

# Research on the Impact of Financing and Short selling System on Audit Quality

Chen Li

## Abstract:

The margin trading and securities lending system, as a new type of financial tool, has a significant impact on the Chinese capital market, affecting audit quality from the perspective of credit information disclosure. This article selects A-share listed companies in Shanghai and Shenzhen from 2007 to 2023 as samples and uses a double difference model to study the impact of margin trading and securities lending on audit quality. Research has found that after the implementation of the margin trading and securities lending system, the audit quality of margin trading and securities lending target enterprises has significantly improved compared to non-margin trading and securities lending target enterprises. Therefore, while improving the margin trading and securities lending system, we should leverage the combined efforts of internal control and audit supervision to improve audit quality.

**Keywords:** Financing and securities lending, Audit quality, Internal control, Audit risk

## 1. Introduction

The report of the 19th National Congress pointed out the need to "improve the Party and state supervision system" and "reform the audit management system", indicating that the country and corporate investors have increasingly high requirements for audit quality. How to ensure audit quality has become a focus of attention for investors and various stakeholders in the capital market. Exploring the influencing factors of audit quality in the new environment is crucial for ensuring audit quality, improving information disclosure quality, and protecting investor interests. On March 31, 2010, China's capital market officially launched a pilot program for margin trading and short selling, introducing a margin trading and short selling system aimed at providing investors with a two-way trading mechanism through financing and short selling transactions, and improving the efficiency of capital market operations. After the implementation of the margin trading and short selling system, investors will not only benefit from stock appreciation, but also from shorting the underlying company's stocks, which has a significant impact on China's capital market. Previous studies have shown that the margin trading and securities lending system can play a role in corporate governance by reducing information asymmetry, reducing earnings management and financial restatement behavior, and improving the quality of company information disclosure.[1]

Moreover, relaxing short selling controls will significantly increase audit risks, leading auditors to demand higher

audit fees [2-3]. Although some scholars have found that the short selling mechanism significantly improves audit quality, this study only analyzes the legal risk mechanism of auditors, believing that short selling through securities lending will increase audit risk, and auditors will provide high-quality audit services. The analysis of the intermediate mechanism is not comprehensive. Moreover, the target companies of margin trading and securities lending have received more attention from investors and regulatory agencies, which has correspondingly increased the attention and importance of company managers in disclosing relevant information. Therefore, the implementation of the margin trading and securities lending system can effectively reduce the degree of information asymmetry [4]. The reduction of information asymmetry will enhance the supervision and constraints on the behavior of shareholders, management, and auditors, thereby helping to improve audit quality to a certain extent.

Based on this, this article intends to explore the impact of margin trading and securities lending on audit quality from two perspectives: reducing information asymmetry and increasing audit risk, using data from A-share listed companies from 2012 to 2023.

## 2. Literature review and hypothesis proposal

The impact of audit unit risk on audit quality. Corporate shareholders and external investors refer to corporate financial information when making supervision, management, and investment decisions, thus having the moti-

vation to pursue high-quality auditing. Different audited units have different audit risks, which will correspondingly have different impacts on audit quality. Research has found that shareholders of companies with high investment opportunities are more motivated to choose high-quality audits to monitor management behavior [5]. Moreover, companies with larger investment opportunities have a higher likelihood of earnings manipulation, which increases the risk faced by auditors, leading them to provide high-quality audit services. It can be seen that with the implementation of modern risk oriented auditing, the higher the risk level of the audited clients, the more auditors will increase audit investment and improve audit quality.

The implementation of the margin trading and securities lending system will increase the risk of reputation damage and litigation for auditors, thereby improving audit quality. Under the reputation mechanism of the audit market, when auditors themselves are punished, investors may question the credibility of the financial statements of other companies audited by this auditor. It can be seen that the damage to the reputation of auditors and the face of legal litigation compensation will have a significant negative impact on accounting firms and auditors, increasing the cost of auditor misconduct and forcing auditors to maintain independence and provide high-quality audit services during the audit process. Margin trading and securities lending companies are receiving more attention from investors and stricter regulation, resulting in their financial statements being more widely read and used. When auditors audit margin trading and securities lending companies, they face higher risks of reputation damage and potential litigation. Under the pressure of high reputation costs and litigation compensation, auditors are bound to be more cautious and attach importance to auditing margin trading and securities lending companies. Auditors will enhance their audit efforts and improve audit quality by increasing audit investment, charging higher fees, and other measure.

Based on the above analysis, the hypothesis of this article is proposed:

H1: After the implementation of the margin trading and securities lending system, compared to non-standard enterprises, the audit quality of margin trading and securities lending target enterprises has significantly improved.

### 3. Research design

This article takes Chinese direct listed companies as the research object. Between 2007 and 2020, there were a to-

tal of 37179 annual observations of companies. Excluding 802 samples from the financial industry, 444 samples with asset liability ratios greater than daily, and 2456 samples with missing financial data, a total of 33477 annual observations of 3888 companies were obtained. The patent data required for this article is taken from the China Research Data Service Platform (CNRDS), and the financial data is taken from the Guotai An Database ICSMAR. To eliminate the influence of extreme values as much as possible, this article applies a 1% Winsorization to all continuous variables .

#### 3.1 Jones model

There is no direct indicator for measuring audit quality, and scholars generally use alternative indicators to measure audit quality. Usually, high-quality audits should allow for lower levels of controllability accruals. Therefore, this article draws on existing research methods and uses the Jones model to calculate accounting manipulation accruals that reflect earnings quality as a measure of audit quality in this article.

#### 3.2 Control variable

This article draws on the research experience of Liu Xingjian, Wang Kaitian, Bu Danlu, Tu Changwen, and Zhou Donghua [6-7], and selects the following control variables: company size (Size), financial leverage (Lev), profitability (Roe), current ratio (Cr), accounts receivable and inventory ratio (Recinv), operating cash flow (Cfo), property nature (SOE), top shareholder shareholding ratio (Top1), dual position integration (Dual), independent director ratio (Rinde), management shareholding (Mshare), board size (Bsize), and whether there is a loss (Lo1). ss, Market to Account Ratio (MB), Firm Size (Big4).

#### 3.3 Research model construction

This article draws inspiration from Quan Xiaofeng and Yin Hongying [8] to construct a double difference model (1) to examine the impact of the implementation of the margin trading and securities lending system on audit quality. The dependent variable is audit quality, measured by the calculated absDA that reflects earnings quality. In Model (1), this article mainly focuses on the coefficient of the interaction term Treat x Post  $\beta_2$ . If  $\beta_2$  is significantly less than 0, it indicates that the implementation of the margin trading and securities lending system can improve audit quality. If  $\beta_2$  is significantly greater than 0, it indicates that the implementation of the margin trading and securities lending system has reduced audit quality.

## 4. Empirical results and analysis

### 4.1 Descriptive statistics

**Table 1 statistical information**

	min	max	mean	Standard deviation	variance	Skewness		kurtosis	
	statistics	statistics	statistics	statistics	statistics	statistics	Standard error	statistics	Standard error
company size(Size)	1.33	4.67	2.88	1.02	1.04	0.16	0.37	-1.11	0.73
financial leverage(Lev)	1.33	4.67	3.18	1.10	1.21	-0.68	0.37	-1.09	0.73
Profitability(Roe)	1.33	4.67	3.12	0.96	0.93	-0.36	0.37	-1.02	0.73
Current ratio(Cr)	1.33	5.00	3.00	0.93	0.86	-0.04	0.37	-0.63	0.73
Accounts receivable inventory ratio(Recinv)	1.50	4.50	3.17	0.98	0.96	-0.61	0.37	-1.09	0.73
Operating cash flow(Cfo)	1.00	6.00	3.05	1.62	2.61	0.41	0.37	-0.92	0.73
property right(Soe)	4.50	3.17	0.96	-0.61	0.37	-1.09	0.73	3.05	1.62

Descriptive statistical data provides a sample of A-share listed companies in Shanghai and Shenzhen from 2007 to 2023. Among them, the minimum, maximum, mean, standard deviation, variance, skewness, and kurtosis of indicators such as company size (Size), financial leverage (Lev), profitability (Roe), current ratio (Cr), accounts receivable and inventory ratio (Recinv), and operating cash flow (Cfo) are described. These indicators can help understand the financial and operational status of the sample companies. Company size refers to the size of a company's assets or market value. Financial leverage (Lev) refers to the ratio of a company's debt to assets or equity, used to measure

the company's debt risk. Profitability (Roe) refers to the ratio of a company's profits to owner's equity, used to measure a company's profitability. The current ratio (Cr) refers to the ratio of a company's current assets to its current liabilities, used to measure the company's debt paying ability. Operating cash flow (Cfo) refers to the cash flow generated from a company's operating activities, used to measure the company's operating ability.

### 4.2 Regression analysis of the impact of margin trading and securities lending on audit quality

**Table 2 Model conclusion**

R	R square	Adjusted R side	Errors in standard estimates	Change the statistics					Durbin Watson
				R-square variation	F Amount of change	Degrees of freedom 1	Degrees of freedom 2	Significant F change	
0.917	0.840	0.817	0.692	0.840	35.752	5	34	0.000	1.419

Based on the regression results of Analysis, we used the Differential Treatment Effect (DID) model to explore the impact of margin trading and securities lending on au-

dit quality. The determinability coefficient of the model is 0.840, indicating that the model can explain 84% of changes in audit quality. The adjusted coefficient of de-

termination is 0.817, taking into account the influence of the number of independent variables and sample size on model fitting. The regression coefficient (R) is 0.917, indicating that margin trading and securities lending have a significant positive impact on audit quality. The standard error is 0.692, indicating the estimation accuracy of the regression coefficients. The change statistic is 35.752, indicating a significant improvement in the fitting degree of the model after introducing margin trading and securities

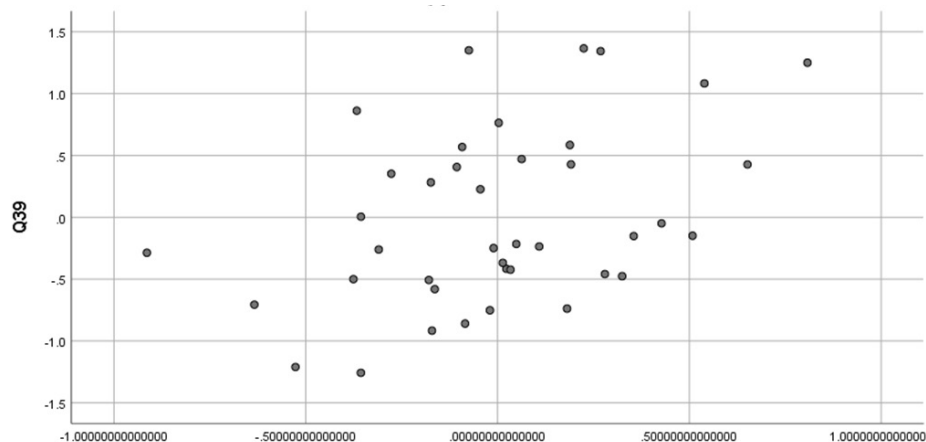
lending. The Durbin Watson statistic is 1.419, slightly lower than 2, which may suggest a certain degree of autocorrelation in the residuals. Therefore, based on the comprehensive model summary (Figure 2), we conclude that margin trading and securities lending have a significant positive impact on audit quality, and the model fits well, but further consideration is needed to consider the impact of residual autocorrelation.

**Table 3 Regression model coefficients**

model	Factors not normalized		Factors normalized	t	Distinctiveness Zero-order	correlation			Colinearity statistics		
	Standard error	Beta				slanting	part	Tolerance	VIF		
(Constant)	-0.061	0.435		-0.141	0.888						
1	Size	0.835	0.318	0.527	2.627	0.013	0.849	0.411	0.18	0.117	8.561
	Rinde	-0.373	0.18	-0.254	-2.066	0.046	0.043	-0.334	-0.142	0.312	3.202
	Loss	0.278	0.264	0.166	1.051	0.301	0.449	0.177	0.072	0.189	5.281
	Mshare	0.788	0.32	0.452	2.46	0.019	0.813	0.389	0.169	0.139	7.19

According to the regression model coefficient analysis in Figure3, we can see the impact of margin trading and securities lending on audit quality. The regression coefficient of margin trading and securities lending on audit quality is 0.788, indicating a positive correlation between margin trading and securities lending and audit quality.

Meanwhile, other factors such as company size, profitability, loss, and market share also have a significant impact on audit quality. These results reveal that in terms of audit quality, not only margin trading and securities lending are important factors, but also the comprehensive impact of multiple other factors needs to be considered.



**Figure 1 Partial regression plot**

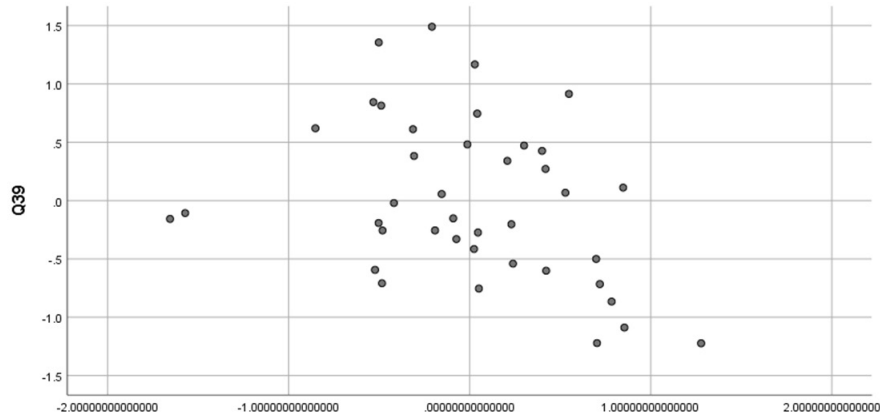
In the study of audit quality, the scale variable is often used to explore the relationship between a company’s economic strength and audit quality. In this regression model, the regression coefficient of the scale variable is 0.835, which means that scale has a significant positive impact on audit quality. This discovery to some extent confirms the empirical viewpoint that larger companies often have

higher audit quality. Larger companies typically have larger financial data and more complex business activities, which may increase audit difficulty, but at the same time, it also means that companies will place greater emphasis on internal control and accuracy of financial reporting. This level of emphasis may lead to companies hiring more professional audit

teams, investing more audit resources, and thus improving audit quality. On the other hand, smaller companies may face issues of limited resources and inadequate management, which may lead to inaccurate or missing financial reports, thereby affecting audit quality. Due to the fact that smaller companies often do not have sufficient funds to hire high-level audit teams or conduct internal audits, they

may be more susceptible to potential fraudulent behavior, thereby reducing audit quality.

Overall, the impact of scale on audit quality is positive. By strengthening internal controls, hiring a professional audit team, and increasing emphasis on the accuracy of financial reports, the company can further improve its audit quality.



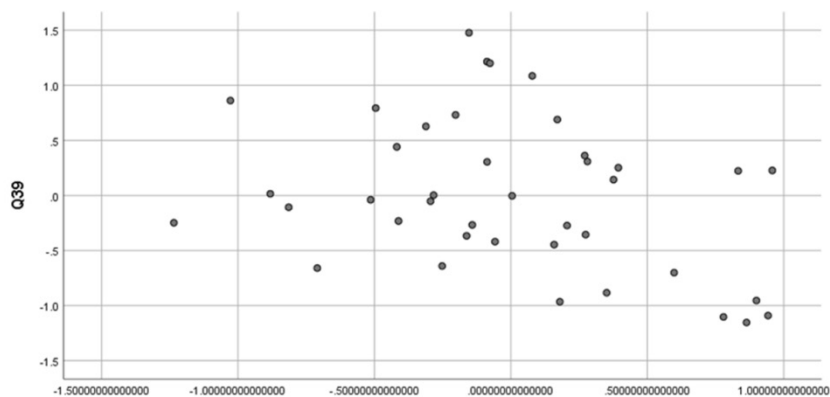
**Figure 2 Partial regression plot**

In the study of audit quality, profitability variables are used to explore the relationship between a company's profitability level and audit quality. In this regression model, the regression coefficient of the profitability variable is -0.373, indicating a negative correlation between profitability and audit quality. In other words, companies with lower profitability may have higher audit quality.

Companies with lower profitability may face some financial difficulties, such as funding shortages, business downturn, or fierce competition. In this situation, companies may be more inclined to adopt financial measures to conceal financial difficulties, such as manipulating financial statements or adopting inappropriate accounting policies. These behaviors may lead to inaccuracies or fraud in financial statements, thereby affecting audit quality. On the other hand, companies with lower profitability may

be subject to stricter supervision and audit attention from external stakeholders. Due to the potentially more fragile financial situation of these companies, stakeholders such as investors, creditors, and regulatory agencies may pay more attention to the authenticity and reliability of their financial reports. Therefore, these companies may be subject to stricter audit procedures and allocation of audit resources, thereby improving audit quality.

In summary, there is a certain negative correlation between profitability and audit quality. By strengthening internal controls, improving transparency and disclosure quality, strengthening supervision and audit procedures, and other measures, companies can improve their audit quality, enhance the credibility and transparency of financial reports.



**Figure 3 Partial regression plot**

In research on audit quality, the variable of loss situation is often used to explore the relationship between a compa-

ny's economic condition and audit quality. In this regression model, the regression coefficient of the loss situation variable is 0.278, indicating that loss making companies may have higher audit quality.

Losing companies may face operational difficulties, financial pressure, or funding shortages, so they will place greater emphasis on internal control and the accuracy of financial reporting. To ensure the authenticity and reliability of financial statements, loss making companies may adopt more cautious financial management strategies and place greater emphasis on the execution of audit procedures. This level of emphasis may lead to loss making companies hiring more professional audit teams and investing more audit resources, thereby improving audit quality. On the other hand, loss making companies may

be subject to stricter supervision and audit attention from external stakeholders. Due to the fragile financial situation of loss making companies, stakeholders such as investors, creditors, and regulatory agencies may pay more attention to the authenticity and reliability of their financial reports. Therefore, these companies may be subject to stricter audit procedures and allocation of audit resources, thereby improving audit quality.

In addition, the loss situation may also be closely related to factors such as corporate governance structure and internal control system. Some loss making companies may strengthen their internal control mechanisms in financial management to prevent errors or fraud in financial statements, thereby improving audit quality.

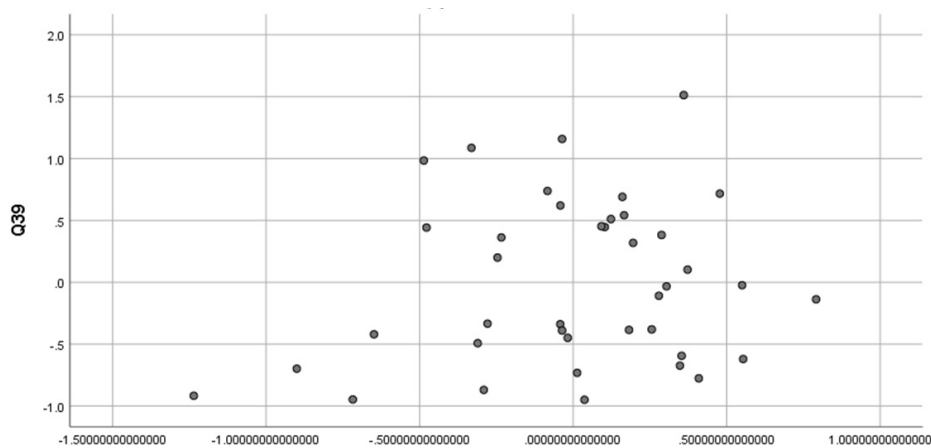


Figure 4 Partial regression plot

In the study of audit quality, market share variables are used to explore the relationship between a company's position in market competition and audit quality. In this regression model, the regression coefficient of the market share variable is 0.788, indicating that market share has a significant positive impact on audit quality.

Companies with a larger market share typically have a certain advantage in market competition, as they may have a wider customer base, stronger brand influence, or higher market recognition. In this situation, the company may place greater emphasis on maintaining its reputation and credibility to maintain its market position. Therefore, these companies may adopt stricter financial management and internal control measures to ensure the authenticity and accuracy of their financial reports, thereby improving audit quality. On the other hand, companies with a larger market share may receive more market supervision and public opinion attention. Due to its significant position in the market, stakeholders such as investors, creditors, and regulatory agencies may pay more attention to the authenticity and reliability of its financial reports. Therefore,

these companies may be subject to stricter audit procedures and allocation of audit resources, thereby improving audit quality.

In summary, there is a certain positive correlation between market share and audit quality. By strengthening internal control, improving transparency and disclosure quality, strengthening supervision and audit procedures, and other measures, the company can further improve its audit quality, enhance the credibility and transparency of financial reports, provide more reliable information for investors and other stakeholders, and promote the stable development of the company.

### 5. Conclusion

This article uses the double difference method for regression analysis and finds that after the implementation of the margin trading and securities lending system, compared to non margin trading and securities lending target enterprises, the audit quality of margin trading and securities lending target enterprises has significantly improved. This study found that the governance effect of the margin trad-

ing and securities lending system can compensate for the lack of internal governance mechanisms in companies, and the effectiveness of this governance effect depends on the internal control environment in which it operates. The margin trading and securities lending system plays an important role as an external supervisor in the governance of listed companies in China, and is of great significance in promoting the improvement of audit quality for the target companies of margin trading and securities lending. Therefore, while improving the margin trading and securities lending system, we should leverage the combined efforts of internal control and audit supervision to improve audit quality.

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