.

Table 2: Descriptive Statistics

Name	Mean	Std_Dev	Median	Min	Max
TC	0.1351	0.0939	0.1133	0.0075	0.4465
Top5S	0.3482	0.1897	0.3061	0.0630	0.9158
Dta	0.4068	0.2079	0.3965	0.0467	0.9637
CF	0.0425	0.0678	0.0413	-0.1599	0.2283
Roa	0.0441	0.0570	0.0414	-0.1843	0.2113
Growth	0.1907	0.4116	0.1256	-0.5064	2.6647
Size	21.7544	1.1633	21.6183	19.4985	25.2204

EMPIRICAL RESULTS AND ANALYSIS

Correlation Analysis

By observing the Pearson correlation coefficients of 8 variables in Table 3, it can be found that Top5S, CF, ROA and TC have significant negative correlation; owner, DTA, growth and size have significant positive correlation with TC. The results of correlation analysis of supplier concentration are in line with the "opportunism" hypothesis. At the same time, the correlation coefficient of the 8 variables is small, the largest is only 0.4084, far less than 0.7, indicating that the possibility of collinearity among the variables is low. In order to control the interaction among variables, next section will continue to use multiple regression analysis to obtain more reliable conclusions.

Table 3: Correlation analysis results of each variable

	TC	Owner	Top5S	Dta	CF	Roa	Growth	Size
TC	1							
Owner	0.1777***	1						
	(0.0000)							
Top5S	-0.1325***	-0.0623***	1					
	(0.0000)	(0.0000)						
Dta	0.4983***	0.3339***	-0.1062***	1				
	(0.0000)	(0.0000)	(0.0000)					
CF	-0.0454***	-0.0333***	-0.0478***	-0.1586***	1			
	(0.0000)	(0.0000)	(0.0000)	(0.0000)				
Roa	-0.1435***	-0.1910***	-0.0348**	-0.4052***	0.4189***	1		
	(0.0000)	(0.0000)	0.0004	(0.0000)	(0.0000)			
Growth	0.0509***	-0.0645***	0.0047	0.0386***	-0.0144	0.2247	1	
	(0.0000)	(0.0000)	(0.6525)	(0.0000)	(0.1253)	(0.0000)**		
Size	0.2310***	0.3049***	-0.2460***	0.4084***	0.0589***	-0.0295***	0.0637***	1
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0003)	(0.0000)	

Note: ***, **, and * represent significant at 1%, 5%, and 10% levels respectively; the data in brackets are P values

Regression Analysis

Table 4 shows the regression analysis results of different sample groups. Among them, column (1), column (2) and column (3) respectively report the regression results of the whole sample enterprise group, state-owned enterprise group and non-state-owned enterprise group Top5S and TC, while column (4) reports the regression results of the whole sample Top5S, property right nature and TC.

From the data in column (1) of Table 4, it can be seen that the regression coefficient of Top5S is -0.0436, which is significantly different from 0 at the 1% level, indicating that with the strengthening of supplier concentration, the trade credit scale shows a significant downward trend, and hypothesis 1a is verified.

In order to test the impact of the nature of property rights, we divide the research samples into state-owned enterprise group and non-state-owned enterprise group according to the property rights differences in this paper. The regression coefficients of

the Top5S in column (2) and column (3) of Table 4 are -0.0417 and -0.0444 respectively, and the regression coefficients of the owner in column (4) are 0.0095, which are significant at the level of 1%, indicating that the supplier concentration has a greater impact on the trade credit of non-state-owned enterprises. Due to the natural differences of scale and resources, the financing mode of state-owned enterprises is larger than that of non-state-owned enterprises, and the cost of seeking and replacing supplier resources is lower than that of non-state-owned enterprises. Therefore, the scale and term of delayed payment will be less affected by the concentration of suppliers than that of non-state-owned enterprises. Hypothesis 2a is verified.

According to the data in column (4), it is found that the regression coefficients of the control variables DTA and ROA are both greater than 0, and are highly significant at the level of 1%, which indicates that the debt limit and profit level of the enterprise are high, and the business credit of the enterprise will be more. The regression coefficient of the control variable size is significantly negative at the level of 1%, indicating that the enterprise scale has a reverse effect on the trade credit line. This may be because large-scale customers have a wide range of financing channels, so the demand for trade credit financing is weak. The regression coefficients of CF and growth fail to pass the statistical significance test, which shows that cash flow and growth have no significant impact on business credit. Finally, R^2 of the regression model is 0.2846, 0.2233, 0.2866 and 0.2846 respectively, which shows that the goodness of fit of the model is general. Considering that TC will also be affected by many factors such as the length of business operation, inventory turnover efficiency, industry status and national policy, the goodness of fit in this paper is understandable.

Table 4: Regression analysis results

	(1) Full sample	(2) State-owned enterprise sample	(3) Non-state-owned enterprise sample	(4) Full sample
Variable	TC	TC	TC	TC
Top5S	-0.0436***	-0.0417***	-0.0444***	-0.0437***
	(-8.65)	(-3.72)	(-8.06)	(-8.56)
Owner				0.0095***
				(4.40)
Dta	0.2616***	0.2642***	0.2557***	0.2572***
	(44.07)	(21.14)	(37.89)	(42.45)
CF	0.0209	-0.0365	0.0423**	0.02136
	(1.52)	(-1.04)	(2.85)	(1.37)
Roa	0.1077***	0.1426***	0.1002***	0.1143***
	(4.95)	(3.21)	(4.02)	(5.16)
Growth	0.0032	0.0025	-0.0058*	0.0024
	(1.35)	(0.48)	(2.23)	(1.79)
Size	-0.0047***	-0.0048**	-0.00630***	-0.0010***
	(-4.75)	(-2.60)	(-5.03)	(-5.29)
Year	control	control	control	control
_Cons	0.1330***	0.1344***	0.1690***	0.0220***
	(6.25)	(3.36)	(6.26)	(6.65)
N	7428	2261	5046	7307
Adj_R^2	0.2846	0.2233	0.2866	0.2846
F	226.93***	49.70***	155.51***	207.16***

Note: T value in brackets, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

Robustness Test
We use "(accounts payable + notes payable prepayment) / total assets at the end of the year" to replace the explained variable TC and test the robustness of the regression results of the model in this paper. According to table 5 robustness test data, it can be found that the regression results are consistent with the expectations, and the sign and correlation of each variable are consistent with the regression results in the previous section, indicating that the research conclusions are robust in this paper.

Table 5: Robustness test results

	(1) Full sample	(2) State owned enterprise sample	(3) Non state owned enterprise sample	(4) Full sample
Variable	TC	TC	TC	TC

	(1) Full sample	(2) State owned enterprise sample	(3) Non state owned enterprise sample	(4) Full sample
Top5S	-0.0517***	-0.0335**	-0.0600***	-0.0523***
	(-9.70)	(-2.89)	(-10.08)	(-9.67)
Owner				0.0109***
				(4.75)
Dta	0.2417***	0.2360***	0.2392***	0.2369***
	(38.44)	(18.29)	(32.83)	(36.92)
CF	0.0843***	0.0216	0.1093***	0.0828***
	(5.16)	(0.63)	(5.93)	(5.01)
Roa	0.0705**	0.0962*	0.0705**	0.0780***
	(3.06)	(2.10)	(2.62)	(3.33)
Growth	-0.0002	0.0010	-0.0024	-0.0010
	(-0.09)	(0.19)	(-0.87)	(-0.40)
Size	-0.0046***	-0.0037*	-0.0074***	-0.0057***
	(-4.46)	(-2.01)	(-5.45)	(-5.27)
Year	Control	Control	Control	Control
_Cons	0.1112***	0.0902*	0.1720***	0.1312***
	(4.94)	(2.19)	(5.90)	(5.62)
N	7428	2261	5046	7307
Adj_R^2	0.2458	0.1868	0.2485	0.2462
F	185.88***	39.70***	128.02***	170.14***

Note: T value in brackets, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

CONCLUSIONS AND IMPLICATIONS

Conclusions

Research at home and abroad shows that as an important partner or stakeholder, suppliers have an important impact on business performance, financial decision-making and risk level. Different from the previous literature, we analyze the economic consequences of supplier concentration from the perspective of trade credit financing scale, and considers the role of the nature of property rights in the relationship between the two in this paper. Based on the information of manufacturing listed companies of a shares in Shanghai and Shenzhen Stock Exchange from 2008 to 2018, we find that the stronger the concentration of suppliers, the less trade credit financing enterprises get in this research. This result more supports the opportunistic hypothesis, which is higher supplier concentration will aggravate the supplier's worry about the opportunistic behavior such as "rip off" and weaken their willingness to provide business credit financing to enterprises. It is also found that the negative impact of supplier concentration on trade credit financing of non-state-owned enterprises is stronger than that of state-owned enterprises.

Implications

In view of the negative correlation between supplier concentration and business credit financing, enterprises should attach great importance to supplier relationship management from a strategic point of view. They should not only maintain friendly cooperation and co creation relationship with suppliers, but also prevent excessive dependence on monopoly suppliers, and increase opportunities for enterprises to be "ripped off" by suppliers. Considering that the negative correlation between the two has a stronger impact on non-state-owned enterprises, private enterprises should make good use of their existing trade credit advantages, increase innovation input, improve competitive advantage and bargaining power, strive to win the right to speak in the supply chain, improve the game ability of enterprises in the supply chain cooperation, and weaken the negative impact of supplier concentration on the business credit of enterprises.

Emphasis on supplier management

Enterprises should pay attention to the management of supplier relationships. Stable supplier relationships can reduce transaction costs for enterprises, but excessive supplier concentration can lead to excessive reliance on individual suppliers, which virtually increases their own operating risks. Therefore, enterprises must not only ensure a stable cooperative relationship with suppliers, but also appropriately reduce the degree of dependence on individual large suppliers to prevent the sudden occurrence of out-of-stock and quality problems of individual suppliers causing problems in their own operations. Improve your bargaining power and avoid accepting harsh payment terms in the face of threats from suppliers. At the same time, according to the full sample analysis results of Shanghai and Shenzhen A-share listed manufacturing companies, Top5S and TC show a significant negative correlation. TCs of non-state-owned enterprises are more susceptible to Top5S than TCs of state-owned enterprises, and the regression results of the relationship between TC and Top5S and the nature of property rights have a high economic significance ($P < 0.001$). Based on this reality, companies should face up to their position when dealing

with suppliers. When the supplier is in a relatively strong position, the company should not require the supplier to provide excessive trade credit, because the supplier is likely to the cost of excessive trade credit supply is passed on to other related costs. Such behaviors will weaken the cooperative relationship between the company and the supplier, which will adversely affect the company itself.

Focus on improving profitability

Enterprises should improve their own strength and increase the company's profitability. According to the research results in this paper, the Roa index is significantly positively correlated with TC, indicating that enterprises can obtain more trade credit financing under the condition of increasing their own profitability. However, among Shanghai and Shenzhen A-share listed manufacturing companies, there are still many companies with negative Roa, such as -18.43% for Chunlan and -18.39% for Cangzhou Dahua. These negative Roa reflect the poor performance of enterprises in comprehensive utilization of assets. Such enterprises should pay attention to the company's operation and management, control costs, allocate assets reasonably, and avoid problems such as excess capacity. The company has improved the company's profitability, and to a certain extent, it can increase the amount of trade credit financing that it can obtain from upstream companies. At the same time, when the amount of trade credit financing obtained by an enterprise increases, the company can use more liquid funds, which is more conducive to the expansion of production and asset utilization efficiency, and ultimately to the company's profitability.

Maintain proper capital structure

While paying attention to short-term financing obtained from suppliers, enterprises should also pay attention to changes in bank credit policies. In April, the junior high school office and the state-run office put forward further guidance on the difficulty of financing for enterprises. The difficulty for private enterprises to obtain financing from banks will continue to decrease. Broadening the financing channels of enterprises can lay a solid foundation for their long-term development. According to the research results in this paper, Dta and TC are significantly positively correlated, indicating that the proper use of debt financing methods can improve the TCs obtained by enterprises. According to the sample data selected in this article, many companies did not make good use of bank loans, such as Fu'an Pharmaceutical, Xinwei Telecom, and Jiangnan High Fiber. The Dta was only 4.67%. These enterprises operate very conservatively and do not exert the role of financial leverage, which is not conducive to the expansion of production and technology development of enterprises to a certain extent. Such enterprises can properly pay attention to bank credit while seeking trade credit financing from upstream, so that the company can obtain sufficient liquidity and obtain better operating results. Of course, the Dta should not be too high. Too many companies will raise financial risks and increase repayment pressure. Too much interest expenses will also affect the business efficiency of the company. The huge repayment pressure may even cause the company to suddenly die.

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