Research on the Impact of Financial Flexibility on Enterprise Growth: Based on the Empirical Analysis of Equipment Manufacturing Listed Enterprises in China

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Abstract

This paper selects the data of equipment manufacturing enterprises listed in China's A-shares in 2018-2022 as the research sample. The main research objectives of this paper are twofold: (1) to study the impact of financial flexibility on enterprise growth in China's equipment manufacturing enterprises , and (2) to find the impact of financial flexibility on the growth of enterprises under different property rights. This study adopts quantitative research methods, specifically utilizing multiple regression and empirical analysis. The results show that financial flexibility significantly affects the growth of enterprises, displaying a non-linear U-shaped relationship. Low levels of financial flexibility make the operating costs of enterprises high; therefore, when financial flexibility is greater than a certain range, it will promote the development of enterprises. Further research found that compared with state-owned enterprises, this relationship is more significant in non-state-owned enterprises.

Keywords: Financial Flexibility; Enterprise Growth; China's Equipment Manufacturing Industry Listed Enterprises

Introduction

China's economic development is transforming to the direction of high-quality development, and the equipment manufacturing industry is an important part of the high-quality economic development.

By December 2022, the number of listed companies in China's equipment manufacturing industry had reached 4,230, of which private enterprises accounted for about 73.64%. Influenced by the international market, the transformation and upgrading of equipment manufacturing enterprises is under great pressure, especially the operating cost has been greatly affected. For instance, according to 2022 data from the National Bureau of Statistics of China, the overall operating costs for industrial enterprises above a designated size increased by 7.1% year–on–year, significantly compressing profit margins and contributing to a 4.0% decline in total industrial profits. In the face of this increasingly fierce, complex, and changeable external market competition environment, equipment manufacturing enterprises must maintain a strong growth ability to achieve sustainable development.

In the face of the increasingly fierce, complex and changeable external market competition environment, the equipment manufacturing enterprises must have a certain growth ability to achieve sustainable development. This ability is the overall ability of the enterprise to integrate and reorganize the internal and external resources under the joint influence of internal and external factors, and also reflects the future development trend and development speed of the enterprise.

The growth of an enterprise needs to develop, add value and make profits, whether it is to expand production or investment projects need capital investment. And financial flexibility is the ability to hold cash and maintain the remaining solvency, which can timely meet the needs of capital both now or in the future in the growth process of the enterprise. For equipment manufacturing enterprises, the key is to do a good job in the corresponding financial management, reserve good financial flexibility, which is of great significance to the stable development of enterprises.

Therefore, this paper starts from the relationship between financial flexibility and enterprise growth, due to the difference of enterprise property rights, further distinguish listed equipment manufacturing enterprises, deeply study the relationship between financial flexibility and enterprise growth, and then provide new solutions for how to improve the growth of enterprises.

Previous studies have extensively explored the role and value of financial flexibility across different contexts. Rapp, Schmid, and Urban (2014) highlighted the intrinsic value of financial flexibility and its significant impact on corporate financial policy. This value is particularly crucial in emerging markets, as demonstrated by Yung, Li, and Jian (2015), and serves as a key driver of corporate investment in China (Chen, Li, & Lin, 2021). Globally, financial flexibility sustains investment ability, whether across the Euro Area and the UK (Ferrando, Marchica, & Mura, 2017) or within specific real

estate sectors (Howton, Howton, & Scheick, 2018). Furthermore, an enterprise's ability to maintain financial flexibility is vital for surviving highly regulated markets and pricing wars (Rijanto, 2015). Finally, regarding the impact of property rights, Fan, Wong, and Zhang (2013) discussed how the institutional and organizational structures of state–owned corporate pyramids influence corporate governance and decision–making, which establishes the theoretical foundation for comparing state–owned and non–state–owned enterprises in this study.

Research Objectives

Therefore, the main research objectives of this paper are described as follows:

1. To study the impact of financial flexibility on enterprise growth in China's equipment manufacturing enterprises;

2. To find the impact of financial flexibility on the growth of enterprises under different property rights in China's equipment manufacturing enterprises

Research Methodology

Research Methods

This paper mainly uses the quantitative research method to study the relationship between financial flexibility and enterprise growth. Specifically, this paper adopts the following four research methods in the research process: document research, quantitative study, multiple regression analysis, and the empirical analysis method.

Sample Selection and Data Sources

For this empirical analysis, the initial sample comprises companies within the equipment manufacturing sector listed on the China A–share market between 2018 and 2022. The end year was set to 2022 because full–year data for 2023 was unavailable when data collection took place between late 2023 and early 2024.

To secure a highly accurate and robust dataset, several exclusions were made: (1) enterprises issuing B or H shares; (2) companies facing delisting risks (labeled ST and *ST); and (3) any firms presenting missing or problematic data points.

The CSMAR database served as the main provider for the empirical data, and necessary annual report details were cross-referenced using Juchao Information. Finally, Stata was employed to perform all data manipulation and model testing.

Research Hypotheses

1. The relationship between financial flexibility and enterprise growth

The financial flexibility of corporate reserves is mainly manifested by the cash flexibility of holding high cash flow and the debt flexibility of maintaining low debt ratio. The external environment facing businesses is changing rapidly. Adequate and timely capital is the key to enterprises to seize temporary investment opportunities. Financial flexibility can help enterprises to seize the opportunities in time in the face of investment opportunities, improve the investment efficiency, which is conducive to the long-term development of enterprises. In addition, when the main business of the enterprise has a good development prospect, the market demand for the enterprise products is strong, and the order sales volume surges, the retained financial flexibility can meet the capital needs of the enterprise to buy raw materials and production equipment, expand the production scale of the enterprise, and ensure the growth of the enterprise. In short, through reserves, maintaining more cash flow and maintaining the financial flexibility of residual debt capacity, enterprises can meet their needs for financial funds in the growth process and provide financial services.

Based on the above analysis, when faced with investment opportunities, enterprises can maintain good financial flexibility and support them by sufficient cash flow to reduce financing costs and seize development opportunities, so as to help improve the growth of enterprises. The hypothesis 1a of this paper is proposed: the higher the financial flexibility, the higher the growth of the enterprise is, that is, the positive correlation between financial flexibility and enterprise growth.

When enterprises lack of cash reserves and short-term financing, it will affect the normal business activities of the enterprise, but due to the enterprise financial flexible level is low, cannot meet the demand of daily operation, make enterprises often high debt operation, improve the paying cost, thus affect profitability, ultimately is not conducive to the development of the enterprise, when financial flexible reserves below a certain level, due to the enterprise capital pressure for a long time, within the scope of financial flexibility is unfavorable to enterprise development, thus damage the enterprise growth. In the face of such a situation, it is necessary to change the business strategy and increase their own reserve financial flexibility, which has a positive role in improving the growth of enterprises.

The level of financial flexibility has different effects on the growth of enterprises, which is contradictory with hypothesis 1a. In order to better explore the relationship between financial flexibility and enterprise value, the competitive hypothesis 1b of this paper is proposed: Financial flexibility has a negative impact on the growth of enterprises within a certain scope.

Therefore, financial flexibility and corporate growth is not a simple linear relationship. When the financial flexibility reserve is below a certain level, it may have a negative effect on reducing the growth, and the financial flexibility is positively associated with the growth.

Therefore, this paper proposes the following hypothesis:

Hypothesis 1: There is a U–shaped relationship between financial flexibility and corporate growth.

Hypothesis 1a: The higher the financial flexibility, the higher the enterprise growth rate, that is, there is a positive correlation between financial flexibility and enterprise growth.

Hypothesis 1b: Financial flexibility has a negative impact on the growth of enterprises within a certain range.

2. Under different property rights properties, the relationship between financial flexibility and enterprise growth.

Enterprises with different property rights have different awareness and level of financial flexible reserve, and different degree of internal environmental norms. It is necessary to further study the different nature of property rights, and whether the relationship between financial flexibility and enterprise growth is different in enterprises.

Compared with non–state–owned enterprises, state–owned enterprises can obtain more and more comprehensive government financial support. When financing is needed, state–owned enterprises are more favored by banks and investment institutions due to the support of state–owned shareholders; non–state–owned holding enterprises are less difficult to raise funds. In the process of financing, independent external audit institution is often required to audit the real operating situation, and in the process of using funds, internal control is needed. However, state–owned enterprises are less likely to have insufficient investment due to capital restrictions, which makes the governance effect of internal control different. Therefore, this paper puts forward the hypothesis that:

Hypothesis 2: With other conditions unchanged, the impact of financial flexibility on the growth of enterprises compared with state-owned enterprises is more significant in non-state-owned enterprises.

Variable design

1. Dependent variable: enterprise growth

Firm growth serves as a metric evaluating a company's operational health and developmental potential over a specific timeframe, ultimately manifesting as asset expansion. In this study, Tobin's Q is adopted as the proxy for corporate growth. As a relative indicator, Tobin's Q represents the quotient of a firm's market value divided by the replacement cost of its assets within a given production cycle. A Tobin's Q value exceeding the benchmark of 1 signifies enhanced value creation by the enterprise.

2. Independent variable: Financial flexibility

This research conceptualizes financial flexibility as the aggregate of cash flexibility and debt flexibility. Specifically, cash flexibility is calculated as the variance between a firm's actual cash reserves and the industry average, while debt flexibility is similarly determined by comparing the firm's debt levels against industry norms. Given the inherent delayed effects of financial flexibility on corporate operations, lagged data is utilized for its measurement. The primary equations are presented below:

Table 1 The calculation formula of financial flexibility

Financial flexibility = cash flexibility + liability flexibility (FF=CF + LF)
Cash flexibility = enterprise cash ratio-industry cash ratio
Liability flexibility =Max (0, industry average liability ratio-corporate liability ratio)
Cash ratio = cash and cash equivalents ending balance / total assets
Liabilities ratio = asset-liability ratio = total liabilities / total assets
Industry cash ratio = the sum of the cash ratio of each enterprise in the industry / the number of enterprises in the industry
The average debt ratio of the industry = the sum of the asset-liability ratio of each enterprise in the industry / the number of enterprises in the industry

3. Controlled variable To rigorously investigate how financial flexibility impacts the growth of listed manufacturing firms, and to account for other potential determinants, this study introduces control variables across three primary dimensions. First, firm characteristics are quantified using enterprise scale

and the nature of property rights. Second, to capture the financial condition, indicators such as the asset–liability ratio, cash flow, and the property right ratio are incorporated. Finally, from a corporate governance perspective, ownership concentration is employed as a control metric.

Table 2 Variable summary table

Style	Definition	Sign	Describe
Dependent variable	Enterprise growth	Growth	$Tobin's\ Q = \frac{\text{Market Value of Equity}}{\text{Replacement Cost of Assets}}$
Independent variable	Financial flexibility	FF	FF = Cash flexibility + debt flexibility
	The square of the financial flexibility	FF^2	FF= (Cash flexibility + debt flexibility) ^{2}
Controlled variable	enterprise size	Size	ln (Year–end Total Assets)
	Financial leverage	Lev	$\frac{\text{Total Liabilities}}{\text{Total Assets}}$
	Total assets turnover	Tat	$\frac{\text{Net Sales Revenue}}{\text{Total Assets}}$
	Current ratio	Cr	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
	Independent director ratio	Id	$\frac{\text{Number of Independent Directors}}{\text{Total Board Members}}$
	cash flow	Cf	$\frac{\text{Net Operating Cash Flow}}{\text{Total Ending Assets}}$
	Equity concentration	Top10	$\sum$Shareholding Ratio of Top 10 Shareholders
	virtual variable	Property nature	The value of state–owned enterprises is 1, and that of non–state–owned enterprises is 0
		Year	In the year t for 1 Otherwise, for 0.

Model building

Having established the requisite dependent, independent, control, and dummy variables, this study formulates a baseline regression framework to empirically test how financial flexibility influences firm growth. Based on the preceding theoretical analysis, the specific econometric model is specified as follows:

(Model 1) Tobin'sQ= α_0 + α_1 FF+ α_2 Siz+ α_3 Lev+ $\alpha_4 \mathrm{Tat} + \alpha_5 \mathrm{Cr} + \alpha_6 \mathrm{Id} + \alpha_7$Cf+$\alpha_8$Top10+$\sum$Year+$\varepsilon$

(Model 2) Tobin'sQ= α_0 + α_1FF+ $\alpha_2 \mathrm{FF}^2$+ α_3Siz+ α_4Lev+ $\alpha_5 \mathrm{Tat} + \alpha_6 \mathrm{Cr} + \alpha_7 \mathrm{Id} + \alpha_8$Cf+$\alpha_9$Top10+$\sum$Year+$\varepsilon$

Data Analysis

1. Descriptive Statistical Analysis

Initially, descriptive statistics are compiled for the dataset comprising A-share listed equipment manufacturing companies from 2018 to 2022. This phase outlines the minimum, maximum, mean, and standard deviation for all dependent, independent, mediating, and control variables. Examining these distributions clarifies the current developmental landscape of the sampled enterprises.

2. Correlation Analysis

To preliminarily explore the interrelationships among the selected variables, a correlation matrix is constructed. This step provides initial empirical support for the proposed research hypotheses and establishes a foundational basis for subsequent regression modeling.

3. Multiple collinearity test

Prior to executing the regressions, variance inflation factor (VIF) tests are conducted across all variables. Detecting and mitigating potential multicollinearity ensures the statistical validity and credibility of the resulting regression equations.

4. Regression results analysis

Building upon the correlation and collinearity tests, the primary regression analysis is divided into two dimensions:

1) Assessing the baseline impact of financial flexibility on corporate growth.

2) Conducting a heterogeneity analysis to observe how this impact varies across different ownership structures (property rights).

5. Robustness test

To confirm the stability of the baseline findings, a variable substitution approach is employed. Specifically, the dependent variable (Tobin's Q) is replaced by the Sustainable Growth Rate (SGR) of the sampled firms. The regression is then re-estimated using this alternative metric. The calculation for SGR is defined as:

$$\text{Sustainable Growth Rate} = \frac{\text{Current Net Profit} \times \text{Profit Retention Rate}}{\text{Ending Shareholders' Equity} - (\text{Current Net Profit} \times \text{Profit Retention Rate})}$$

Research Results

Descriptive Statistical Analysis

This paper conducts a descriptive statistical analysis on the data of A-share listed equipment manufacturing companies from 2018 to 2022, covering the dependent variables, independent variables, mediating variables and control variables required for empirical research. The statistics involved in the descriptive statistical analysis mainly include minimum value, maximum value, mean value and standard deviation. By analyzing the distribution and trend of the variables, the development status of listed equipment manufacturing companies in China is obtained. The descriptive statistical results are shown in Table 3.

Table 3 Descriptive statistical analysis of the total sample

Variable	Sample	Average	Standard	Min	Max
Tobin's Q	**4229**	**11.06**	**17.93**	**-78.88**	**188.7**
FF	4230	-0.640	0.910	-2.190	7.490
FF^2	4230	1.240	2.500	0	56.06
Size	4230	22.28	1.200	19.28	27.62
Lev	4230	0.430	0.160	0.0400	0.900
Tat	4230	0.630	0.320	0	4.020
Id	4230	0.380	0.0600	0.200	0.670
Cr	4230	2.180	1.500	0.150	18.02
Cf	4230	16.89	10.11	0.650	71.19
Top10	4230	55.52	14.69	8.780	97.30

From the results of the descriptive statistical analysis, it is concluded that:

The level of enterprise growth is different, but the overall situation is good. The average value of Tobin's Q of the growth of enterprises in the sample is 11.06, and the overall level is greater than 1, which directly indicates that the listed Chinese equipment manufacturing enterprises can realize value appreciation, and the overall development trend is good. On the other hand, the minimum value of Tobin's Q is–78.88, the maximum value is 188.7, and the standard deviation is 17.93, indicating that the development level of the sample enterprise is relatively different, the enterprise still has a large space for development, and the growth level is different.

The difference of financial flexibility level is large. On the one hand, the maximum financial flexibility of the sample enterprise is 7.490, and the minimum value is–2.190, which is a large polarization, which may be the result of the enterprise in different industries and different development stages. On the other hand, the average financial flexibility is–0.640, and the standard deviation is 0.910, and the standard deviation is greater than the mean, indicating that there is a large difference between enterprises. This may be caused by the single way of enterprises preparing funds, enterprises paying insufficient attention to financial flexibility, and the lack of reserve for financial flexibility among enterprises.

Correlation Analysis

In order to verify the correlation between the various variables, the correlation analysis of the variables is shown in Table4:

Table 4 Test coefficient of correlation of each variable

	Tobin	FF	FF^2	Size	Lev	Tat	Id	Cr	Cf	Top10
Tobin's Q	1									
FF	0.03*	1								
FF^2	–0.02	0.42***	1							
Size	0.14***	–0.01	–0.12***	1						
Lev	0.15***	–0.09***	–0.24***	0.46***	1					
Tat	0.18***	–0.10***	–0.13***	0.20***	0.23***	1				
Id	0.01	–0.00	–0.02	–0.08***	–0.06***	–0.04**	1			
Cr	–0.11***	0.57***	0.40***	–0.36***	–0.76***	–0.22***	0.05***	1		
Cf	0.05***	0.55***	0.11***	–0.06***	–0.29***	0.04**	–0.01	0.44***	1	
Top10	0.15***	0.08***	–0.04**	–0.11***	–0.16***	0.17***	0.05***	0.15***	0.09***	1

Note: * * was significant at the 0.05 level and * * * significant at the 0.01 level.

According to Table 3, first, in terms of the correlation analysis between financial flexibility and enterprise growth, it has a significant positive correlation, that is, the enterprise growth increases with

the financial flexibility of enterprise reserve, and the hypothesis of H1a is preliminarily verified, while the hypothesis of H2b needs further empirical test.

Multiple collinearity test

This paper conducts multicollinearity tests for the dependent, independent, mediation and control variables in the model, and the empirical results are shown in Table 5. From the table, the VIF value of the variables is less than 10. Through the multicollinearity test on the data, the study believes that there is no multicollinearity problem between the variables, which proves that the regression equation data in this paper are valid and credible.

Table 5 Results of the multicollinearity test

Model	**Model 1**		**Model 2**	
Variable	**Tobin's Q**		**Tobin's Q**	
	VIF	VIF/1	VIF	VIF/1
FF	4.09	0.2444	4.54	0.2203
FF^2			1.37	0.7282
Lev	9.91	0.1009	9.95	0.1005
Cr	6.03	0.1658	6.03	0.1658
Cf	1.79	0.5580	1.89	0.5285
Size	1.3	0.7671	1.3	0.7668
Tat	1.18	0.8501	1.18	0.8499
Top10	1.1	0.9124	1.11	0.8989
Id	1.01	0.9895	1.01	0.9881

Objective 1: To study the impact of financial flexibility on enterprise growth in China's equipment manufacturing enterprises.

In objective 1, the study will do:

Firstly, a regression analysis was conducted on model 1, and then a regression analysis was conducted on model 2. Through the regression analysis results, the impact of financial flexibility on enterprise growth in China's equipment manufacturing enterprises will be found out.

The specific regression results are shown in Table 6:

Table 6 Regression results of financial flexibility and enterprise growth

	Model 1 Tobin's Q	Model 2 Tobin's Q
FF	0.0395***	0.0353***
	(0.00652)	(0.00662)
Size	0.983**	0.995***
	(0.386)	(0.348)
Lev	33.12***	35.35***
	(5.857)	(5.245)
Tat	9.638***	9.661***
	(1.527)	(1.104)
Id	7.427	7.746
	(5.634)	(5.766)
Cr	−1.893***	−1.899***
	(0.445)	(0.443)
Cf	0.0892**	0.105***
	(0.0424)	(0.0390)
Top10	0.136***	0.142***
	(0.0248)	(0.0240)
FF^2		0.287**
		(0.131)
_cons	−28.00***	−30.27***
	(9.104)	(8.299)
N	4229	4229
R^2	0.0701	0.0713

Note: Standard deviation is given in parentheses. * The correlation was significant at the 0.1 level, * * at the 0.05 level and * * * at the 0.01 level.

The regression results showed that the independent variable financial flexible regression coefficient was 0.0395 and 0.0353, and all of them were highly correlated at the 1% level.

Both in Model 1 and Model 2, financial flexibility shows a significant promoting effect, that is, financial flexibility has a significant positive impact on the growth of enterprises. It shows that the

enterprise has higher financial flexibility, that is, better capital allocation and the ability to respond to external shocks, which can effectively improve the growth of the enterprise.

In order to demonstrate the "U" –type relationship between the data and the model, the first step of this paper is to demonstrate whether there is a one–term function relationship, and then add the second term, and analysis. FF in the Model 22 coefficient is 0.287 and highly related at 5% level, indicating that the relationship between financial flexibility and enterprise growth may be nonlinear, assuming H1b is verified, the financial flexibility is significant U–shaped relationship of enterprise growth, assuming that H1a covers the different financial flexibility level on the influence of enterprise growth.

Enterprises maintain a low level of financial flexibility, with high operating costs and high financing costs, which is not conducive to the improvement of enterprise growth. Therefore, when the financial flexibility of enterprise reserves is greater than the "inflection point", financial flexibility has a positive role in the growth of enterprises, which can play a role in promoting the growth of enterprises.

Objective 2: To find the impact of financial flexibility on the growth of enterprises under different property rights in China's equipment manufacturing enterprises.

In order to explore whether there is any difference in the intermediary effect of internal control under the nature of different property rights, the empirical research is further carried out according to the division of state–owned enterprises and non–state–owned enterprises. For the empirical analysis of financial flexibility and enterprise growth, the regression results are shown in Table 7.

Table 7 Results of regression analysis of financial flexibility and enterprise growth under different property rights properties

Enterprise nature	State–owned enterprises	Non–State–owned enterprises
	Tobins'Q	Tobins'Q
FF	0.0234**	0.0333***
	(0.0114)	(0.00800)
FF^2	0.0851	0.315**
	(0.222)	(0.160)
Size	0.723	2.169***
	(0.535)	(0.451)
Lev	20.63**	37.71***
	(8.118)	(7.183)

Enterprise nature	State-owned enterprises	Non-State-owned enterprises
	Tobins'Q	Tobins'Q
Tat	8.693***	8.633***
	(1.522)	(1.463)
Id	0.321	9.039
	(9.285)	(7.009)
Cr	-1.510**	-1.748***
	(0.698)	(0.550)
Er	-5.721***	-8.114***
	(1.320)	(1.490)
Cf	0.0721	0.143***
	(0.0614)	(0.0482)
Top10	0.00806	0.197***
	(0.0438)	(0.0286)
_cons	-14.11	-60.33***
	(12.20)	(10.93)
N	1114	3115
R^2	0.0515	0.0909

Note: Standard deviation is given in parentheses. * The correlation was significant at the 0.1 level, * * at the 0.05 level and * * * at the 0.01 level.

After dividing the model samples, it is found that financial flexibility has a significant positive impact on the growth of non-state-owned enterprises, and has a great impact. For each 1 unit increase in financial flexibility, Tobin's Q increased by about 0.0333 units. At the same time, there is a U-shaped non-linear relationship between the financial flexibility and growth of non-state-owned enterprises, and the impact of financial flexibility on growth is strengthened to some extent with the increase of flexibility.

However, financial flexibility has a significant positive impact on the growth of state-owned enterprises, but the impact is small. Financial flexibility increased by 1 unit, and Tobin's Q increased by about 0.0234 units, indicating that sues have limited advantages in the flexible use of financial resources. This may be because SOEs receive more government support in enterprise development than non-SOEs. The external capital restrictions faced by state-owned enterprises are greatly reduced, and the possibility of insufficient investment of state-owned enterprises caused by capital restrictions is

small, and the level of financial flexibility is relatively high, which makes the level of financial flexibility has little impact on the growth of enterprises.

Whether state–owned enterprises or non–state–owned enterprises, financial flexibility has a significant positive impact on the growth of enterprises. However, the financial flexibility of non–state–owned enterprises has a significant and complex impact on their growth, with a non–linear effect. The financial management of state–owned enterprises is more conservative, and the impact of financial flexibility is relatively small on their growth; while non–state–owned enterprises may enhance their market competitiveness through more flexible financial strategies to promote higher growth.

This shows that non–state enterprises have more flexibility and freedom in financial flexibility, so therefore have more advantages in using financial resources to drive growth.

Robustness test

To ensure the robustness and reliability of the baseline empirical findings, this study conducts a substitution test on the primary dependent variable. Specifically, the measurement metric for corporate expansion is altered, utilizing the sustainable growth rate (SGR) as an alternative proxy. The regression models are then re–estimated to examine the underlying relationship between financial flexibility and this new growth indicator.

Table 8 Results table for the robustness test

	Model1	**Model2**
	growrate	**growrate**
FF	0.00874***	0.00751**
	(0.00337)	(0.00343)
Size	2.490***	2.491***
	(0.202)	(0.202)
Lev	–1.823	–0.868
	(3.118)	(3.161)
Tat	13.97***	14.00***
	(0.657)	(0.657)
Id	–2.357	–2.195
	(3.139)	(3.140)
Cr	0.0210	0.0207
	(0.247)	(0.247)

	Model1 growrate	Model2 growrate
Er	−4.958***	−5.067***
	(0.602)	(0.605)
Cf	0.0134	0.0190
	(0.0203)	(0.0205)
Top10	0.121***	0.124***
	(0.0136)	(0.0137)
FF^2		0.154*
		(0.0833)
_cons	−57.79***	−58.68***
	(4.777)	(4.802)
N	3970	3970
R^2	0.237	0.237

The results presented in Table 8 confirm that the quadratic effect of financial flexibility on firm expansion remains statistically significant. Because these alternative specifications yield evidence completely consistent with our initial baseline regressions, the foundational hypotheses and final deductions of this paper are proven to be highly robust.

Discussion

This paper analyzes the relationship between financial flexibility and corporate growth using data from China's A–share listed equipment manufacturing enterprises from 2018 to 2022. Key findings include:

1. Significant Variations: There are wide disparities in financial flexibility and growth levels among these enterprises. Non – state – owned enterprises show more pronounced differences compared to state – owned ones, mainly due to diverse business strategies and industry factors.

2. Non – linear Relationship: Financial flexibility and corporate growth exhibit a U – shaped non – linear relationship. Low financial flexibility increases operational and financing costs, hindering growth. Once it surpasses a certain "inflection point", it buffers financial risks, resolves funding shortages, and promotes growth.

3. Property – rights Impact: The relationship between financial flexibility and growth varies by property rights, being more significant for non – state – owned enterprises, which should prioritize flexibility reserves.

4. Data Limitations: The COVID – 19 pandemic and sample heterogeneity reduced the regression analysis' R2, but the model's significance remains important.

Recommendations

For Policy Makers:

– Improve the financial flexibility environment by reducing approvals and diversifying financing.

– Optimize the financial market, especially for SMEs.

– Strengthen financial management training and encourage non – state – owned enterprise innovation.

For Enterprises:

– State – owned: Enhance flexibility, optimize capital structure, and promote innovation.

– Non – state – owned: Strengthen financial management, utilize diverse financing, and balance financial flexibility considering its non – linear impact.

Recommendations for Future Research

1. Examine the interaction between financial flexibility and other enterprise factors (e.g., innovation, leadership).

2. Analyze industry – specific roles of financial flexibility in corporate growth.

3. Conduct cross – country comparisons to understand global similarities and differences.

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