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Research on the Impact of Internal Control Deficiencies on the Cost of Enterprise Debt Financing

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Abstract

In recent years, the instability of the international economic situation and the turbulence of China's domestic and international environment have caused a downturn in the domestic financial market, making enterprises face the dilemma of "difficult financing" and "expensive financing". Therefore, based on the information asymmetry theory, principal-agent theory and signal transmission theory, this paper analyzes the impact of internal control defects on corporate debt financing costs with the sample of Shanghai and Shenzhen A-share listed companies from 2020 to 2024. The empirical study found that the reduction of internal control defects can effectively reduce the financing cost of enterprises. At the same time, from the perspective of audit quality and the nature of property rights, this paper analyzes their regulatory role in the relationship between internal control defects and corporate debt financing costs. The study found that, compared with enterprises with higher audit quality, the impact of internal control defects on corporate debt financing costs is more significant in enterprises with lower audit quality. And compared with state-owned enterprises, the impact of internal control defects on the cost of corporate debt financing is more significant in non-state-owned enterprises. This study helps enterprises realize the important role of the identification of internal control defects in the process of enterprise financing, and also enriches the theoretical research in related fields.

Keywords

Internal control deficiencies; Audit Quality; Cost of Debt Financing

1. Introduction

In recent years, both the international and domestic markets have been in a persistently sluggish state, and the uncertainties in the external Environment have been increasing continuously, leading to a slowdown in the domestic economic growth rate. In this macroeconomic situation, enterprises are facing financing difficulties, the difficulty of obtaining funds has increased, and the problem of rising

financing costs has become more prominent. According to statistics released by the National Development and Reform Commission of the People's Republic of China, the total increase in social financing in 2024 was 32.26 trillion yuan, a reduction of 3.32 trillion yuan compared with the previous year. During this period, non-financial domestic enterprises accounted for 2.9% of total financing in the stock market, 7.9% in the bond market, and as much as 61.8% in RMB loans. Among the current capital raising channels for enterprises, bank credit holds a dominant position, followed closely by capital operations through the securities market. From this observation, it can be seen that debt-based financing methods have become the preferred Policy for obtaining funds for many enterprises. To optimize the capital structure, the Central Bank, in conjunction with the National Development and Reform Commission and other departments, issued the "Notice on Doing a Good Job in Key Cost Reduction Work in 2024", proposing to adopt a Policy of gradually lowering loan interest rates, strengthen the reform effect of the loan prime rate and the market-based adjustment mechanism of deposit interest rates, aiming to maintain the balance of net interest margins of commercial banks while Promote a steady decline in the financing costs of Full. Therefore, in line with the orientation of the national credit policy, it is of practical significance to conduct detailed research on ways to reduce financing costs.

In 2024, regulatory authorities, in collaboration with relevant departments, focused on the comprehensive implementation of the newly revised Securities Law and Company Law. During this period, they carried out systematic formulation and revision of over 70 regulations and rules, thereby establishing a policy document system for the capital market with a Architecture of 1+N. The continuous promulgation of the policy chain clearly reflects the strictness standards at the regulatory level, with its scope Coverage the entire regulatory Domain from the setting of issuance and listing thresholds to listed companies and industry institutions. This statement indicates that listed companies in a specific industry are about to face all-round regulatory constraints. Against this backdrop, enterprises need to invest in a dual Policy of cost reduction and efficiency improvement to enhance their market competitiveness. Therefore, researching Policy for improving capital raising efficiency and reducing the cost of debt capital has become a core issue in enterprise strategic planning. In the 2025 revised "Self-Regulatory Guidelines for Listed Companies No. 1 - Standardized Operations of Main Board Listed Companies", the Shenzhen Stock Exchange issued detailed provisions in Chapter 5 of the guidelines on internal control of listed companies, requiring listed companies to improve their internal control systems and ensure the legal operation and scientific decision-making of institutions such as the board of directors. The internal control system of listed companies should cover all business links such as financial reporting and information disclosure. They should also establish and improve internal control systems for information disclosure and internal audit

institutions, etc. This phenomenon reflects the financial sector's high regard for the improvement of the internal control mechanism of listed companies, which in turn prompts the improvement of internal control deficiencies and the optimization of the internal control system to become a key issue that listed enterprises must confront.

Taking into account the correlation between internal control deficiencies and the cost of enterprise debt financing provides a theoretical basis for reducing the cost of debt financing by minimizing internal control deficiencies and further broadens the Path for improving the debt financing situation of enterprises. Therefore, this paper studies the impact of internal control deficiencies and debt financing costs. At the same time, audit quality can affect market confidence in an enterprise's internal control and thereby affect the enterprise's financing process (Dai Qingqing, 2019). Therefore, this article will analyze the moderating role of audit quality in the Relation between internal control deficiencies and debt financing costs. Furthermore, due to China's unique national conditions, enterprises with different property rights natures face significantly different debt financing Constraint (Wu Sijin, 2019). Therefore, this article will also analyze the moderating role of property rights nature in the Relation between internal control deficiencies and debt financing costs. Based on this, this paper will start from the perspective of internal control deficiencies, consider the two moderating variables of audit quality and property rights nature, and study the impact of internal control deficiencies on the cost of debt financing.

2. Theoretical analysis and research Hypothesis

2.1. Research on internal control deficiencies and debt financing costs

The cost of corporate debt financing is an extremely crucial consideration factor for enterprises in debt financing activities. As the Cost that enterprises pay for using debt funds, it is not simply determined by a single factor but is comprehensively influenced by many complex factors. In the actual financial market Environment, creditors usually determine the cost of enterprise debt financing based on a series of strict and comprehensive assessment Metric, which cover key elements at multiple accounting levels such as the enterprise's debt-paying ability, profitability, and development potential.

Starting from the theory of information asymmetry and principal-agent, internal control has a significant inhibitory effect on violations in financial reports through Valid Supervised, thereby promoting the improvement of accounting information quality and transparency. Transmitting reliable and high-quality information to creditors can improve the phenomenon of information asymmetry and lower investors' Risk expectations. Investors are willing to provide loans at lower interest rates, which reduces the cost of corporate debt financing (Chen Yugang, 2023). Where there is no Symmetric between debtors and creditors, the latter generally

rely on non-direct means such as financial statements to collect relevant information about the operation of the enterprise. This kind of information may contain inherent flaws, especially when there are problems with the financial statements released by the enterprise, which will expand the Error of the creditor's assessment of the Risk of the enterprise's debt default. Although internal control deficiencies have the nature of "family ugliness", proactively identifying, remediing and disclosing internal control deficiencies can not only reduce the possible Loss caused by the deficiencies, but also demonstrate the enterprise's good image of being honest, reliable and positive. Moreover, it can leverage external governance forces such as investors to promote the Valid implementation of internal control and the proactive discovery and rectification of its deficiencies. Thereby earning the trust of investors and other stakeholders and enhancing the financing capacity (Cheng et al., 2025). At the same time, enhancing the transparency of enterprises is conducive to improving the understanding of Underlying creditors towards enterprises, alleviating the problem of information Symmetric, and thereby efficiently reducing the Cost of enterprises conducting debt financing in the capital market (Huang Jingru and Li Haoxuan, 2025). In conclusion, by reducing information asymmetry and agency costs, the reduction of internal control deficiencies can Valid lower the cost of debt financing.

From the perspective of enterprise Risk, reducing internal control deficiencies is conducive to lowering Risk and information asymmetry in the operation of enterprises. Enterprises with weak internal control generally have lower quality of information disclosure. Therefore, they face greater credit Risk premiums in the capital market and have a higher Probability of financing obstruction (He and Shan, 2021). When an enterprise has internal control deficiencies, the internal contradictions of the enterprise will intensify, which may negatively affect creditors' confidence in investing in the enterprise. To ensure the Robustness of enterprise operations, it is necessary to reduce the occurrence of internal control deficiencies, thereby lowering the Odds of Underlying Risk during the operation process, and thus achieving a reduction in the economic burden of enterprise debt financing (Qiao Rong, 2023). The efficiency of the internal control mechanism plays a significant role in the continuous and efficient monitoring of management behaviors, thereby promoting the compliance of enterprise investment behaviors with regulatory requirements, significantly reducing the Odds of managers making opportunistic choices, and Valid suppressing the implementation of investment behaviors involving high risks. Debt equity holders will receive a signal of security, thereby reducing the need for Risk premium compensation (Chen Yugang, 2023). Facing stricter financing restrictions, if enterprises attempt to raise funds from outside, they may have to bear a greater Cost. The perfection of an enterprise's internal control mechanism is positively correlated with the comprehensiveness of its operation. Its improvement can directly promote the optimization of the

management system, reduce the Underlying Risk Odds in the business process, and thereby enhance the overall development strength of the enterprise. This positive effect will eventually be significantly reflected in the control of the enterprise's debt financing costs, achieving Valid cost management. In conclusion, this paper proposes Hypothesis 1:

H1: A reduction in internal control deficiencies can lower the cost of corporate debt financing.

2.2. Research on Audit Quality, internal control deficiencies and debt financing costs

The quality of auditing is closely related to the quality of financial information content and disclosure of enterprises, and it is an important manifestation of Supervised the work results of enterprises. As the "quality inspector" of financial statements, auditing can, with professional auditing procedures and a rigorous working attitude, keenly identify errors and loopholes in the financial reports of listed companies, and ensure the quality of auditing work from the perspectives of Supervised internal control deficiencies and participating in corporate governance.

From the perspective of internal control deficiencies, as an economic Supervised activity, the core responsibility of auditing lies in Unfolding comprehensive inspections and verifications of an enterprise's financial statements and internal control deficiencies (Jiang Yuanyuan, Wu Yanyan, 2023). The independence of internal auditing can enhance the effectiveness of internal control. Auditors can conduct business audits more impartially and fairly, identify existing Risk more accurately, and then put forward improvement suggestions (Wang Enbing, 2024). When the quality of the audit is good, the financial information presented by the enterprise is true and reliable, and the internal control deficiencies are likely not to be major problems (Sun et al., 2022). Meanwhile, the internal control system has a positive effect on the quality of audits. The reduction of internal control deficiencies not only lowers the operational Risk of enterprises but also ensures the credibility of financial reports (Yu Ke, 2024). The enhanced enforcement of internal control can also efficiently optimize the quality of audits (Liu Wenhuan and Wang Yuxin, 2024). Improving internal control deficiencies can also enhance external investors' trust in the enterprise, thereby further improving audit quality (Liao Shiyun, 2023).

From the perspective of corporate governance, high-quality auditing can bring numerous positive effects to enterprises. It helps enhance the image and credibility of enterprises in the capital market, reduce internal control deficiencies of enterprises, and then lower information Symmetric and agency costs, thereby reducing the debt financing costs of enterprises. This series of chain reactions indicates that if the internal control system is not sound enough, the internal Supervised mechanism for continuous inspection and evaluation of the internal control system may fail to function Valid, thus preventing enterprises from

promptly identifying and correcting errors and frauds in financing trade (Zhao Xiaotong, 2025). In view of this, The Risk premium demanded by external investors will also increase accordingly, thereby driving up the debt cost of the enterprise. It can be seen from this that the level of Risk assumption of an enterprise is the core criterion for measuring the cost of debt financing. If this level is too high, it means that the future income of the enterprise may lack guarantee. In such a situation, creditors will, based on this high-risk situation, correspondingly increase the cost of debt financing (Li et al., 2022). At the same time, the improvement of audit quality can not only enhance the Robustness of accounting, but also improve the effectiveness of internal control. Thus, through a full-process control Pattern of pre-event detection, in-event monitoring, post-event evaluation and improvement, operational Risk can be reduced, and favorable signals can be sent to the capital market to lower the cost of debt financing. After the above theoretical analysis, this paper proposes Hypothesis 2:

H2: The internal control deficiencies of listed companies with lower audit quality have a more significant impact on the cost of corporate debt financing compared to those with higher audit quality.

2.3. Research on the Nature of Property Rights, internal control deficiencies and debt financing costs

Due to China's unique economic Environment, that is, the economic mechanism with public ownership as the main body, the state-owned economy occupies a pivotal position in China's market economy. The difference between state-owned enterprises and non-state-owned enterprises is that, first, the ownership of state-owned enterprises belongs to the state and the property rights structure is relatively concentrated, while the ownership of non-state-owned enterprises belongs to non-state entities and the property rights structure is more diverse; Second, the business Objective of state-owned enterprises is not only to pursue economic benefits but also to take into account public policy Objective of society and the state, while non-state-owned enterprises focus more on cost reduction and efficiency improvement to achieve the maximization of economic benefits. Thirdly, in terms of government supervision, state-owned enterprises are subject to more supervision from government departments compared to non-state-owned enterprises. Fourth, in terms of the internal control Pattern, state-owned enterprises have relatively more complete internal control systems, stricter internal control implementation, and higher internal control quality compared to non-state-owned enterprises.

State-owned enterprises fulfill social responsibilities such as maintaining market stability, promoting economic development, and ensuring people's livelihood and employment. Therefore, they can obtain more implicit guarantees from the government. When financial institutions make loan decisions, there is a relatively

obvious "credit discrimination" against private enterprises. Compared with private enterprises, the financing Constraint level of state-owned enterprises is lower (Yu Minggui et al., 2019). As state-owned property rights companies are subject to the supervision of administrative departments, their operational behaviors are related to the purposes and rights and interests of administrative departments. Therefore, the reliability and standardization of their financial and accounting information are generally higher than those of non-state-owned property rights companies. Thus, in order to reduce agency costs and alleviate the degree of information asymmetry, creditors will pay more attention to the internal control capabilities of non-state-owned property rights companies (Xiao Jun, 2019). The cost of enterprise debt financing is affected by internal control, and the two show a significant negative correlation. Moreover, this Relation is closely related to the nature of the company's property rights, and its manifestation is more significant in non-state-controlled enterprises than in state-controlled enterprises (Qiu Feng and Liu Keke, 2018). As a result, creditors pay more attention to the quality of internal control in private enterprises than in state-owned enterprises. Based on this, this paper proposes Hypothesis 3:

H3: The internal control deficiencies of non-state-owned enterprises have a more significant impact on the cost of corporate debt financing compared to state-owned enterprises.

3. Study Design

3.1. Sample selection and Data sources

The Sample for this study is derived from the Valid Data of A-share listed companies on the Shanghai and Shenzhen stock exchanges in China from 2020 to 2024. The screening principles are as follows: (1) Eliminate listed companies in the financial and insurance sectors; (2) Eliminate enterprises with abnormal Data and ST category; (3) Eliminate enterprises with incomplete or unidentifiable financial Data; (4) Exclude companies whose interest on interest-free loans is 0; (5) Eliminate Sample with a debt ratio greater than 1. Ultimately, 6,916 Valid Data pieces were obtained. All Data are sourced from the Guotai 'an Database. The preprocessing and analysis of Data were accomplished with the aid of excel and stata17.0 software. In this process, a 1% winsor tailing was applied to continuous variables to ensure statistical Robustness.

3.2. Study Variables

3.2.1. Explained variables

The explained variable in this article is the COST of debt financing, which is estimated based on the ratio of annual interest expenses to the total amount of interest-bearing liabilities. The interest-bearing liabilities include long-term borrowings, short-term borrowings, bonds payable, and non-current liabilities due

within one year. The larger this Metric is, the higher the cost of debt financing for enterprises will be.

3.2.2. Explanatory variables

The explanatory variable in this paper is the internal control defect (ICW). Referring to the existing variable definition method, when an enterprise discloses a material or significant internal control defect in its internal control self-evaluation report, take 1; otherwise, take 0.

3.2.3. Adjusting variable

The moderating variables in this article are audit quality (AQ) and property nature (STATE). Audit quality is measured by whether the auditor is from a "Top 10" accounting firm, with a value of 1 assigned if the firm auditing the public company belongs to the "Top 10"; If not, assign a value of 0. Take 1 for state-owned listed companies and 0 for non-state-owned listed companies.

3.2.4. Control Variables

Based on existing research literature, this study controlled for the following key influencing factors: enterprise SIZE (SIZE), asset-liability ratio (LEV), return on assets (ROA), cash Stream adequacy (CFO), GROWTH (GROWTH), equity concentration (Z), and total asset turnover (TAT). And control industry (IND) and YEAR (YEAR). Specific variable definitions are as shown in the table below:

Table 1. Variable definition

Variables	Variable symbols	Variable name	Variable Definitions
The interpreted variable	COST	Cost of debt financing	Corporate interest expense/annual interest-bearing liability
Explanatory variables	ICW	Internal control flaws	If material or significant deficiencies in internal control are disclosed, take 1; otherwise, take 0
Adjusting variables	AQ	Audit quality	1 if it's in the top 10, 0 if not
	STATE	Property rights nature	For state-owned listed companies, take 1; otherwise, take 0
Control variables	SIZE	Business size	The total assets of the company are taken as LN values
	LEV	Debt-to-asset ratio	Total liabilities at the end of the year/total assets at the end of the year
	ROA	Return on assets	Net profit/total assets
	CFO	Cash flow adequacy	Net operating cash flow/total assets
	GROWTH	Growth	In terms of the growth rate of operating income
	Z	Equity concentration	The proportion of shares held by the largest shareholder of the company
	TAT	Total asset turnover	Net operating income/average total assets
	IND	Industry	The dummy variable of the industry in which the listed company operates
	YEAR	Year	Annual dummy variable

3.5. Study the Model

To verify Hypothesis 1, this paper constructs the following Model:

$$COST = \alpha_0 + \alpha_1 IC + \alpha_2 SIZE + \alpha_3 LEV + \alpha_4 ROA + \alpha_5 CFO + \alpha_6 GROWTH + \alpha_7 Z + \alpha_8 TAT + \alpha_9 \sum IND + \alpha_{10} \sum YEAR + \varepsilon \quad (1)$$

Among them, the coefficients in Model (1) reflect the extent to which the flaws of internal control affects the cost of enterprise debt financing. If the coefficient is positive, then Hypothesis H1 is verified, and the flaws of internal control has a positive impact on the enterprise's debt financing cost.

Hypothesis 2 and Hypothesis 3 also conduct group studies on audit quality and property rights nature using the above-mentioned Model. If the significance of the low audit quality group is higher than that of the high audit quality group, then Hypothesis H2 is verified. Compared with high audit quality enterprises, the impact of the internal control flaws of low audit quality enterprises on the debt financing cost of enterprises is more significant. If the significance of the non-state-owned enterprise group is higher than that of the state-owned enterprise group, then Hypothesis H3 is verified. Compared with state-owned enterprises, the internal control flaws of non-state-owned enterprises has a more significant impact on the cost of enterprise debt financing.

4. Empirical tests and results analysis

4.1. Descriptive analysis

The descriptive statistical results of each variable are shown in Table 2. Data shows that the average value of the Metric for measuring the COST of debt financing is 0.083, and the Median is 0.044. The Mean is greater than the Median, indicating that the cost of debt financing of some enterprises is higher than the average level, resulting in a larger Mean. The Metric for measuring the cost of debt financing ranges from 0.003 to 1.380, with a Standard Deviation of 0.170, showing relatively large fluctuations. From this, it can be seen that the cost situation faced by companies in debt financing is uneven.

The Mean of the Metric for measuring internal control deficiencies (ICW) in the table is 0.051, and the Mean sum and Median are 0, suggesting that most enterprises do not have significant or important internal control deficiencies. The Standard Deviation is 0.22, indicating that there is a significant gap in the number of enterprises with major and important defects compared to those with general defects.

The average Metric for measuring audit quality (AQ) in the table is 0.466, which means that approximately 47% of the companies within the Sample range selected accounting firms ranked among the top ten in the industry, indicating that nearly half of the companies have relatively high audit quality. The Numeric Value of this

Metric is limited within the range of 0 to 1, with a Median of 0. To some extent, this reflects that more than half of the companies have chosen firms with lower audit quality, which leads to an uneven overall audit effect. The Standard Deviation is 0.499, further indicating that the dispersion degree of the external audit quality of each company around the Mean is relatively large, and the differences in audit quality among different companies are quite obvious.

The average value of the Metric of the nature of property rights (STATE) in the table is 0.424, and the Median is 0, indicating that the number of state-owned enterprises has not reached half, but the number of state-owned enterprises and non-state-owned enterprises is not much different. A Standard Deviation of 0.494 also indicates that the number of enterprises with the two types of property rights is similar.

Table 2. Descriptive statistics of main variables

Variable	Sample size	Mean value	Standard deviation	Minimum value	Median	Maximum
COST	6916	0.083	0.170	0.003	0.044	1.380
ICW	6916	0.051	0.220	0.000	0.000	1.000
AQ	6916	0.466	0.499	0.000	0.000	1.000
STATE	6916	0.424	0.494	0.000	0.000	1.000
SIZE	6916	22.807	1.454	20.177	22.569	27.109
LEV	6916	0.465	0.209	0.072	0.458	0.980
ROA	6916	0.025	0.071	-0.276	0.030	0.205
CFO	6916	0.048	0.066	-0.155	0.047	0.228
GROWTH	6916	0.089	0.338	-0.634	0.051	1.801
Z	6916	0.344	0.154	0.037	0.319	0.897
TAT	6916	0.604	0.435	0.042	0.521	2.806

4.2. Correlation analysis

Before conducting a more accurate regression analysis, this article first conducts a correlation analysis to obtain a preliminary judgment result. It can be seen from the Data in Table 3 that when the significance level is set at 0.01, there is a correlation between internal control deficiencies and debt financing costs, and it shows a positive relationship. The correlation coefficient is 0.023, $p<0.1$, which further verifies the relationship between the two in Hypothesis 1. There is also a correlation between audit quality (AQ) and debt financing COST (COST), with a correlation coefficient of -0.005. Judging from the Numeric Value symbol, the connection between the two is opposite. It should be noted, however, that although there is an inverse relationship, it may not be robust in some respects, perhaps because in this bivariate correlation analysis, the effects of other related control variables were not fully integrated, which led to such an operation result. It can also be seen from the table that the correlations between the other control variables and the cost of debt financing are basically in line with expectations, and there may be some differences in the correlations of individual variables, which may be influenced by a combination of other factors. Furthermore, since the maximum correlation

coefficient determination value of all variables is only 0.471, which is far from the level that may cause serious collinearity problems, it can be concluded that the Model used in this study does not have obvious collinearity problems.

Table 3. Correlation analysis

	COST	ICW	AQ	STATE	SIZE	LEV	ROA	CFO	GROWTH	Z
COST	1									
ICW	0.023*	1								
AQ	-0.005	0.067***	1							
STATE	-0.009	0.091***	0.017	1						
SIZE	0.116***	0.096***	0.098***	0.444***	1					
LEV	0.130***	0.115***	0.031**	0.235***	0.399***	1				
ROA	0.029**	0.267***	0.114***	0.030**	0.129***	0.365***	1			
CFO	0.061***	0.092***	0.056***	0.048***	0.152***	0.120***	0.471***	1		
GROWTH	-0.011	0.080***	0.083***	0.046***	0.014	0.043***	0.292***	0.086***	1	
Z	0.014	0.119***	0.100***	0.313***	0.253***	-0.008	0.202***	0.147***	0.011	1
TAT	-0.010	0.066***	0.082***	0.053***	0.051***	0.091***	0.236***	0.158***	0.158***	0.062***

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

4.3. Regression Analysis

4.3.1. Regression analysis of the impact of internal control quality on debt financing cost

Table 4 presents the regression results of the impact of internal control deficiencies on debt financing costs. It can be seen that the coefficient of internal control deficiencies (ICW) is -0.030 and significant at the 1% level (t is 0.011), confirming Hypothesis 1 that the reduction in internal control deficiencies is positively correlated with the decline in debt financing costs. The reduction in internal control deficiencies implies a sound internal control system, which effectively alleviates agency conflicts between creditors and top management, reduces the degree of information asymmetry, and promotes the reduction of operational risks in enterprises. Such mechanisms safeguard the interests of creditors, enhance their trust in the enterprise, and therefore significantly reduce the cost of debt financing for the enterprise.

Table 4. Regression results of the impact of internal control quality on debt financing costs

Variable	COST
CONSTANT	0.368***
	(0.041)
ICW	0.030***
	(0.011)
SIZE	0.014***
	(0.002)
LEV	0.098***
	(0.016)
ROA	-0.045
	(0.052)

CFO	0.202***
	(0.047)
GROWTH	-0.007
	(0.007)
Z	0
	(0.000)
TAT	0
	(0.007)
IND	Yes
YEAR	Yes
N	6916
Adj.R^2	0.052

Note: same as above.

4.3.2. Regression analysis of internal control quality and debt financing cost under different audit quality

Table 5 grouped the sample listed companies, and those audited by the top ten accounting firms were classified into the high audit quality group; Conversely, they were grouped into the low audit quality group.

According to the regression results in the table, in the high audit quality group, the impact coefficient of corporate internal control deficiencies on debt financing costs was 0.000 and not significant (t value 0.016). This indicates that in enterprises with higher audit quality, the reduction of internal control deficiencies has a less significant effect on the reduction of debt financing costs. In the low audit quality group, the internal control deficiencies of enterprises showed a significant (significance level of 5%) negative correlation with debt financing costs, with a coefficient of 0.030 (t value 0.012). This indicates that in enterprises with lower audit quality, the reduction of internal control deficiencies has a more significant effect on the reduction of debt financing costs. Hypothesis 2 is validated. From this, it can be concluded that when examining the financial situation of enterprises with low audit quality, it can be observed that the effectiveness of audit activities in the review of financial statements and the supervisory function over management is reduced compared to those with higher audit quality. In view of this, companies can effectively reduce the cost of debt financing by strengthening the internal control system that complements audit quality. Therefore, the impact of strengthening internal control on reducing debt financing costs is more prominent, especially in enterprises with poor audit quality.

Table 5. Regression results of internal control quality and debt financing cost under different audit quality

Variables	(1)	(2)
	High audit quality	Low audit quality
CONSTANT	0.259***	0.408***
	(0.049)	(0.050)
ICW	0.000	0.030**
	(0.016)	(0.012)

SIZE	0.006***	0.014***
	(0.002)	(0.002)
LEV	0.109***	0.062***
	(0.019)	(0.016)
ROA	-0.0270	-0.0760
	(0.059)	(0.052)
CFO	0.096*	0.265***
	(0.051)	(0.048)
GROWTH	0.000	-0.010
	(0.009)	(0.009)
Z	0.000**	0.000*
	(0.000)	(0.000)
TAT	0.003	-0.002
	(0.007)	(0.007)
IND	Yes	Yes
YEAR	Yes	Yes
N	3226	3690
Adj.R^2	0.026	0.030

Note: same as above.

4.3.3. Regression analysis of internal control quality and debt financing cost under different property rights

Table 6 Categorizes the sample listed companies into state-owned enterprises and non-state-owned enterprises based on the nature of the property rights.

According to the regression results in the table, in the state-owned enterprises group, the impact of internal control deficiencies of enterprises on debt financing costs was positively correlated with a coefficient of 0.041, but the significance level was higher at 5% (t value 0.019). This indicates that in state-owned enterprises, the reduction of internal control deficiencies has a more significant effect on the reduction of debt financing costs. In the non-state-owned enterprise group, the internal control deficiencies of enterprises showed an insignificant positive correlation with debt financing costs, with a coefficient of 0.016 (t value 0.011). This indicates that in non-state-owned enterprises, the reduction of internal control deficiencies has no significant effect on the reduction of debt financing costs. Hypothesis 3 has not been validated.

The following are possible reasons why the empirical results do not conform to the assumptions: (1) In the sample, there is a significant difference in the incidence of internal control deficiencies between state-owned enterprises and non-state-owned enterprises. Non-state-owned enterprises have more internal control deficiencies, which may lead to deviations in the results; (2) The debt of state-owned enterprises mainly comes from banks, which may have implemented stricter credit reviews and risk pricing for state-owned enterprises with internal control deficiencies and be more sensitive to internal control deficiencies, while non-state-owned enterprises may rely more on informal financing and creditors may be less sensitive to internal control; (3) The presence of internal control deficiencies in state-owned enterprises

may be seen as a "serious sign of lax management", triggering a strong negative reaction; Defects in non-state-owned enterprises may have been expected by the market, and the incremental impact is small; (4) The non-state-owned enterprises that can survive in today's market conditions are themselves quality enterprises with strong risk-resistance capabilities and strong resistance to defects.

Table 6. Regression results of internal control quality and debt financing cost under different property rights

Variables	(1)	(2)
	State-owned enterprises	Non-state-owned enterprises
CONSTANT	0.448***	0.362***
	(0.051)	(0.056)
ICW	0.041**	0.0160
	(0.019)	(0.011)
SIZE	0.015***	0.011***
	(0.002)	(0.003)
LEV	0.099***	0.063***
	(0.020)	(0.016)
ROA	-0.001	-0.052
	(0.074)	(0.048)
CFO	0.245***	0.147***
	(0.056)	(0.045)
GROWTH	-0.001	-0.006
	(0.010)	(0.008)
Z	0.000**	0.000
	(0.000)	(0.000)
TAT	0.007	0.014*
	(0.006)	(0.008)
IND	Yes	Yes
YEAR	Yes	Yes
N	2935	3981
Adj.R^2	0.050	0.017

Note: same as above.

4.4. Robustness check

To ensure the robustness of this study, the following two robustness tests were used, and the test results are shown in Table 7:

To eliminate the interference of outliers, adjust the tailing ratio, apply 2% winsor tailing, and the results are basically consistent with the assumptions in this paper.

To test the stability of the study results over different time intervals, by excluding the data of 2020 and reanalyzing, the results were basically consistent with the assumptions of this paper.

The relationship between the primary variables remained stable and consistent with the assumptions of this paper, further verifying the reliability and robustness of the research conclusions through the two robustness tests.

Table 7. Robustness test results

Variables	(1)	(2)
	Adjust the tail-shrink ratio	Remove 20 years of data
CONSTANT	0.282***	0.259***
	(0.022)	(0.023)
ICW	0.021***	0.015**
	(0.002)	(0.007)
SIZE	0.009***	0.008***
	(0.001)	(0.001)
LEV	0.064***	0.064***
	(0.009)	(0.009)
ROA	0.073**	0.070**
	(0.030)	(0.031)
CFO	0.165***	0.178***
	(0.025)	(0.027)
GROWTH	-0.001	0.002
	(0.005)	(0.005)
Z	0.000**	0.000***
	(0.000)	(0.000)
TAT	0.000	-0.001
	(0.003)	(0.004)
IND	Yes	Yes
YEAR	Yes	Yes
N	6916	5781
Adj.R2	0.044	0.044

Note: same as above.

5. Research Conclusions and recommendations

This study selected A-share listed companies on the Shanghai and Shenzhen main boards from 2020 to 2024 as the research Sample. After Data collection and screening, A total of 6,916 Valid Data pieces were obtained. Among them, the financial and non-financial Data are sourced from the Tai 'an Database. Data Processing and analysis were carried out with the help of excel and stata17.0 tools. Firstly, descriptive statistics are conducted through empirical methods to reveal the Distribution characteristics of the Data; Secondly, conduct a correlation analysis to explore the correlations and strengths among the variables; Furthermore, a Regression Model is employed to examine the positive impact of internal control deficiencies on the cost of debt financing, and to further compare the differences in effects under different audit qualities and property rights Attribute. The research results show that internal control deficiencies are significantly positively correlated with the cost of debt financing. High-quality internal control can Valid reduce agent conflicts, minimize information Symmetric, promote rational decision-making in enterprises, protect the interests of creditors, and thereby lower the cost of debt financing. In addition, it was found that in enterprises with lower audit quality, the reduction of internal control deficiencies was more effective in reducing costs than in those with higher audit quality. Meanwhile, the results of the grouped Regression

of property rights nature do not conform to the expectation that the reduction of internal control deficiencies in non-state-owned enterprises has a more significant effect on lowering the cost of debt financing than in state-owned enterprises. However, the reasons for the Bias In Statistics can still be analyzed through theory and practice.

Based on the research conclusions, the following suggestions are put forward:

At the enterprise level, first, improve the internal control system. Improve the internal control framework, compile a highly operational internal control manual, and clearly define the responsibilities and authorities of each department. Integrate internal control Embedding core business processes such as procurement and production, standardize the approval procedures at each link, and prevent fraud and resource waste from the source.

Second, strengthen the Supervised of implementation. Establish a dedicated internal control Supervised institution (such as an internal audit department), regularly evaluate the effectiveness of internal control, and promptly identify and rectify Bias In Statistics in implementation. Establish an assessment and incentive mechanism linked to the effectiveness of internal control, offer Reward to those with outstanding compliance performance, and hold accountable those who violate regulations seriously to enhance the internal control awareness of all staff.

Third, improve the quality of audits. Strictly screen auditing institutions, comprehensively assess their professional capabilities, industry Experience and reputation quality, avoid choosing auditing institutions with conflicts of interest and limited independence, and ensure that high-quality auditing Valid plays a role in debt financing governance.

At the market level, first, strengthen audit supervision and guidance. Regulatory authorities should improve the audit quality evaluation system and strengthen Supervised and inspection of the professional quality of auditing institutions. Encourage enterprises to hire high-quality auditing institutions through policy guidance, and give full play to the information mitigation and Supervised governance functions of auditing in reducing the cost of debt financing.

Second, improve the coordination of financial regulation. Establish a cross-departmental regulatory coordination system, clarify the boundaries of responsibilities, and eliminate regulatory overlap and blind spots. Strengthen the Consistency of regulatory policies, create a fair and orderly market Environment, boost the confidence of investors and creditors, and reduce the Deterministic of enterprise financing.

Third, standardize the information disclosure system. Refine disclosure standards and unify requirements for content, format and frequency. Force enterprises to disclose financial and non-financial information (such as internal control construction and Risk management), enhance the transparency and readability of information, and help creditors accurately assess the Risk of enterprises.

References

[1] Chen. Employee Stock Ownership Plans, internal controls and Debt Financing costs [D]. Shanghai Academy of Social Sciences,2023.

[2] Cheng Jianbo, Zheng Yuezhen, Yang Ruiping. Accounting Friends,2025,(16):102-110. Proactive Remediation of internal control deficiencies and High-Quality development of enterprises [J].

[3] Huang Jingru, Li Haoxuan. Does corporate digital transformation information disclosure reduce debt financing costs? -- A Dual Perspective Based on Signal Effect and Governance Effect [J]. Journal of Hubei University of Economics,2025,23(02):91-108.

[4] He, J., & Shan, Y. "Internal Control Weaknesses and Corporate Financing Costs: Evidence from Information Disclosure Quality". Journal of Corporate Finance,2021, 68(3).

[5] Qiao Rong. An Analysis of the Quality of Internal control and the Cost of Corporate Debt financing [J]. Chinese Township Enterprise Accounting,2023,(04):151-153.

[6] Jiang Yuanyuan, Wu Yan Yan. Audit Quality, Corporate reputation and High-Quality development of enterprises [J]. Science Decision,2023(8):98-112.

[7] Wang Enbing. Research on Features of Internal Audit and Quality of Internal Control [J]. China Science and Technology Investment,2024,(32):92-94.

[8] Sun Yongjun, Li Yushu, Liu Huiting. Information barriers, audit quality and related transactions of listed companies [J]. Friends of Accounting,2022(13):134-140.

[9] Yu Ke. Research on the Current Situation, Challenges and Optimization Path of Internal Control System Audit in State-owned Enterprises [J]. Tianjin Economy,2024,(08):42-44.

[10] Liu Wenhuan, Wang Yuxin. Social media attention, internal control and audit quality [J]. Business Accounting,2024(10):29-34.

[11] Liao Shiyun. A Brief Analysis of the Impact of Independence Audit Quality and Internal Control on Enterprise Financing Costs [J]. Administrative and Institutional Assets and Finance,2023,(17):123-125.

[12] Zhao Xiaotong. Research on Risk of Material Misstatement in Financing Trade of Listed Companies [D]. Shandong University of Finance and Economics,2025.DOI:10.27274/d.nki.gsdjc.2025.000683.

[13] Li Li, Du Hongye. Administrative Approval Reform, Property Rights Nature and Debt Financing Cost [J]. Finance and Accounting Communication,2022(02):64-67.

[14] Yu Minggui, Zhong Huijie, Fan Rui. Privatization, Financing Constraint and Enterprise Innovation: Evidence from Chinese Industrial Enterprises [J]. Journal of Finance,2019,(04):75-91.

[15] Xiao Jun. The impact of Internal control and Audit Quality on Debt Financing costs [D]. Xi 'an Polytechnic University,2019.

[16] Qiu Feng, Liu Keke. Internal Control Quality and Debt Financing Cost: Based on Different Property Rights Natures [J]. Journal of Finance and Accounting,2018(08):35-38.