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A Study on the Impact of Corporate Financialization Based on Multiple Linear Regression Models

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Abstract: In recent years, the growth rate of the real economy has relatively slowed down, and a large number of enterprises have turned to the financial industry, resulting in the phenomenon of corporate financialization. Based on this, this paper takes non-financial listed companies in A-shares from 2010 to 2022 as the research sample to investigate the impact of corporate financialization on commercial credit financing. The results of the study show that corporate financialization can inhibit firms' access to commercial credit financing. The results of heterogeneity analysis show that the inhibitory effect of corporate financialization on commercial credit financing is more pronounced for firms in regions with a lower degree of digital finance development and firms in industries with a higher degree of competition in the product market. The results of this paper provide a new perspective for a comprehensive evaluation of the economic consequences of corporate financialization in China.

1. Introduction

Statistics show that as of 2020, the number of A-share listed companies involved in purchasing wealth management products reached 1,239, and the total amount of wealth management products subscribed by them climbed to 1.45 trillion yuan. The increasingly obvious tendency of financialization of real enterprises has also aroused widespread concern and in-depth analysis of the academic community. On the one hand, the financialization of enterprises will increase the operational risk of enterprises, and higher operational risk will convey a higher risk of debt default to suppliers and customers, which in turn increases the cost of commercial credit financing; on the other hand, the financialization of enterprises will reduce the accuracy of the disclosure of information, and the complexity of the trading activities of the financial instruments and their accounting processing increases the difficulty of understanding the disclosure of the information by the suppliers or customers, which has a negative impact on the trust level of the supply chain[1], which in turn reduces commercial credit financing.

The impact of corporate financialization has been widely discussed in the literature with respect to its economic consequences. In terms of negative impacts, corporate financialization harms the performance of real enterprises and weakens the effect of monetary policy[2], and enterprises with higher levels of financial investment have a higher degree of information asymmetry with the outside world, tend to hide negative information, and increase the risk of corporate stock price collapse[3]. In

terms of positive impact, the short-term financial behavior of the enterprise will help enterprises to reduce the fixed costs in the export process, and promote the export decision-making of the enterprise [4], through the allocation of financial assets, the enterprise can improve the structure of assets and liabilities[5], create favorable conditions for subsequent financing activities[6]. Scholars have discussed the economic consequences of enterprise financialization in depth, but the existing research is less likely to expand the impact to the supply chain perspective, and insufficient attention is paid to commercial credit financing.

Based on the shortcomings in the current research, this paper investigates the impact of corporate financialization from the supply chain perspective, and examines how corporate financialization affects commercial credit financing of enterprises by constructing a multiple linear regression model. It is expected that the results of this paper will provide a solution for enterprises to solve the problem of financing difficulties, and will also have certain practical significance for the government to guide the economy "from the virtual to the real" related policy making, and prevent systemic financial risks.

2. The basic fundamental of the multiple regression model

2.1 The theoretical foundation of the model

First, financialization can crowd out physical capital investment in enterprises, undermine the future development of their main business and reduce the profitability of their operating activities. And the financial channel profitability is characterized by unsustainability and high risk, which will exacerbate the potential volatility risk of corporate profits. With the deepening of the degree of enterprise financialization, the enterprise's fixed asset investment rate will be reduced[7], and the collateral scale of fixed assets will affect the enterprise's loan amount, which ultimately leads to increased pressure on debt servicing and interest payment, and then increase the enterprise's business risk. Therefore, the higher the degree of financialization of enterprises, the higher the business risk, which reduces the willingness of suppliers to provide commercial credit. The "credit risk contagion" effect will make the supply chain enterprises control the scale of commercial credit supply step by step, which will reduce the scale of commercial credit financing[8-10].

Second, enterprise financialization will reduce the information transparency of enterprises, which will inhibit enterprises from obtaining commercial credit financing. Under the process of enterprise financialization, financial instruments provide management with the opportunity to cover up agency problems.

2.2 The Multiple linear regression model

In order to test the impact of corporate financialization on corporate business credit financing, this paper constructs the following multiple linear regression model for analysis:

$$TC_{i,t} = \alpha_0 + \alpha_1 FIN_{i,t} + \sum \alpha_n controls + \sum year + \sum industry + \varepsilon_{i,t} \quad (1)$$

Where *i* denotes firm, *t* denotes year, *TC* denotes firm *i*'s commercial credit financing in year *t*, *FIN* is the firm's financialization level in that year, *controls* denote the set of control variables, *industry* denotes industry fixed effects, and *year* denotes year-level fixed effects. This paper focuses on the coefficients of α_1 , according to the theoretical assumptions in the previous section, if α_1 is significantly negative, it indicates that corporate financialization inhibits firms from obtaining commercial credit financing.

2.3 The data source and variable definition

This paper takes Chinese A-share listed companies in Shanghai and Shenzhen from 2010 to 2022 as the research sample, and screens and treats the sample as follows: (1) exclude ST, *ST and PT companies; (2) exclude companies with missing key variables; (3) exclude companies with gearing ratios greater than 1; (4) exclude financial and real estate companies. After screening, a total of 17,784 observations are obtained in this paper. In addition, in order to avoid the impact of extreme values on the regression results, this paper shrinks the tails at the 1% and 99% levels (Winsorize) for all continuous variables. In terms of data sources, the relevant financial data as well as firm-level control variables in this paper are obtained from the CSMAR database.

For the explanatory variables, this paper adopts the proportion of financial assets to total assets to measure the degree of corporate financialization (*FIN*). Among them, financial assets include trading financial assets, derivative financial assets, net loans and advances granted, net available-for-sale financial assets, and net held-to-maturity investments. For the explanatory variables, this paper uses the ratio of the sum of accounts payable, notes payable, and advance receipts to total assets to measure the commercial credit financing (*TC*) obtained by the firm.

The other control variables (*Controls*) of the multiple linear regression model are defined in the Table 1:

Table 1: Definition of control variables

Variable Name	Variable Symbol	Variable Definition
Enterprise Size	Size	Logarithm of total assets of the enterprise
Property Ownership	Soe	Value is 1 for state-owned enterprises, otherwise 0
Financial Leverage	FL	(Net profit + income tax expenses + financial expenses) / (Net profit + income tax expenses)
Price-Earnings Ratio	PE	Price per share / Earnings per share
Revenue Growth Rate	Growth	Current year's revenue / Last year's revenue - 1
Enterprise Age	FirmAge	Logarithm of the number of years since establishment of the enterprise
International Big Four Audit	Big4	Value is 1 if the company is audited by one of the Big Four, otherwise 0

3. Results

3.1 The results of the multiple regression model

The descriptive statistics of the main variables in this paper are shown in Table 2. According to the statistical results, the mean value of corporate financialization is 0.036, the standard deviation is 0.073, and the maximum and minimum values are 0.859 and 0 respectively, indicating that there are significant differences in the degree of financialization among enterprises. The rest of the variables are located within a reasonable range.

Table 2: Descriptive statistics

Variable	Number	Min	Max	Standard Deviation	Mean
TC	17784	0	0.745	0.116	0.156
FIN	17784	0	0.859	0.0730	0.0360
Size	17784	19.59	26.45	1.271	22.50
Soe	17784	0	1	0.492	0.410
FL	17784	0	11.55	0.887	1.337
PE	17784	0.302	995.8	99.55	65.36
Growth	17784	-0.658	4.024	0.367	0.178
FirmAge	17784	1.609	3.611	0.308	2.943
Big4	17784	0	1	0.262	0.0740

Table 3: Baseline regression results

Variable	TC	TC
FIN	-0.215***	-0.181***
	(-12.297)	(-10.560)
Size		0.015***
		(9.064)
Soe		0.033***
		(7.222)
FL		0.000
		(0.106)
PE		-0.000**
		(-2.422)
Growth		0.013***
		(4.726)
FirmAge		0.000
		(0.056)
Big4		-0.024***
		(-3.693)
constant	0.163***	-0.200***
	(80.846)	(-4.755)
year	Yes	Yes
industry	Yes	Yes
Number	17784	17784
Adjusted R^2	0.296	0.344

Table 3 presents the regression results on the impact of corporate financialization on commercial credit financing. Adding control variables, while controlling for industry and year fixed effects, the regression coefficient of corporate financialization is -0.181 and passes the test of significance at the 1% level, indicating that corporate financialization significantly inhibits enterprises from obtaining commercial credit financing.

3.2 Heterogeneity analysis of the results

Table. 4. Heterogeneity test at city level

	High digital financial development	Low digital financial development
	TC	TC
FIN	-0.161***	-0.205***
	(-7.046)	(-8.356)
Differences between groups	-0.044	
P value	0.040	
Controls	Yes	Yes
year	Yes	Yes
industry	Yes	Yes
number	8733	8733
Adjusted R^2	0.373	0.330

There may be differences in the impact of business financialization on business credit financing among cities with different levels of digital financial development. In this paper, according to the median of digital financial inclusion, the city where the enterprise is located is divided into two groups of areas with high digital financial intensity and areas with low digital financial intensity for regression, Table 4 demonstrates the regression results of the grouping, the regression coefficients of the enterprise financialization in the two groups of samples with different levels of digital financial development are all significantly negative at the 1% level, and the impact of enterprise financialization on the commercial credit financing in the cities with a lower level of digital financial development is stronger.

Table 5: Heterogeneity test of industry competition level

	High competition level	Low competition level
	TC	TC
FIN	-0.238***	-0.101***
	(-8.189)	(-5.767)
Differences between groups	0.137	
P value	0.000	
Controls	Yes	Yes
year	Yes	Yes
industry	Yes	Yes
number	8753	9031
Adjusted R^2	0.373	0.356

This paper further verifies the impact of enterprise financialization on business credit financing under different degrees of industry competition. The regression results are shown in Table 5, the regression coefficients of enterprise financialization in the two groups of samples with different degrees of product market competition are all significantly positive at the 1% level, and the results of the test of intergroup differences show that enterprise financialization has a stronger inhibitory effect on commercial credit financing for enterprises with a high degree of product market competition. The reason for this may be that, according to the predation theory, fierce product market competition will reduce the profit margin of enterprises, which in turn will stimulate the incentives of enterprises to

engage in cross-industry arbitrage and allocate financial assets.

4. Conclusions

At present, many real enterprises are actively involved in financial business, and the economic and social effects it brings have triggered widespread concern and discussion. Against this background, this paper empirically examines the impact of corporate financialization on commercial credit financing by taking China's A-share listed companies in Shanghai and Shenzhen as the research object from 2011 to 2022. The results show that corporate financialization significantly inhibits commercial credit financing; furthermore, the inhibitory effect of financialization on commercial credit financing is more significant for enterprises located in regions with a lower degree of development of digital finance and in industries with more competitive product markets. The results of this paper have certain reference significance for the government to introduce policies to improve the direct financing market.

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