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Research on the Impact of Free Cash Flow on Corporate Financing Constraints

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Abstract: Free cash flow and financing constraints can exert significant influences on the operational development of enterprises. Based on the pecking order theory and using data from A-share listed companies in China, this paper employs fixed-effects models and moderation effect models to examine the relationship and mechanisms between enterprises' free cash flow generation capacity and their financing constraints.The study found that: (1) Free cash flow can alleviate corporate financing constraints. (2) Corporate performance plays a positive moderating role in the impact of free cash flow on financing constraints. (3) The impact of free cash flow on financing constraints is weaker in state-owned enterprises compared to non-state-owned enterprises. The findings of this paper imply that free cash flow can have a significant impact on corporate financing activities. Therefore, enterprises should pay more attention to their cash flow indicators, signaling their operational stability and risk management capabilities to the outside world, thereby reducing the level of financing constraints faced by the enterprise.

Keywords: Free Cash Flow; Financing Constraints; Signaling Effect

1. Introduction

Free cash flow refers to the cash flow generated by a company after meeting the needs for reinvestment, representing the maximum amount of cash available for distribution to the company's capital providers without compromising its sustainable development. As a key focus in the analysis of corporate financial statements, free cash flow can largely reflect a company's true cash flow dynamics and provide a more accurate picture of the economic activities that have taken place within a certain period. Furthermore, due to the accrual basis of accounting principles, there is considerable room for manipulation in corporate profits. Both internal company management and external investors and regulatory bodies attach importance to the examination of a company's free cash flow.In February 2022, the State-owned Assets Supervision and Administration Commission of the State Council issued the "Guiding Opinions on Accelerating the Construction of World-Class Financial Management Systems by Central Enterprises," which clearly established "financial boundaries centered on

key indicators such as asset-liability ratio, return on equity, free cash flow, and economic value added." This guidance made free cash flow a key performance indicator for Chinese enterprises for the first time, further elevating its status in corporate management and operation.

Financing constraints refer to the restrictive effects on a company's investment and financing behaviors when there are discrepancies between internal and external financing costs, leading to limited access to capital and increased capital acquisition costs. As a significant issue that Chinese enterprises currently face in their development, financing constraints often directly constrain a company's research and development investments, operational maintenance, and product and service offerings.To alleviate corporate financing constraints, the government has introduced a series of policies to encourage financial institutions to increase financing support for enterprises. However, many enterprises still struggle to obtain credit support and face difficulties in accessing financing. The main reasons for corporate financing constraints are as follows: On the one hand, there is information asymmetry between enterprises and investors. This information asymmetry can lead to adverse selection and moral hazard issues, making it difficult to assess the true condition of enterprises. Consequently, relevant institutions are reluctant to provide loans or increase interest rates, thereby increasing the financing costs for enterprises.On the other hand, in relatively underdeveloped capital markets, the efficiency of funds entering the real economy under the existing financial structure needs to be improved. Many enterprises find it difficult to obtain sufficient financial support from the capital market[1].

It can be seen that both free cash flow and financing constraints have significant impacts on corporate management and high-quality development. Currently, academic research on free cash flow primarily focuses on measuring agency costs or assessing corporate value,Or it examines the relationship between manipulation of cash flow from operating activities and debt default risk,To date, there is a lack of literature that combines free cash flow with corporate financing constraints for research[2]. Given this, this paper will collect and organize previous research results on free cash flow and financing constraints, integrate and study relevant indicators and data from China's A-share listed companies, and conduct empirical research to explore the relationship between the two.

2. Theoretical Analysis and Research Hypotheses

2.1. Theoretical Analysis

The concept of free cash flow was first introduced by Jensen (1986), who defined free cash flow as "the residual cash flow of a company after investing in all projects with a net present value greater than zero."[3]Afterwards, some scholars further defined and subdivided the concept of free cash flow, but there is still no clear definition in academia regarding the calculation method of free cash flow.Penman (2013) measured free cash flow from the perspective of a company's overall value creation, considering interest expenses as a form of free cash flow utilization. Based on an understanding of financial statements, he defined free cash flow as the difference after operating cash flow meets the cash required for investments[4]. He proposed several formulas for calculating free cash flow, including: Free Cash Flow = (Reported Operating Cash Flow + Net Interest Expense After Tax) - (Reported Investment Cash Flow - Net Investment in Interest-bearing Securities), or Free Cash Flow = (After-tax Operating Profit + Depreciation & Amortization + Change in Working Capital) - (Capital Expenditures + Mergers & Acquisitions), or Free Cash Flow = Operating Profit - Change in Net Operating Assets.Similarly, Tirole et al. (2010) defined free cash flow from the perspective of corporate value creation, using the concept of total cash flow as a substitute for free cash flow[5]. They viewed total cash flow or free cash flow as the cash that a company

can freely allocate to shareholders and creditors without needing to replenish operating capital or invest in fixed assets.Furthermore, they propose that total cash flow (free cash flow) equals operating cash flow - capital expenditures - ditional net working capital.Xie D (2013) argues that free cash flow is the difference between the cash flow generated from a company's operating activities and its capital expenditures, and that free cash flow is the only sustainable source of cash that can be used to pay interest and dividends to financial capital providers, as a company cannot continuously rely on cash obtained from financing activities to pay interest and dividends in the long term.He also points out that some traditional methods of calculating free cash flow fail to consider the impact of changes in working capital on free cash flow, as well as the issue of not deducting the cash flow generated from the company's investing activities[6].Meanwhile, Xie D (2020) also defines two methods for calculating free cash flow: From the perspective of enterprise value creation, free cash flow can be defined as: net cash flow from operating activities + net cash flow from investing activities. Alternatively, from the perspective of shareholder value creation, free cash flow can be defined as: net cash flow from operating activities + net cash flow from investing activities - interest expense. He believes that interest is a preferred fixed claim of creditors, and companies cannot freely decide this cash outflow[7]. Therefore, interest paid to financing creditors needs to be deducted.

According to the MM theory in economics, in a perfect market, financing methods are interchangeable, and thus there are no financing constraints. However, in the real financing environment, due to issues such as information asymmetry and principal-agent problems, the external financing cost for enterprises is higher than the internal financing cost. When internal capital encounters funding gaps and external financing costs are excessively high, financing constraints arise.Greenwald et al. (1984), from the perspective of information asymmetry, established the pecking order theory in imperfect markets and discovered a positive correlation between corporate financing constraints and information asymmetry[8]. Specifically, when there is information asymmetry between external investors and corporate management, corporate management may harm the interests of external investors in order to maximize their own benefits, resulting in a risk premium demanded by external investors and thus creating financing constraints. Jiang F et al. (2017), from the perspective of shareholding structure, found in their research that a good information environment helps enterprises with multiple major shareholders to reduce financing constraints.Sun Xue j et al. (2019) found that flexible tax collection and administration policies can reduce corporate financing constraints by alleviating information asymmetry and enhancing corporate reputation[9]. Other scholars also found that patents are one of the effective tools to reduce information asymmetry between enterprises and external investors, and can help enterprises gain the favor of investors. This is because the process of patent application helps to demonstrate to investors the enterprise's technological strength and information about its potential value[10]. Based on signaling theory, Zheng Y and Zhang Q (2019) conducted research and similarly found that the transmission of enterprise signaling effects can reduce the information asymmetry between enterprises and the outside world, thereby alleviating financing constraints.Thus, it can be seen that the information asymmetry between enterprises and the outside world, as well as the signaling effects of enterprises, have significant impacts on corporate financing constraints.

2.2. Research Hypotheses

2.2.1. The impact of free cash flow on corporate financing constraints

An important theoretical advancement concerning corporate investment and financing issues stems from the pecking order theory proposed by Myers and Majluf. They pointed out

that due to the existence of information asymmetry between the inside and outside of a corporation, external financing can lead to a transfer of wealth between existing and new shareholders[11]. Therefore, in terms of financing order, internal financing takes precedence over external financing. That is, when facing various costs associated with external financing and financing constraints caused by financing pressures, corporations will prioritize internal cash flow financing.Furthermore, when a corporation possesses sufficient free cash flow, it can better convey signals of its corporate value to the outside world, thereby mitigating financing constraints arising from information asymmetry. Therefore, this paper proposes Hypothesis 1:

H1: Free cash flow can alleviate corporate financing constraints.

2.2.2. Analysis of the moderating effect of corporate operating performance

Based on the above discussion, although there are still controversies in academia regarding the calculation method of free cash flow, the commonly proposed methods by scholars both domestically and internationally generally include the indicator of cash flow generated from business operations. This implies that a fundamental factor influencing a corporation's ability to generate free cash flow is its current business operations. A corporation with good operating performance is often more likely to have more sufficient free cash flow, which in turn affects corporate financing constraints through the level of free cash flow. To verify this hypothesis, this paper proposes Hypothesis 2:

H2: Corporate operating performance plays a positive moderating role in the impact of free cash flow on financing constraints.

2.2.3. Analysis of the special nature of state-owned enterprises

In China's financial system, there are significant differences in financing capabilities between state-owned enterprises and non-state-owned enterprises.Due to imperfections in the market environment, enterprises with different property rights face different financing issues. When SOEs encounter financial problems, the governments or banks providing funds often show excessive tolerance, agreeing to allow the enterprises to utilize loan funds that exceed their current earnings, which is known as "soft budget constraint." SOEs enjoy more policy support compared to private enterprises.Financial institutions exhibit more pronounced "credit discrimination" against private enterprises when making lending decisions. Compared to private enterprises, SOEs inherently have lower levels of financing constraints[12]. Therefore, there may also be significant differences in the degree to which free cash flow affects corporate financing constraints between SOEs and non-SOEs. Based on this, this paper proposes Hypothesis 3:

H3: The impact of free cash flow on corporate financing constraints is weaker in state-owned enterprises compared to non-state-owned enterprises.

3. Research Design

3.1. Sample Selection and Data Sources

The initial sample for this study consists of all A-share listed companies from 2012 to 2022, with data sourced from the Guotaian Database, China Research Data Services Platform, or the annual reports of listed companies. The initial sample data was screened as follows: (1) Exclude financial industry companies and ST-listed companies; (2) Exclude observations with missing data for key variables; (3) Exclude samples with less than 10 years since listing. Ultimately, 20,345 company-year observations were obtained for the study, and a 1% winsorization was applied to all continuous variables.

3.2. Measurement of Key Variables and Model Design

3.2.1. Measurement of Corporate Free Cash Flow Indicators

Xie Deren (2021) argues that free cash flow is the only sustainable source of cash that can be used to pay interest and dividends to financial capital providers, namely financing creditors and shareholders, because a corporation cannot rely on cash from financing activities for long-term interest and dividend payments[13]. Furthermore, from the perspective of value creation, relying too heavily on cash from financing activities to pay interest and dividends does not truly create value for creditors and shareholders. Such payments, in nature and characteristics, belong to Ponzi interest and Ponzi dividends, which are unsustainable behaviors.Therefore, in measuring corporate free cash flow, this paper follows the approach of Xie Deren (2021) and defines corporate free cash flow from the perspective of joint value creation for financing creditors and shareholders. Specifically, free cash flow = net cash flow from operating activities + net cash flow from investing activities. This indicator is then divided by the corporation's total assets at the end of the period to standardize it across corporations of different sizes and eliminate the influence of scale factors.This results in the corporate free cash flow indicator FCFi,t, which is the ratio of (net cash flow from operating activities + net cash flow from investing activities) for sample corporation i at the end of year t to the total assets of corporation i at the end of year t.

3.2.2. Measurement of Corporate Financing Constraint Indicators

Drawing on the research of Liu L (2015), this paper adopts the SA index constructed by Hadlock and Pierce (2010) to measure the degree of corporate financing constraints[14]. The specific calculation formula is as follows:

$$SA=0.043*Size^2-0.737*Size-0.04*Age \quad (1)$$

Where Size is the logarithm of the corporation's total assets at the end of the period, and Age is the number of years since the corporation was established. A larger absolute value of the SA index indicates greater financing constraints faced by the corporation. The SA index is used as a measure of financing constraints for the following reasons: first, the SA index does not include financing variables with endogenous characteristics; second, the calculation of the SA index is relatively convenient; third, the SA index is more robust compared to other indices[15].

3.2.3. Model Design

To verify the relationship between free cash flow and corporate financing constraints, this paper establishes the following regression model:

$$SA_{i,t}=\alpha_0+\alpha_1 FCF_{i,t}+\alpha_j \Sigma controls+\mu_t+\nu_i+\varepsilon_{i,t} \quad (2)$$

In the model, the dependent variable is the financing constraint index ($SA_{i,t}$) for corporation i in year t. Since we are verifying the relationship between the two, this paper adopts a fixed effects model (with corporate fixed effects νi and year fixed effects μt) for estimation. The key explanatory variable is the corporate free cash flow indicator ($FCF_{i,t}$), which represents the free cash flow of sample corporation i at the end of year t.In terms of control variables, this paper draws on the practices of Xie D (2022) and Wang H (2025), among others, and selects the nature of the listed company ($SOE_{i,t}$), company size ($Size_{i,t}$), company age ($Age_{i,t}$), corporate financial leverage ($LEV_{i,t}$), return on assets ($ROA_{i,t}$), corporate cash holdings ($Cash_{i,t}$), proportion of independent directors ($Outside_{i,t}$), shareholding ratio of the largest shareholder ($TOP_{i,t}$), corporate growth capacity ($Growth_{i,t}$), and total asset turnover ($TAT_{i,t}$)[16]. The specific variables in the model are shown in Table 1.

Table 1. Definitions of Key Variables

Variable Name	Variable Symbol	Variable Definition
Corporate Financing Constraints	$SA_{i,t}$	SA Index of Corporate Financing Constraints for Corporation i in Year t
Free Cash Flow	$FCF_{i,t}$	The ratio of (net cash flow from operating activities + net cash flow from investing activities) for Corporation i at the end of Year t divided by the total assets of Corporation i at the end of Year t
Nature of the Company	$SOE_{i,t}$	Takes a value of 1 if Corporation i is a state-owned enterprise, otherwise 0
Company Size	$Size_{i,t}$	Natural logarithm of the total assets of Corporation i at the end of Year t
Company Age	$Age_{i,t}$	Ln(1+Company Establishment Years)
Corporate Financial Leverage	$LEV_{i,t}$	Total Liabilities / Total Assets
Return on Assets	$ROA_{i,t}$	Net Profit / Total Assets
Cash Holdings	$Cash_{i,t}$	Monetary Funds / Total Assets
Proportion of Independent Directors	$Outside_{i,t}$	Proportion of Independent Directors (Number of Independent Directors / Total Number of Board Members)
Shareholding Ratio of the Largest Shareholder	$TOP_{i,t}$	Largest Shareholder's Shareholdings / Total Share Capital
Total Asset Turnover	$TAT_{i,t}$	Operating Revenue / Total Assets

4. Empirical Results

4.1. Descriptive Statistics

Table 2 presents the basic distribution of the key variables in this paper. The data in the table reveals that the corporate financing constraint index (SA) ranges from 5.798 to 2.109, with a standard deviation of 0.276. This indicates that financing constraints are prevalent among Chinese enterprises and there are certain differences among different individuals.The core explanatory variable, corporate free cash flow (FCF), after being adjusted to account for corporate size, ranges from -0.749 to 1.514, with an average of -0.003 and a standard deviation of 0.095. This suggests that Chinese enterprises generally do not have sufficient free cash flow and there is also a certain degree of individual variation, which is similar to the findings of some existing literature.

In terms of control variables, the maximum value of corporate financial leverage (LEV) is 0.873, indicating that some A-share listed companies face significant debt pressure. The maximum and minimum values of corporate cash holdings (Cash) are 0.232 and 0.014, respectively, suggesting that there are certain differences in cash holdings among listed companies in different industries. The maximum and minimum values of return on assets (ROA) are 0.209 and -0.208, respectively, indicating that some listed companies have relatively low net profits. The total asset turnover (TAT) ranges from 0.079 to 2.496, which also reflects to some extent the differences in asset utilization efficiency and management levels among listed companies.

Table 2. Descriptive Statistics

	count	mean	sd	min	max
SA	20345	3.879	0.276	2.109	5.798
FCF	20345	0.054	0.269	-0.749	1.514
SOE	20345	0.430	0.495	0.000	1.000

Size	20345	22.557	1.270	19.997	26.071
Lev	20345	0.447	0.194	0.057	0.873
ROA	20345	0.041	0.058	-0.208	0.209
Cash	20345	0.054	0.064	0.014	0.232
Outside	20345	37.475	5.352	33.330	57.140
TOP	20345	35.337	14.940	8.875	72.638
Age	20345	2.329	0.767	0.000	3.332
TAT	20345	0.685	0.443	0.079	2.496

4.2. Baseline Regression

As shown in Table 3, columns (1) and (2) explore whether the explanatory variables have an impact on the dependent variable when control variables are not included and included, respectively. The data in the table indicates that corporate financial leverage (LEV), return on assets (ROA), and corporate cash holdings (Cash) can promote the level of the corporate financing constraint index (SA), while the shareholding ratio of the largest shareholder (TOP), company size (Size), and the proportion of independent directors (Outside) tend to inhibit the level of corporate financing constraints (SA).And after including relevant control variables, the corporate free cash flow indicator (FCF) has a significant negative effect on the corporate financing constraint index (SA) at the 1% level, indicating that free cash flow can significantly reduce the level of corporate financing constraints. Hypothesis H1 set in this paper is verified.

Table 3. Baseline Regression Analysis

	(1)	**(2)**
	SA	***SA***
FCF	-0.002*	-0.005***
	(-1.70)	(-3.46)
SOE		0.010*
		(1.75)
Size		-0.025***
		(-5.56)
Lev		0.036***
		(3.20)
ROA		0.044***
		(2.82)
Cash		-0.008
		(-0.83)
Outside		-0.000
		(-1.22)
TOP		-0.000
		(-0.50)
Age		0.048***
		(10.57)
TAT		0.006
		(1.29)
_cons	3.879***	4.330***
	(52084.09)	(43.43)
N	20205	20205
R^2	0.975	0.977
adj. R^2	0.971	0.974

Note: ***,**,and * represent significance levels of 1%, 5%, and 10%, respectively.

4.3. Robustness Check

To ensure the robustness and reliability of the research results, this study conducted checks by replacing both the dependent and explanatory variables. Specifically, drawing on the approach of Kaplan and Zingales (1997)[17], this paper adopts the KZ index of financing constraints as a replacement for the dependent variable. The KZ index can intuitively reflect the level of corporate financing constraints, with a higher value indicating greater difficulty in obtaining financing for the enterprise.In terms of replacing the explanatory variable, drawing on the research of Xie Deren (2023)[18], which suggests that free cash flow should prioritize shareholders' dividend rights, this paper constructs a further refined free cash flow indicator (*FCF2*) that deducts dividends paid to shareholders. Specifically, *FCF2* for enterprise i at the end of year t is calculated as (net cash flow from operating activities + net cash flow from investing activities - interest expenses - dividends paid) divided by the total assets of enterprise i at the end of year t. This refined indicator is used as a replacement for the explanatory variable, and the results are shown in Table 4.

Table 4. Robustness Check

	(1)	(2)
	KZ	***SA***
FCF	-0.050**	
	(-2.08)	
SOE	-0.046	0.010*
	(-0.70)	(1.76)
Size	-0.418***	-0.026***
	(-14.26)	(-5.57)
Lev	5.778***	0.036***
	(45.67)	(3.20)
ROA	-3.998***	0.041***
	(-17.06)	(2.70)
Cash	-13.181***	-0.000
	(-84.75)	(-0.04)
Outside	0.004*	-0.000
	(1.96)	(-1.22)
TOP	0.000	-0.000
	(0.06)	(-0.51)
Age	0.838***	0.049***
	(17.63)	(10.53)
TAT	-0.023	0.006
	(-0.49)	(1.29)
FCF2		-0.013**
		(-2.48)
_cons	7.156***	4.333***
	(11.10)	(43.25)
N	19909	20205
R^2	0.855	0.977
adj. R^2	0.833	0.974

Note: ***,**,and * represent significance levels of 1%, 5%, and 10%, respectively.

The data in the table shows that after replacing the dependent variable financing constraint index (*SA*) with the financing constraint index (*KZ*), the core explanatory variable (*FCF*) still has a significant negative relationship with the dependent variable at the 5% level. Furthermore, after using the refined free cash flow indicator (*FCF2*) as a replacement for the

explanatory variable, it remains significantly negative at the 5% level for the dependent variable (*KZ*), consistent with the main regression results. This further verifies the hypothesis H1 set above, namely that free cash flow can reduce corporate financing constraints.

4.4. Mechanism Test

As mentioned above, although there is still controversy surrounding the calculation method of free cash flow, the academic community generally includes the cash flow generated from business operations in the definition of free cash flow. This implies that a fundamental factor influencing a company's ability to generate free cash flow is its current business operations. To verify whether a company with good business performance can affect its financing constraints through its level of free cash flow, this paper selects the revenue growth rate of sample enterprise i at the end of year t, denoted as (Growthi,t), as a moderating variable to test the moderating effect of business performance. The specific model is as follows:

$$SA_{i,t}=\beta_0+\beta_1 FCF_{i,t}+\beta_2 Growth_{i,t}+\beta_3 FCF\_Growth+\beta_4 \Sigma controls+\mu_t+v_i+\varepsilon_{i,t} \quad (3)$$

Table 5. Moderating Effect - Business Performance

	(1)	(2)
	SA	***SA***
FCF	-0.005***	-0.000
	(-3.46)	(-0.22)
SOE	0.010*	0.010*
	(1.75)	(1.83)
Size	-0.025***	-0.026***
	(-5.56)	(-5.76)
Lev	0.036***	0.035***
	(3.20)	(3.16)
ROA	0.044***	0.042***
	(2.82)	(2.76)
Cash	-0.008	0.023**
	(-0.83)	(2.33)
Outside	-0.000	-0.000
	(-1.22)	(-1.14)
TOP	-0.000	-0.000
	(-0.50)	(-0.41)
Age	0.048***	0.048***
	(10.57)	(10.67)
TAT	0.006	0.006
	(1.29)	(1.21)
c.*FCF*#c.*Growth*		-0.003***
		(-2.67)
Growth		0.004***
		(12.49)
_cons	4.330***	4.331***
	(43.43)	(44.30)
N	20205	20205
R^2	0.977	0.977
adj. R^2	0.974	0.974

Note: ***,**,and * represent significance levels of 1%, 5%, and 10%, respectively.

Table 5 presents the regression results of the moderating effect of business performance on the relationship between free cash flow and corporate financing constraints. The

regression coefficient of the interaction term FCF_Growth is significantly negative at the 1% level and is in the same direction as the coefficient in the main regression. This reflects that companies with better business performance experience lower levels of financing constraints, indicating that business performance plays a positive moderating role in the influence of free cash flow on financing constraints. Hypothesis H2 of this paper is verified.

4.5. Heterogeneity Analysis

Considering the potential impact of the special nature of state-owned enterprises (SOEs) on the empirical results, as well as to verify the hypothesis H3 set forth earlier, this paper conducts a grouped regression by distinguishing between SOEs and non-SOEs. Specifically, SOEs are assigned a value of 1, and non-SOEs are assigned a value of 0. The aim is to verify the impact of free cash flow on financing constraints for enterprises of different natures. The results are shown in Table 6:

Table 6. Heterogeneity Analysis

	(1)	(2)
	SA	*SA*
FCF	-0.003*	-0.005***
	(-1.31)	(-3.09)
SOE	0.000	0.000
	(.)	(.)
Size	-0.041***	-0.014**
	(-6.22)	(-2.50)
Lev	0.019	0.043***
	(1.13)	(3.13)
ROA	0.057**	0.038**
	(2.08)	(2.05)
Cash	0.004	-0.023*
	(0.24)	(-1.89)
Outside	-0.000	-0.000
	(-0.62)	(-0.72)
TOP	0.000	0.000
	(0.52)	(0.07)
Age	0.003	0.044***
	(0.26)	(8.10)
TAT	0.008	0.007
	(1.31)	(0.88)
_cons	4.810***	4.079***
	(31.91)	(33.55)
N	8667	11480
R^2	0.980	0.977
adj. R^2	0.977	0.973

Note: ***,**,and * represent significance levels of 1%, 5%, and 10%, respectively.

Considering that SOEs often fulfill social responsibilities such as maintaining market stability, promoting economic development, and ensuring employment and people's livelihood, they typically enjoy more policy support and implicit guarantees provided by the government, resulting in relatively lower credit default risks. Compared to non-SOEs, fund providers tend to adopt a more lenient attitude towards the financing behavior of SOEs. Therefore, there may be significant differences in the impact of free cash flow on financing constraints between SOEs and non-SOEs.The data in the above table shows that after

grouping SOEs and non-SOEs for regression analysis, the core explanatory variable (FCF) for SOEs has a significant negative relationship with the corporate financing constraint indicator (SA) at the 10% level, while for non-SOEs, this relationship is significant at the 1% level. Furthermore, the regression coefficient of (FCF) in the non-SOE group is larger compared to the SOE group. This indicates that the mitigating effect of free cash flow on financing constraints is weaker for SOEs than for non-SOEs at the entity level. Hypothesis H3 set forth in this paper is verified.

5. Conclusions and Implications

This paper selects A-share listed companies from 2012 to 2022, excluding financial industry companies and ST-listed companies as research samples. It chooses indicators such as corporate financial leverage, total asset turnover ratio, return on assets, and corporate cash holdings as control variables to study the impact of free cash flow on corporate financing constraints. The conclusion drawn is that free cash flow can alleviate the degree of corporate financing constraints, and its effect is more pronounced in non-state-owned enterprises compared to state-owned enterprises.By using the indicator of corporate revenue growth rate as a moderating variable, the study finds that business performance plays a positive moderating role in the mitigation effect of free cash flow on financing constraints.

In the current era, corporate free cash flow has become one of the indispensable evaluation indicators for high-quality corporate development. It can exert a significant influence on corporate investment and financing activities and is increasingly becoming a key focus for investors and stakeholders. Given the differentiated treatment of SOEs and non-SOEs by financial institutions in terms of financing behavior, non-SOEs generally lack financing advantages and face greater challenges in obtaining external funds.Therefore, non-state-owned enterprises should pay more attention to improving their free cash flow levels, sending signals to financial institutions about their operational stability and risk management capabilities, and enhancing their understanding and trust in the enterprises. This not only helps to broaden the financing channels of the enterprises but also contributes to reducing their financing costs, alleviating financing constraints, and achieving high-quality development.

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