

Short-selling Pressure and Auditors' Attention to Key Audit Matters

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Abstract: Against the backdrop of China's 2017 new audit standards, this study samples non-financial A-share firms from 2017-2023. Using the difference-in-differences model, it explores short-selling's impact on key audit matter disclosure. Higher disclosure quality means more auditor attention. Results show short-selling, through market supervision, significantly improves disclosure quality. Heterogeneity tests show that firms' accounting conservatism and auditor reputation affect short-selling's effectiveness. In low-conservatism firms, short-selling pressure makes disclosure more cautious, with a greater improvement. In non-"Big Four"-audited firms, short-selling pressure spurs them to boost credibility and market recognition by enhancing disclosure, so short-selling has a more prominent impact. From an auditor's perspective, this study analyzes short-selling's key role in improving disclosure. Thus, liberalizing short-selling and refining relevant systems can fully leverage its corporate governance role in China's capital market.

Keywords: Short Selling; Key Audit Matters; Information Disclosure

1. Introduction

On 31 March 2010, China formally relaxed the short selling control, breaking the shackles of China's capital market investors for many years can only be 'long' stocks, the securities market officially ushered in the era of credit trading. With the improvement of the quality of information disclosure requirements, the traditional template audit report lacks valuable information, and the content of the audit report is difficult to substantially alleviate the information asymmetry, and fails to meet the information needs of the majority of report users. As a result, China's Ministry of Finance issued 12 new audit reporting standards in 2016, of which, the most

important is the change of the audit report template to require disclosure of key audit matters. The increase of key audit matters paragraph plays an important role in improving the information content of the audit report and the quality of corporate financial information disclosure, which can better meet the information needs of investors[1]. Key audit matters are those matters that the auditor, using professional judgement, considers to be the most important in the audit process. The short selling mechanism prompts listed companies to handle information disclosure more cautiously by increasing the market's focus on negative information. In the capital market, whether or not to be short-sold is often decided by the market, and short-selling may affect the quality of disclosure of key audit matters, but in turn brokerage firms will choose those firms with more independent audits and higher quality of disclosure of key audit matters for short-selling. Based on this this paper provides an in-depth analysis of short selling pressure and auditor's attention to critical audit matters to rule out their endogeneity. By reviewing and analysing relevant theoretical and empirical studies, this paper attempts to investigate whether short selling pressure affects auditors' attention to critical audit matters? If the short selling mechanism does affect auditors' attention to key audit matters, what is its mechanism of action?

Against the backdrop of increasingly complex capital markets and frequent information flows, short selling pressure induced by short selling behaviour has become one of the key factors affecting the corporate audit ecosystem, and its association with auditors' attention to key audit issues has attracted much attention[2]. This study closely integrates the previous research vein, takes listed companies covering multiple industries as the research sample, and explores the internal logic of short selling pressure and auditors' attention to key audit issues based on rigorous screening and in-depth analysis of the

data. A double fixed-effects model is adopted to effectively control the potential interfering factors in the industry and time dimensions, and to precisely analyse how short-selling pressure actually affects auditors' attention level and decision-making. At the same time, a heterogeneity analysis is conducted to explore the unique paths and trends of short-selling pressure on the attention to key audit issues under different characteristics of firms[3].

The possible marginal contributions of this paper are mainly in the following aspects: the short selling mechanism plays an important role in modern financial markets, and the auditor's attention to key audit matters directly affects the quality of audit reports and the transparency of information disclosure. Traditional auditing research mostly focuses on audit quality, audit fees or audit independence, this study explores the impact of short selling pressure on auditor behavioural decision-making from this perspective, which enriches the research on factors influencing auditor decision-making and deepens the understanding of auditor decision-making behaviour. It also provides new micro-evidence on the governance effect of short selling mechanism from the perspective of auditor behaviour[4].

2. Literature Review and Hypothesis Formulation

2.1 Impact of Short Selling Mechanism on Information Disclosure

On 31 March 2010, the financing and securities financing system was officially implemented in China, completely ending the 'one-sided market' pattern of the capital market for more than 20 years. This system allows investors to borrow specific stocks from securities companies and sell them, enabling stock prices to fully reflect both positive and negative information, rewriting the history of China's capital market, which had previously been 'all up, no down'. As an extremely critical trading mechanism in the capital market, short selling not only has an impact on asset prices and their volatility (Chu Jian and Fang Junxiong, 2016)[11], but also deeply intervenes in the information transfer process between investors and managers, which in turn affects the information disclosure status of enterprises. Existing literature mainly from three aspects of the short selling mechanism to affect the information disclosure of the way to

carry out research, and all aspects have achieved certain results and consensus, but there are also some to be explored in depth[5].

From the perspective of short sellers, the internal logic of the short selling mechanism determines that short sellers will only sell at a high price and then buy at a low price in order to make a profit when they expect the target stock to be overvalued or the price will fall in the future. In order to effectively reduce risks and ensure returns, short sellers often have strong information gathering capabilities, especially in mining negative corporate information, and are widely regarded as informed traders in both academia and industry (Christopheetal.,2010). It has been shown that this kind of informed trading can indeed trigger stock price declines (Cohenetal.,2007). For example, studies have shown that short sellers' active search for and exposure of negative information significantly increases the risk of managers concealing unfavourable information or failing to disclose favourable information in a timely and compliant manner. The benchmark regression results of Pan, Lingyun (2024) strongly confirm that the relaxation of short selling constraints significantly reduces the level of corporate surplus management and significantly increases information transparency. However, existing studies still lack sufficiently in-depth insights into the specific channels and methods of short sellers' information gathering, the persistence of their information advantage, and the differences in their performance in different market environments, which provides potential directions for subsequent research[6].

From an auditing perspective, with the liberalisation of the short selling regime, the quality standard of information disclosure has been escalating and the audit risk faced by auditors has increased significantly. Once an auditor fails to detect negative information about a firm and such information is first revealed by short sellers, the auditor's reputation and credibility will certainly suffer a heavy blow. As a result, auditors will increase their audit investment and broaden their audit scope to minimise the likelihood of losses due to audit identification failures (Xu Luying et al., 2017), while audit fees will also increase accordingly (Huang Chao et al., 2016). Established studies have also found that the rerun system reduces auditors' tolerance of corporate surplus management behaviour, prompting them to issue

more non-standard audit opinions (Zhang Honghui et al., 2018)[17]. However, current research still needs to further explore the details of auditors' specific audit strategy adjustments in response to short-selling pressure, the differences in responses between different individual auditors or firms, and the deeper impact of these changes on the long-term development of the auditing profession, which leaves plenty of room for follow-up research[7]. Analysed from the perspective of listed companies, as the phenomenon of separation of ownership and operation is common in modern enterprises, shareholders pursue the maximisation of shareholders' interests, while the management may tend to pursue private gains due to low or no shareholding, and there is an obvious divergence in the interests of the two. In China, the shareholding structure is usually characterised by a high degree of concentration, which creates opportunities for major shareholders to seek benefits through improper means. The management may collude with the major shareholders under the pressure of the major shareholders or out of their own interests to cover up the 'short selling' behaviour of the major shareholders and seek private gains by means of performance whitewashing and surplus manipulation[8]. The introduction of short selling mechanism accelerates the dissemination of negative news about the company, making it easier for listed companies to expose their irregularities, which in turn triggers the fall of share prices. Studies have shown that relaxing the short-selling mechanism can, to a certain extent, restrain corporate management, optimise the corporate information environment and governance level, correct malpractices, and inhibit surplus manipulation (Chen, Hui Li et al., 2014). At the same time, management will actively increase voluntary disclosure in order to avoid risks (Luo Wei et al., 2010), reducing the occurrence of disclosure violations. However, existing studies still need to conduct more in-depth and detailed research on the dynamic process of behavioural adjustment of listed companies under the short-selling mechanism, the differences in the responses of firms of different industries or sizes, and how to further improve the corporate governance mechanism to better adapt to the short-selling mechanism[9].

2.2 Key Audit Matter Disclosure and Auditor Behaviour

Auditing, as an important external regulatory tool, plays a key role in enhancing the credibility of financial reports in the minds of information users (Cai Chun et al., 2021). However, frequent failures in the auditing field in recent years have fully exposed the many shortcomings of the traditional audit report model, such as rigid format, limited information, and single conclusion, which make it difficult to meet the increasingly diversified information needs of capital market stakeholders. In view of this, the Ministry of Finance of China issued 12 auditing standards, including China CPA Standard No. 1504 on Communication of Key Audit Matters in Audit Reports (hereinafter referred to as the new auditing standards) in 2016[10]. The new auditing standards make clear provisions on key aspects such as the identification and communication of key audit matters and the preparation of audit working papers, aiming to enhance the transparency of auditing work, strengthen the communication value of the audit report, narrow the gap between the traditional audit report and the market expectations and the information gap, and better satisfy the information requirements of the stakeholders in the capital market. The implementation of the new standard provides investors with incremental information about the auditor during the audit process and effectively optimises the information environment (Lauren C. Reid et al., 2019), which is widely recognised in existing research[11].

For the auditor, the added audit information in the audit report enhances the value of the audit report while inevitably increasing the auditor's litigation risk and liability perception (Tu et al., 2020). The disclosure of key audit matters brings certain audit pressure to auditors, and in order to reduce the risk of material misstatement and maintain professional reputation, auditors will inevitably make more efforts to sort out the key risk nodes in important audit matters, which can help to reduce the audit risk and improve the quality of the audit (Yang Mingzeng et al., 2018). It has been specifically pointed out that for low reputation auditors, the risk of audit collusion is higher due to their relatively low cost of non-compliance. The disclosure of key audit matters forces them to disclose more audit information in their audit reports, which significantly increases their risk of exposure to irregularities. Therefore, the disclosure of key audit matters has a more significant effect on the

quality of audit reports issued by low reputation accounting firms (Nie Ping et al., 2020). Although existing studies have achieved some results in this area, there is still a need for further research on the psychological change process of auditors when facing the disclosure requirements of key audit matters, micro-level analysis of the behavioural decision-making mechanism, and the differences in auditor behaviour in different audit environments and cultures, which will help to understand the impact of disclosure of key audit matters on auditors' behaviours more comprehensively and deeply[12].

Based on this, this paper proposes the following hypotheses:

H1: Other things being equal, short selling pressure increases auditors' attention to critical audit matters.

Compared with SOEs, non-SOEs face greater survival pressure and uncertainty in market competition, and their financing channels are relatively narrower and more expensive. Short-selling pressure may have a more significant impact on the share price volatility and market image of non-SOEs, and in the event of negative information, non-SOEs may suffer a more severe market impact. In addition, the corporate governance structure and disclosure standards of non-SOEs may be relatively weaker than those of SOEs in general. Therefore, under short-selling pressure, auditors will be more cautious about auditing non-SOEs in order to safeguard the reliability and transparency of non-SOEs' financial information and pay a higher degree of attention to key auditing matters, i.e., the short-selling pressure has a more prominent effect on the enhancement of non-SOEs' auditors' attention. Based on this, this paper proposes the following hypothesis:

H2: Other things being equal, short selling pressure increases auditors' attention to key audit matters of non-state-owned enterprises more significantly[13].

3. Research Design

3.1 Sample Selection and Data Source

This study employs the implementation of China's new auditing standards in 2017 as its policy context. The initial sample comprises A-share listed companies from 2017 to 2023. Raw data were sourced from the China Stock Market & Accounting Research (CSMAR) database. The following screening procedures

were applied:

(1) Exclusion of ST/*ST companies: Firms under special treatment due to financial abnormalities or persistent operational uncertainties may exhibit systematic biases in financial reporting reliability and auditing behaviors (Chen et al., 2020). Retaining these observations would compromise the baseline assessment of auditing standards' effects.

(2) Exclusion of financial sector firms: Financial institutions operate under distinctive regulatory frameworks, resulting in significant heterogeneity in applicable accounting standards, risk profiles, and audit procedures (Watts & Zimmerman, 1986). Including these firms could introduce industry-specific noise.

(3) Exclusion of observations with missing critical variables: This ensures data completeness for empirical modeling.

The final sample consists of 11,855 firm-year observations. To mitigate the influence of extreme values, all continuous variables were winsorized at the 1st and 99th percentiles[14].

3.2 Variable Selection and Definition

(1) Explained Variables

Referring to the measurement ideas of Chen Lihong et al. (2022) and Huang Solbing and Zhang Jingxue (2023), this paper focuses on measuring the quality of disclosure of key audit matters from the quantitative dimension. In terms of the number of key audit matters disclosed, an increase in the number of key audit matters disclosed indicates that the auditor has carried out a more detailed assessment of the audited entity and has been able to give complete recommendations, which in turn has led to an improvement in the quality of key audit matters. Therefore, at the level of the number of key audit matters disclosed, the measure is selected as the number of key audit matters, which is the actual number of key audit matters disclosed in the audit report[15].

(2) Explanatory Variables

In this paper, we refer to the methodology of Li, C.S. et al. (2015), and use the ratio of securities lending balance (securities lending amount-securities repayment amount) to the market capitalisation of the outstanding shares (SP) as a measure of short-selling power, and the larger the SP is, the larger the short-selling power is.

(3) Control Variables

Drawing on existing research, this paper also

controls for other factors that may affect the quality of disclosure of key audit matters, and adds year fixed effects and industry fixed effects

to the model to control for their possible impact, as defined in Table 1.

Table 1. Variable Definitions

type	Variable name	variable symbol	variable-definition
explained variable	Number of key audit items	Number	The number of key audit items disclosed in the audit report
explanatory variable	Short selling pressure	SP	Short selling balance / circulation market value
controlled variable	company size	Size	Total annual assets of the enterprise
	asset-liability ratio	Lev	Total liabilities / total assets
	Total assets net profit	ROA	Net income / average total assets
	Cash flow ratio	Cashflow	Net cash flow / current liabilities
	The proportion of fixed assets	FIXED	Net fixed assets and total assets
	increase rate of business revenue	Growth	(Operating income of current period-previous operating income) / 100%
	Number of directors	Board	The enterprise's annual report, announcement or relevant governance documents in the disclosure.
	The proportion of independent directors	Indep	Total number of independent directors / board members: 100%

3.3 Empirical Model

$$\begin{aligned} \text{number}_{i,t} = & \beta_0 + \beta_1 \text{SP}_{i,t} + \beta_2 \text{Size}_{i,t} + \beta_3 \text{Lev}_{i,t} + \\ & \beta_4 \text{ROA}_{i,t} + \beta_5 \text{Cashflow}_{i,t} + \beta_6 \text{FIXED}_{i,t} + \\ & \beta_7 \text{Growth}_{i,t} + \beta_8 \text{Board}_{i,t} + \beta_9 \text{Indep}_{i,t} \\ & + \beta_1 \text{SP}_{i,t} + \sum \text{Year}_{j,t} + \sum \text{Industry}_{k,t} + \epsilon_{i,t} \quad (1) \end{aligned}$$

where $\text{number}_{i,t}$ represents the number of key audit matters of enterprise i in period t ; $\text{SP}_{i,t}$ is the short-selling pressure; $\text{Size}_{i,t}$ represents the company size; $\text{Lev}_{i,t}$ is the asset-liability ratio; $\text{ROA}_{i,t}$ is the return on total assets; $\text{Cashflow}_{i,t}$ is the cash flow ratio; $\text{FIXED}_{i,t}$ represents the proportion of fixed assets; $\text{Growth}_{i,t}$ is the revenue growth rate; $\text{Board}_{i,t}$ is the number of directors; $\text{Indep}_{i,t}$ represents the proportion of independent directors; $\text{Industry}_{k,t}$ is an industry dummy variable used to control for industry fixed effects; $\text{Year}_{j,t}$ is an annual dummy variable to control for time fixed effects; and $\epsilon_{i,t}$ is the random error term.

In this model, we focus on the coefficient β_1 of short-selling pressure ($\text{SP}_{i,t}$). If β_1 is significantly positive, it supports the research hypothesis that an increase in short-selling pressure will lead to an increase in the number of key audit matters. Conversely, if it is not significant or significantly negative, it is

contrary to the hypothesis. Other control variables are used to capture the impact of enterprise characteristics on the number of key audit matters, and industry and time fixed effects control for the interference of macro-level factors, making the research more focused on the relationship between short-selling pressure and the number of key audit matters. Through the regression analysis of this model, we can deeply explore the quantitative relationships among various variables and provide empirical evidence for the research questions[16].

4. Empirical Analysis

4.1 Descriptive Statistics

In this paper, descriptive statistics of the number of key audit matters (number), short selling pressure (SP), firm size (Size), gearing ratio (Lev), net profit margin on total assets (ROA), cashflow ratio (Cashflow), proportion of fixed assets (FIXED), growth rate of operating income (Growth), number of directors (Board), proportion of independent directors (Indep) are descriptive statistics to observe their standard deviation, mean, and their maximum and minimum values, and the results are collated and presented in Table 2.

Table 2. Descriptive Statistics of Variables

variable name	sample size	average value	(statistics)	standard deviation	minimum value	maximum values	median
number	11855	2.022		0.625	1.000	4.000	2.000
SP	11855	0.928		2.315	0.000	15.744	0.178
Size	11855	22.954		1.359	20.385	26.086	22.845
Lev	11855	0.426		0.200	0.060	0.877	0.424

ROA	11855	0.042	0.064	-0.194	0.216	0.039
Cashflow	11855	0.055	0.067	-0.145	0.254	0.052
FIXED	11855	0.199	0.157	0.002	0.667	0.161
Growth	11855	0.121	0.305	-0.537	1.551	0.083
Board	11855	2.123	0.202	1.609	2.708	2.197
Indep	11855	37.946	5.517	33.330	57.140	36.360

Table 2 presents a detailed breakdown of descriptive statistics for all variables of interest in the main regression analysis. Notably, the mean value of short-selling pressure is 0.928, suggesting that sample firms generally face a moderate level of short-selling pressure on average. The standard deviation stands at 2.315, indicating substantial cross-firm variation in short-selling pressure with high dispersion. The range from 0.000 to 15.744 further highlights significant imbalance: some firms experience negligible short-selling pressure, while others face extremely intense pressure.

For the number of key audit matters, the mean of 2.022 implies that sample firms typically have around two key audit matters. With a standard deviation of 0.625, the data exhibit relatively low dispersion, clustering closely around the mean value. The minimum of 1.000 and maximum of 4.000 indicate that although there is some variation across firms, the overall fluctuation range remains limited.

In control variables, enterprise size shows a maximum of 26.086, minimum of 20.385, and mean of 22.954, with minimal differences between extrema and the mean, confirming homogeneous firm sizes in the sample. The gearing ratio (Lev) has a standard deviation of 0.200, reflecting moderate variation in leverage levels and relatively stable debt financing across firms. The return on assets (ROA) averages 0.042, indicating modest overall profitability, while the standard deviation of 0.064 reveals notably divergent profitabilities—some firms are profitable, while others may incur losses[17].

The cash flow ratio (Cashflow) has a standard deviation of 0.067, suggesting heterogeneous cash flow stability. The fixed assets ratio (FIXED) averages 0.199 with a standard deviation of 0.157, demonstrating significant differences in fixed asset proportions across firms. The operating income growth rate (Growth) has a mean of 0.121, indicating moderate overall growth, but the large standard

deviation of 0.305 reflects stark disparities—some firms achieve rapid growth, while others face negative growth. Both the number of directors (Board) and the proportion of independent directors (Indep) exhibit little variation, indicating stability in corporate governance structures[18].

4.2 Relevance Analysis

This study first examines the associations between variables through correlation analysis. The findings reveal in table 3 that the number of key audit matters (Number) exhibits a significant positive correlation with short-selling pressure (SP), implying that heightened short-selling pressure may prompt auditors to disclose more key audit matters in audit reports. It also demonstrates significant positive correlations with firm size (Size), gearing ratio (Lev), and number of directors (Board), while showing significant negative correlations with return on total assets (ROA), cash flow ratio (Cashflow), and fixed asset proportion (FIXED), respectively. Notably, neither the operating income growth rate (Growth) nor the proportion of independent directors (Indep) shows a significant correlation with the number of key audit matters[19].

Among control variables, firm size (Size) is significantly positively correlated with gearing ratio (Lev), whereas gearing ratio (Lev) is significantly negatively correlated with cash flow ratio (Cashflow). Return on total assets (ROA) is significantly positively correlated with cash flow ratio (Cashflow), and fixed asset proportion (FIXED) is significantly positively correlated with operating income growth rate (Growth). These correlation results lay a crucial foundation for subsequent research, but the causal relationships between variables require further exploration through regression analysis and other methods. Meanwhile, for variables with significant correlations, follow-up studies should also address potential multicollinearity issues that may affect the results.

Table 3:Relevance Analysis

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) number	1.000									
(2) SP	0.016**	1.000								

(3) Size	0.150***	-0.055***	1.000							
(4) Lev	0.171***	-0.093***	0.576***	1.000						
(5) ROA	-0.147***	0.036***	0.017***	-0.336***	1.000					
(6) Cashflow	-0.099***	-0.056***	0.098***	-0.149***	0.513***	1.000				
(7) FIXED	-0.119***	-0.060***	0.154***	0.085***	-0.016**	0.229***	1.000			
(8) Growth	-0.008	0.092***	0.056***	0.051***	0.316***	0.097***	0.007	1.000		
(9) Board	0.030***	-0.004	0.280***	0.137***	0.014**	0.049***	0.152***	0.028***	1.000	
(10) Indep	0.008	-0.025***	0.034***	0.020***	-0.015**	-0.003	-0.038***	-0.033***	-0.519***	1.000

* shows significance at the .01 level

4.3 Multicollinearity Test

Multicollinearity between variables was detected by calculating the variance inflation factor (VIF). The results show that the VIF values of the variables are less than 5, with Lev having a VIF of 1.88, ROA of 1.85, Size of 1.80, Board of 1.57, Cashflow of 1.54, Indep of 1.43, Growth of 1.17, FIXED of 1.13, SP of 1.03, and an average VIF of 1.49, as shown in table 4.

Table 4. Multicollinearity Test

Variable	VIF	1/VIF
Lev	1.88	0.532582
ROA	1.85	0.540919
Size	1.80	0.555253
Board	1.57	0.636220
Cashflow	1.54	0.649765
Indep	1.43	0.697242
Growth	1.17	0.856754
FIXED	1.13	0.883556
SP	1.03	0.974431
Mean VIF	1.49	

According to generally accepted standards, this indicates that there is no serious problem of multicollinearity among variables, and the constructed regression model is more reliable in terms of variable independence, with each explanatory variable being able to influence the explanatory variables relatively independently, which provides a reasonable basis for the subsequent analyses based on the model, and reduces the risk of biased results due to multicollinearity.

4.4 Hausman Test

The Hausman test is designed to test the difference between fixed-effects regression and random-effects regression, and is used to test the appropriateness of adopting a random model; if the Hausman test result passes, the random-effects model is appropriate, and vice versa, the fixed-effects model is selected. When the significance p-value of the Hausman test is

less than 0.1, it means that the original hypothesis can be significantly rejected and the alternative hypothesis is established, and the fixed effect model can be used for regression analysis. According to the results of Hausman test (Table V), it can be obtained that the p-value is <0.1, so the fixed effect model is used.

Table 5. Hausman Test

	Coef.
Chi-square test value	100.21
P-value	0.0000

4.5. Analysis of Regression Results

The results of regression analysis in this paper are shown in Table 6.

Columns (1) and (2) of Table 6 show the regression results without control variables, and it can be seen that the coefficient of SP is significantly positively related to the number of key audit matters. This indicates that the short selling mechanism has a significant contribution to the improvement of the quality of disclosure of key audit matters. The results remain unchanged after adding control variables, which further proves that the introduction of short selling mechanism can significantly improve the quality of disclosure of key audit matters, and H1 is verified.

Table 6. Regression Results

	(1)	(2)	(3)	(4)
	number	number	number	number
SP	0.015***	0.017***	0.015***	0.016***
	(5.87)	(6.98)	(6.19)	(6.68)
Size			0.058***	0.078***
			(10.52)	(13.37)
Lev			0.167***	0.165***
			(4.39)	(4.10)
ROA			-1.252***	-1.357***
			(-10.56)	(-11.18)
Cashflow			-0.079	-0.060
			(-0.77)	(-0.58)
FIXED			-0.597***	-0.376***
			(-15.81)	(-7.65)
Growth			0.052***	0.056***
			(2.65)	(2.81)
Board			-0.021	-0.024
			(-0.61)	(-0.67)

Indep			-0.001	-0.000
			(-1.13)	(-0.41)
_cons	2.009***	2.006***	0.877***	0.341**
	(325.25)	(330.79)	(6.70)	(2.40)
industry	NO	YES	NO	YES
year	NO	YES	NO	YES
N	11855	11855	11855	11855
R ²	0.003	0.054	0.063	0.103
Adj. R ²	0.00	0.05	0.06	0.10

From the regression results in table 6, short selling pressure (SP) and the number of key audit matters (number) show a significant positive relationship in all four regressions. This reflects that short selling mechanism, as a market regulator, has a significant impact on auditing. When short selling pressure increases, the market's negative expectations of firms are enhanced, and auditors, in order to cope with potential risks and satisfy investors' demand for information, will scrutinise firms' financial conditions more rigorously, thus increasing the number of disclosures of key audit matters. This reflects the close link between market pressure and audit supervision, and short selling pressure to some extent motivates auditors to improve audit quality and enhance information transparency in order to maintain the stable operation of the capital market.

4.6 Robustness Test

4.6.1 Change the sample interval

Due to the public health emergencies in 2020, there may be an impact on the auditor's audit work. In order to further improve the robustness of the results, the data of 2020 is excluded. By changing the sample interval for the robustness test, it is found that the relationship between the number of key audit matters (NUMBER) and each variable remains robust in the new sample, as shown in table 7.

Table 7. Robustness Test-Change the Sample Interval

	(1)
	number
SP	0.017***
	(6.30)
Size	0.078***
	(12.53)
Lev	0.161***
	(3.76)
ROA	-1.355***
	(-10.42)
Cashflow	-0.061
	(-0.56)

FIXED	-0.340***
	(-6.50)
Growth	0.049**
	(2.30)
Board	-0.027
	(-0.73)
Indep	-0.001
	(-0.65)
_cons	0.368**
	(2.44)
industry	YES
year	YES
N	10382
R ²	0.102
Adj. R ²	0.09

4.6.2 Adding Individual Fixed Effects

In the robustness test with the introduction of individual fixed effects, the basic relationship between variables such as the number of key audit matters and short selling pressure is not substantially altered, although the coefficients of the variables are adjusted in terms of value and significance. The inclusion of individual fixed effects allows the model to control for unique characteristics at the individual level, and the findings remain robust under more stringent conditions, demonstrating that the original findings are somewhat resistant to interference and able to maintain the validity of the core findings while accounting for individual heterogeneity, as shown in table 8.

Table 8. Robustness Test-Adding Individual Fixed Effects

	(1)
	number
SP	0.004*
	(1.95)
Size	0.046**
	(2.28)
Lev	0.074
	(1.05)
ROA	-0.995***
	(-8.61)
Cashflow	-0.014
	(-0.16)
FIXED	-0.263***
	(-2.95)
Growth	0.038**
	(2.49)
Board	-0.053
	(-0.92)
Indep	-0.003**

	(-2.03)
<u>cons</u>	1.261***
	(2.65)
industry	YES
year	YES
Individual	YES
N	11377
R ²	0.735
Adj. R ²	0.65

4.6.3 Replacement of dependent variables

In the course of the study, the proxy variable for the number of key audit matters (NUMBER) is measured by using the length of key audit matter text (ln_word), which is a count of the total number of words in the descriptive part of the key audit matters, borrowing from Chen, Li-Hong et al. (2022). After substituting the newly constructed explanatory variables into model (1) again, the results remain stable, further confirming the reliability of H1, as shown in table 9.

Table 9. Robustness Test-Replacement of Dependent Variables

	(1)
	ln_word
SP	0.003***
	(3.00)
Size	0.009***
	(3.81)
Lev	0.020
	(1.18)
ROA	-0.065
	(-1.22)
Cashflow	0.075*
	(1.65)
FIXED	-0.090***
	(-5.36)
Growth	-0.002
	(-0.22)
Board	-0.004
	(-0.27)
Indep	-0.001
	(-0.98)
<u>cons</u>	7.176***
	(122.92)
industry	YES
year	YES
N	11855
R ²	0.006
Adj. R ²	0.00

4.7 Heterogeneity Test

The heterogeneity analysis of enterprise nature indicates that concerning the impact of short-selling pressure on the quantity of key

audit matters, while a significant positive association is observed in both state-owned enterprises (SOEs) and non-SOEs, the significance level is more pronounced in non-SOEs. This reflects the differentiated influence of the market environment on the auditing of enterprises with different ownership natures. For both types of enterprises, variables such as company size, gearing ratio, and net profit margin on total assets exhibit the same direction of influence on the number of key audit matters, yet the degrees of influence differ. For example, the impact of the net profit margin on total assets is more prominent in SOEs. Discrepancies exist between SOEs and non-SOEs in variables including the cash flow ratio, proportion of fixed assets, operating income growth rate, number of directors, and proportion of independent directors. Some variables show insignificant effects in SOEs but significant effects in non-SOEs, with coefficients varying in both magnitude and direction, as shown in table 10.

Table 10. Heterogeneity Test

	SOEs	non-SOEs
	number	number
SP	0.014**	0.015***
	(2.28)	(5.59)
Size	0.072***	0.101***
	(7.41)	(13.21)
Lev	0.189***	0.175***
	(2.73)	(3.47)
ROA	-1.408***	-1.305***
	(-5.81)	(-9.22)
Cashflow	0.028	-0.214*
	(0.15)	(-1.70)
FIXED	-0.234***	-0.396***
	(-3.02)	(-5.99)
Growth	0.019	0.061**
	(0.57)	(2.50)
Board	-0.043	0.144***
	(-0.81)	(3.01)
Indep	-0.004**	0.006***
	(-2.16)	(3.22)
<u>cons</u>	0.524**	-0.682***
	(2.26)	(-3.46)
industry	YES	YES
year	YES	YES
N	4461	7391
R ²	0.135	0.120
Adj. R ²	0.12	0.11

This clearly demonstrates that the nature of the enterprise plays a crucial moderating role in the

relationship between these variables and the number of key audit matters. Therefore, during the practice of enterprise auditing and the formulation of regulatory policies, the differences in enterprise nature must be given high priority. This approach enables accurate and effective audit supervision and management, and safeguards the quality of enterprise financial information disclosure as well as the stable operation of the market.

5. Research Conclusions and Policy Recommendations

5.1 Research Conclusion

Taking the implementation of China's new auditing standards in 2017 as an opportunity, this study selects the data of A-share listed companies from 2017 to 2023 as samples, empirically explores the impact of short selling mechanism on auditors' attention to key audit matters using double-effects fixed model, and carries out heterogeneity and robustness tests. The results of the study show that: first, the implementation of short selling mechanism significantly increases auditors' attention to key audit issues, and this finding remains reliable after multiple robustness tests; second, the heterogeneity test indicates that the short selling mechanism contributes to a more prominent increase in auditors' attention to key audit issues in non-state-owned firms. The effect of the short selling mechanism on auditors' attention to key audit matters further extends to the audit quality level, which is significant. When the short selling mechanism leads to an increase in the auditor's focus on key audit matters, the rigour and comprehensiveness of the audit process is enhanced. The auditor will devote more effort to in-depth review of the enterprise's financial condition and operational risks, thus making it more likely that potential misstatements or fraud will be detected and material errors in the financial statements will be reduced, which directly contributes to the accuracy and reliability of the audit report, which is a key element of the quality of the audit[20].

The more pronounced effect of increased attention in non-SOEs is particularly critical to improving audit quality in non-SOEs. As non-SOEs may be relatively weak in terms of corporate governance and disclosure, the audit enhancement triggered by short selling mechanisms can fill some of the gaps. Auditors'

detailed review and full disclosure of key audit matters add credibility to the financial information of non-SOEs, enable investors to obtain a more accurate basis for decision-making, and enhance market confidence in non-SOEs, which in turn promotes the development of audit quality of non-SOEs to a higher level, and contributes to the optimisation and improvement of the overall audit ecology of the capital market.

Short selling mechanism plays an important role in the capital market, and its association with auditor's behaviour and audit quality has a far-reaching impact on the whole market.

In the capital market ecosystem, short selling serves as a market check and balance, and its presence contributes to a more effective market price discovery mechanism. By influencing auditors to focus on key audit matters, short selling further enhances information transparency in the market. At the macro level, this contributes to a more rational allocation of resources, allowing capital to flow to companies with real value and potential and improving the overall efficiency of the capital market.

For the group of listed companies, this impact of the short selling mechanism has a broad warning and regulatory effect. It prompts companies to pay more attention to their financial health and the quality of their disclosure, and both state-owned and non-state-owned enterprises need to operate under stricter market supervision. Especially for non-state-owned enterprises, the audit-enhancing effect of the short-selling mechanism helps to improve their overall governance level, narrow the gap between them and state-owned enterprises in terms of corporate governance and information disclosure, promote fair competition among market players, and promote the healthy development of the entire group of listed companies.

From an investor's perspective, the enhanced audit quality triggered by the short selling mechanism provides investors with more reliable information for decision-making. Investors are able to make investment decisions based on more accurate financial reports and audit opinions, reducing investment risks and enhancing market confidence, which in turn attracts more investors to participate in the capital market and promotes the expansion of capital market activity and scale.

At the macroeconomic level, the interaction between short selling mechanism and audit

quality helps to maintain the stability of the financial market. Accurate audit information and effective market checks and balances can reduce the accumulation of market bubbles and risks, enhance the resilience of the financial system, and better safeguard the smooth operation of the economy in the face of external shocks and economic fluctuations, and promote the sustainable development of the macroeconomy.

In summary, the impact of short selling mechanism on auditors' attention to key audit matters and its role in audit quality enhancement are of great significance and far-reaching impact at multiple levels of the capital market, listed companies, investors, and the macro-economy, and are an indispensable part of the healthy development of the capital market.

5.2 Policy Recommendations

5.2.1 Regulatory Authorities

(1) Improving the Short-Selling Mechanism Regulatory System: Within the framework of existing laws and regulations, regulatory authorities should refine the quantitative regulatory standards for short-selling transactions. They should clarify the upper limit of the intraday short-selling ratio for a single security (it is recommended to tentatively set it at 5% of the circulating market value) and the coordinated regulatory rules for cross-market short-selling to prevent the risk of cross-market manipulation. Relying on the existing securities market monitoring system, a full-process response mechanism consisting of "real-time monitoring, early warning triggering, rapid verification, and violation disposal" should be built. For trading behaviors where the single-day short-selling volume increases by more than 30%, an automatic verification procedure should be triggered, and a written report on the verification results should be formed within 3 working days. In response to malicious short-selling behaviors, in addition to pursuing civil liability for compensation in accordance with the law, a market entry ban system can be introduced, imposing a 3-to 5-year trading restriction on the involved subjects.

(2) Strengthening Audit Quality Supervision: The "Guidelines for the Evaluation of Audit Quality of Listed Companies" should be formulated, establishing a quantitative evaluation system that includes "sufficiency of disclosure of key audit matters (weight 30%), integrity of the audit evidence chain (weight

40%), and timeliness of response to short-selling doubts (weight 30%)". 20% of accounting firms should be selected for special inspections every quarter, focusing on verifying the compliance of audit procedures under short-selling pressure. For institutions that have deficiencies in audit procedures or conceal major misstatements, depending on the severity of the circumstances, they should be fined 1 to 3 times their business income, and their qualification to undertake audit business for listed companies should be suspended for 3 to 12 months.

5.2.2 Enterprise Level

(1) Optimizing the Governance of State-Owned Enterprises (SOEs): With reference to the "OECD Principles of Corporate Governance", a "mechanism for evaluating the decision-making effectiveness of the board of directors under the leadership" should be established. Every year, a third-party institution should be hired to evaluate from three dimensions: scientificity of strategic decision-making (40%), timeliness of information disclosure (30%), and protection of the rights and interests of minority shareholders (30%). The evaluation results should be included in the performance appraisal system of SOE (with a weight of not less than 15%). SOEs with assets exceeding 10 billion yuan are required to set up a full-time information disclosure department, equipped with no less than 3 full-time personnel with more than 5 years of experience in the capital market, to ensure that major business matters are announced within 24 hours after triggering the disclosure conditions.

(2) Improving Internal Control and Audit of Non-State-Owned Enterprises: For non-state-owned enterprises, a "five-dimensional improvement model of internal control" should be implemented. Firstly, a "financial data cross-verification system" should be established. Every month, the internal audit department should compare core indicators such as sales receipts and inventory turnover rate with the original data of the business department. If the difference rate exceeds 5%, a special explanation must be issued. Secondly, "audit quality evaluation indicators" should be embedded into cooperation agreements, specifying that accounting firms must meet hard standards such as "major accounting error correction rate $\leq 1\%$ " and "100% completeness of related party transaction disclosure". Those who fail to meet the standards will have 20% of their audit fees deducted. Thirdly, a "compliance risk reserve"

should be set up, which is accrued at 0.5% of the annual revenue and specially used for audit adjustments and compliance rectification. Fourthly, a "key post rotation system" should be implemented. Personnel in positions such as finance and internal audit must rotate every 3 years, and a compliance commitment covering all matters within their scope of responsibility must be issued during the rotation handover. Fifthly, at least one internal control effectiveness self-inspection should be carried out every year, and the self-inspection report must be disclosed together with the annual report after being reviewed by the board of directors.

5.2.3 Market Construction

(1) Investor Education and Protection: A "stratified and classified investor education system" should be built. For individual investors, no less than 4 special training sessions combining online and offline methods should be carried out every year, covering the basic principles of the short-selling mechanism and the interpretation of key matters in audit reports. Standardized materials such as the "Guidelines for Interpreting Short-Selling Information" and "Manual for Reading Audit Reports" should be distributed as supporting materials. For institutional investors, a "short-selling information analysis and exchange meeting" mechanism should be established, organizing quarterly three-party dialogues among listed companies, accounting firms, and institutional investors to interpret short-selling logic and audit responses.

(2) Construction of the Integrity System: A "capital market integrity score management system" should be established. For listed companies, the scores include "information disclosure compliance score (40 points), audit report quality score (30 points), and violation record deduction score (30 points)". For accounting firms, the scores include "audit procedure compliance score (50 points), audit result accuracy rate (30 points), and customer complaint handling score (20 points)". Priority support in aspects such as IPO review and refinancing quotas should be given to subjects with annual integrity scores in the top 20%. For subjects with scores below 60 points, a three-in-one punishment of "financing restrictions, business entry bans, and information disclosure" should be implemented, restricting their participation in public market financing and major asset restructurings, and synchronizing the

dishonest information to the national credit information sharing platform.

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