

Impact of Auditor Turnover on Stock Price Crash Risk: Insights from China's Capital Market

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Abstract

This study investigates the impact of auditor changes on stock price crash risk within the unique context of China's capital market. Drawing on data from Chinese corporations from 2015 to 2023, we examine how this relationship is moderated by audit quality. Leveraging established methods, we calculate crash risk using Negative Conditional Skewness (NCSKEW) and Down-to-up Volatility (DUVOL). Our findings reveal a positive association between auditor changes and increased crash risk, an effect amplified by higher audit fees and prior audit violations. Conversely, strong audit quality, indicated by longer tenures, Big Four affiliation, and non-state ownership, significantly mitigates this risk. Our results underscore the importance of audit quality in maintaining market stability within China's complex regulatory landscape. Policymakers and investors should be cognizant of potential risks associated with auditor changes, especially when indicators suggest compromised audit quality.

Keywords: auditor changes, stock price crash risk, audit quality, audit fees, Big Four accounting firms, state-owned enterprises.

JEL:M41, M42, G32, G34

Introduction

In the complex landscape of today's global economic environment, financial markets are intricately connected and notably vulnerable to geopolitical disturbances. Recent occurrences, such as the conflict between Ukraine and Russia, have highlighted this fragility, exposing the increased sensitivity of these markets to external disruptions. This vulnerability has become more pronounced since the financial downturn of 2008, with traditional destabilizing factors like non-transparent information practices, executive manipulations, and misleading financial reporting being compounded by geopolitical tensions (Ahmed et al., 2023; Najaf et al., 2023; Kim et al., 2014).

Despite this global focus, the role of auditors in maintaining market stability under such conditions remains underexplored, particularly within the context of China's capital market. Characterized by its unique regulatory environment and the significant presence of state-owned enterprises (SOEs), China's market presents a distinct set of challenges and risks. The central problem addressed in this research is the impact of auditor changes on stock price crash risk within this unique context, emphasizing how audit quality can either mitigate or exacerbate these risks.

Audit quality is a critical component in ensuring the credibility of financial reports. However, the frequent changes in auditors often driven by regulatory mandates, corporate governance reforms, or strategic decisions by management pose a potential threat to this quality. This is particularly relevant in China, where the rapid expansion of the market has sometimes outpaced the development of robust regulatory frameworks. The risk of stock price crashes, defined as sudden, significant drops in stock prices, can be amplified by poor audit practices, which fail to detect or report financial discrepancies in a timely manner.

This study investigates the hypothesis that auditor changes, particularly those accompanied by higher audit fees or prior audit violations, increase the risk of stock price crashes. Conversely, it posits that strong audit quality, indicated by longer tenures, Big Four affiliation, and non-state ownership, can significantly mitigate this risk. By leveraging data from Chinese corporations between 2015 and 2023 and employing established methods to calculate crash risk (NCSKEW and DUVOL), this research aims to provide a nuanced understanding of how auditor dynamics influence market stability.

Recognizing the scant attention given to the interrelation between China's auditing practices and external geopolitical disruptions, our study endeavors to bridge this gap. We aim to scrutinize the impact of audit engagement partner turnover and audit quality on the risk of stock price crashes in the Chinese market, especially under the influence of external geopolitical tensions. This investigation is pivotal in shedding light on how China's regulatory landscape, intertwined with global instabilities, influences vulnerabilities in its equity markets, thereby venturing into a domain hitherto unexplored.

Our study is specifically poised to unravel the under-explored effects of audit engagement partner turnover on stock price crash risk within the Chinese context, a market often critiqued for its regulatory complexities. By delving into this inquiry, we aspire to enrich the existing discourse on the correlation between audit quality and crash risk, offering fresh insights into China's unique market dynamics (Kim and Zhang, 2016; Abedifar et al., 2019; Yueng and Lento, 2018).

The objective of this study is twofold: firstly, to dissect the dynamics of audit engagement partner turnover in China amidst global geopolitical instabilities; and secondly, to examine the intricacies of China's regulatory framework in light of such instabilities. Targeting a broad audience comprising academics and investors, this research is committed to empowering stakeholders with the knowledge to adeptly navigate markets influenced by a confluence of internal and external variables.

The remainder of this paper is organized as follows: Section 2 develops the hypotheses; Section 3 outlines the data collection and methodology employed; Section 4 presents an analysis of the empirical findings; and Section 5 offers a conclusion to our study, encapsulating the implications of our findings and suggesting avenues for future research.

Literature review

Interrelation between Accountant Turnover and Stock Crash Risk

The role of accountants in upholding financial report credibility is crucial, as inaccuracies can significantly influence stock prices. Recent studies such as Zhou et al. (2023), and Hassan et al. (2022) further underscore the impact of accountant turnover on stock price crash risk, particularly in the context of China's market dynamics. Khurana and Raman (2004) highlighted the significant consequences of concealing adverse information within this context. Research shows a strong link between accountant tenure and audit quality, with longer tenure leading to a

deeper industry understanding and risk awareness (DeAngelo, 1981; Romanus et al., 2008; Bhaumik et al., 2016; Mustikarini and Adhariani 2022). Agency theory suggests that higher audit quality reduces information asymmetry between investors and managers (Liu Ruolan, 2006; Ammar Zahid et al., 2023). The necessity for expertise in detecting major errors and maintaining the integrity of financial reports post-turnover is highlighted by recent findings (Ghosh and Moon, 2005; Alfraih, M.M. 2016; Le and Moore, 2023).

However, when experts are replaced post-turnover, the continuity of knowledge and expertise within the audit team can be disrupted. This can lead to undetected errors or a less thorough review of financial statements (DeAngelo, 1981; Romanus et al., 2008), potentially undermining the integrity of financial reports (Le & Moore, 2023). If significant negative information is not disclosed, this heightened information asymmetry increases the risk of a stock price crash.

While the connection between accountant tenure and audit quality is well-documented, the direct impact of accountant turnover on stock price crash risk remains less explored, especially within unique markets like China, where the potential for information concealment is a concern (Zhou et al., 2023; Hassan et al., 2022).

Hypothesis 1: Audit engagement partner turnover is positively associated with stock price crash risk. crashes.

Audit Fees, Accountant Cooperation, and Audit Quality

The phenomenon of audit opinion shopping, where companies seek favorable audit opinions, has drawn significant scrutiny (Chow and Rice, 1982; Dakhli, A. 2022). Recent investigations by Tessema and Abou-El-Sood (2022), and further supported by Ye et al. (2022), have observed improvements in audit opinions after audit engagement partner turnover, suggesting potential opinion shopping. This is in line with Simunic (1980), and further discussed in Cho and Krishnan (2023), where higher audit fees are posited as a likely consequence of opinion shopping. Simunic (1980) argued that opinion shopping likely leads to higher audit fees. This aligns with agency theory, which posits that management may prioritize their interests, often to the detriment of shareholders (Cho and Krishnan, 2023). The direct impact of the interplay between audit fees and accountant turnover on stock crash risk, however, remains underexplored.

Hypothesis 2: The positive association between audit engagement partner turnover and stock price crash risk is stronger when audit fees increase.

Previous literature suggests that prolonged collaboration between auditors and clients enhances the auditors' understanding of the company, growing with each year of service (DeAngelo, 1981; Romanus et al., 2008; Myers, Myers, and Omer, 2003). This study hypothesizes that accountants pass their knowledge to their firms, aiding successors in maintaining audit quality. In cases of financial fraud or errors, the firm's reputation is at greater risk than the individual accountant's. Thus, it is posited that when accountants are replaced within the same firm, the firm's extended history with the client can reduce the adverse effects of accountant turnover on stock price crash risk.

Hypothesis 3: The positive association between audit engagement partner turnover and stock price crash risk is weaker when tenure with the original accounting firm is longer.

There are notable differences in reputation and competence between large and smaller accounting firms. Large firms, often more trusted by investors for their audit quality, face greater financial and reputational risks in cases of financial fraud, affecting investor confidence in their future audits (Hogan and Martin, 2009; Landsman et al., 2009).

Research indicates that companies with non-unqualified opinions often switch from large to smaller firms, highlighting the importance of Big 4 firms in audit turnover decisions (Irving and Walker, 2012). The lower turnover rates for Big 4 clients suggest a preference for their superior audit quality. Additionally, findings that companies with financial issues are more likely to change their auditor to a non-Big 4 firm are supported by recent literature (Hogan and Martin, 2009; Landsman et al., 2009).

This study posits that large accounting firms, owing to their superior professional competence and investor trust, are less inclined to hide negative corporate information. Consequently, the longer a company works with a Big 4 accounting firm, the more it can mitigate the negative effects of accountant turnover on stock price crash risk.

Hypothesis 4: The mitigating effect of audit firm tenure on the association between audit engagement partner turnover and stock price crash risk is more pronounced for companies audited by Big Four accounting firms.

The Distinct Dynamics of SOEs in Stock Crash Risk

Chinese State-owned enterprises (SOEs) are unique due to the interplay between politics and business. Recent studies (Zhang et al., 2010; Ye and Zhang, 2011; Xie

et al., 2023) discuss how government support for SOEs may influence stock price stability. Additionally, research by Huang et al. (2022), Li and Chan (2016), and Luo et al. (2016) provide insights into the role of political connections and the differential impact on stock price crash risk between SOEs and non-SOEs.

Research suggests a protective effect associated with political connections in managing stock price crash risks in the Chinese market. Li and Chan (2016) find that directors with political ties on the board can lower a company's crash risk. Similarly, Luo et al. (2016) demonstrate that politically connected companies face lower stock price crash risks, likely benefiting from government assistance in managing negative news release.

Non-SOEs have fewer resources than SOEs and are more reliant on auditors for supervision. Additionally, non-SOEs face higher costs of disclosing negative information, which increases their incentive to withhold such news. These factors suggest that crash risks primarily originate from non-SOEs, where auditors play a vital auditing and supervisory role in mitigating risks.

Hypothesis 5: The positive association between audit engagement partner turnover and stock price crash risk is stronger for non-SOEs than SOEs.

Methodology

Date collection

The data for this study were sourced from the GTA (Guotai An) database, encompassing annual data from Chinese listed companies (Shanghai A-shares and Shenzhen A-shares) from 2015 to 2023. Financial institutions were excluded due to their unique financial dynamics and regulatory environment. The focus on A-shares ensures consistency and relevance in the analysis.

Variables definition

Stock price crash risk

Following methodologies established in prior literature (Chen et al., 2001; Hutton et al., 2009; Kim et al., 2011a), we assess stock price crash risk using Negative Conditional Skewness (NCSKEW) and Down-to-up Volatility (DUVOL). These measures capture the skewness and volatility of stock returns, respectively, providing a robust indicator of crash risk.

$$r_{i,t} = \alpha_i + \beta_1 R_{M,t-2} + \beta_2 R_{M,t-1} + \beta_3 R_{M,t} + \beta_4 R_{M,t+1} + \beta_5 R_{M,t+2} + \varepsilon_{i,t} \quad (1)$$

Let $r_{i,t}$ represent the return of stock i in week t , and, $R_{M,t-2}$ 、 $R_{M,t-1}$ 、 $R_{M,t}$ 、 $R_{M,t+1}$ 、 $R_{M,t+2}$ is the market value weighted stock price return of stock i in week t over the five weeks of $t-2$, $t-1$, t , $t+1$, and $t+2$. The firm-specific excess return of company's stock i in week t denoted as $W_{i,t}$,

$$W_{i,t} = \ln(1 + \varepsilon_{i,t}) \quad (2)$$

The first type of market crash risk is the skewness of the annual stock returns for the company (NCSKEW), which is calculated as follows :

$$NCSKEW_{i,t} = - \left[n(n-1)^{3/2} \sum W_{i,t}^3 \right] / \left[(n-1)(n-2) (\sum W_{i,t}^2)^{3/2} \right] \quad (3)$$

Herein, $NCSKEW_{i,t}$ is the number of trading weeks for stock i in that year. A higher value indicates a higher risk of stock price collapse. The second measure is the volatility of stock price returns (DUVOL), which is calculated as follows:

$$DUVOL_{i,\tau} = \log \left\{ \frac{(n_u-1) \sum Down W_{i,t}^2}{(n_d-1) \sum Up W_{i,t}^2} \right\} \quad (4)$$

n_u and n_d represent the number of days the stock price increased and decreased, respectively, with higher values indicating higher risk of a stock price collapse.

Control variables

To construct a robust analytical framework, this study carefully incorporates several control variables. These variables are widely recognized in existing literature as influential factors in the context of stock price crash risk (Chen et al., 2001; Hutton et al., 2009; Kim et al., 2011a; Kim et al., 2011b). These variables, selected for their proven relevance and impact, include: Firm Size (SIZE): Defined as the natural logarithm of the total assets of the firm, serving as a proxy for the scale of the company's operations and its market presence. Return on Assets (ROA): Calculated as the ratio of the company's net income to its total assets, this metric offers insights into the efficiency with which a company utilizes its asset base to generate profits. Leverage Ratio (LEV): This ratio, representing the company's total liabilities divided by its total assets, indicates the extent of a firm's reliance on borrowed funds in financing its operations. Market-to-Book Value Ratio (MB): Calculated as the market value of equity divided by the book value of equity, this ratio provides a measure of the market's valuation of a company relative to its accounting value. Firm-Specific Weekly Return Standard Deviation (WRSTD): This variable, the standard deviation of the firm-specific weekly returns, captures the volatility of a firm's stock returns over a weekly basis, reflecting the risk associated with the firm's stock. Firm-Specific Average Weekly Return (WRMEAN): Defined as the mean value of the firm-specific weekly returns, this measure offers an average return level, giving insight into the general performance trend of the firm's stock.

By integrating these control variables, derived from the extensive review of prior research on stock price crash risk, our study aims to provide a comprehensive understanding of the factors that may influence the phenomenon under investigation. Each variable is carefully defined and operationalized to ensure precision in our analysis, facilitating a nuanced exploration of the intricacies underlying stock price crash risk.¹

Model development

Empirical Examination of Auditor Transition and Its Impact on Stock Price Volatility

This segment of our investigation seeks to empirically scrutinize the implications of auditor changes on the volatility of stock prices, addressing two pivotal hypotheses. Hypothesis 1 conjectures that a turnover among accounting

¹ See Appendix A for a list of variable definitions and measurements.

professionals exerts a positive influence on the risk of stock price crashes. Concurrently, Hypothesis 2 postulates that this relationship is exacerbated by the phenomenon of audit opinion shopping, particularly when it leads to an escalation in audit fees. Anticipating a direct correlation, we posit that audit engagement partner turnover amplifies the propensity for stock price crashes. To methodically assess these assertions, we introduce the following regression model for estimation:

$$\text{NCSKEW}_{i,t}(\text{DUVOL}_{i,t}) = \alpha_0 + \alpha_1 \text{CH}_{i,t-1} + \theta_1 \text{CV}_{i,t-1} + \varepsilon_{i,t} \quad (5)$$

In this equation, $\text{NCSKEW}_{i,t}(\text{DUVOL}_{i,t})$ delineates the stock price crash risk for firm i in period t , while $\text{CH}_{i,t-1}$ a binary variable capturing the occurrence of an auditor change within the firm (1 for change, 0 for no change). The vector $\text{CV}_{i,t-1}$ comprises a suite of control variables crafted to adjust for firm-specific attributes that may sway stock price stability. These controls encompass: SIZE, the logarithm of the company's total assets, serving as a proxy for the scale of its operations. ROA is the return on assets, calculated as net income divided by total assets, offering insights into profitability. LEV denotes as Debt-to-equity ratio, indicating the degree of financial leverage employed by the firm. MB is Market-to-book value ratio, reflecting market valuations relative to accounting values. WRSTD represents the standard deviation of weekly returns for the company, quantifying volatility. WRMEAN is the average of the firm's weekly returns over the year, representing the typical return level.

This regression model is meticulously designed to isolate the effects of auditor changes on stock price crash risk, incorporating a comprehensive array of controls to ensure a robust analysis. By elucidating the dynamics between audit engagement partner turnover, audit fees, and stock price crash risk, this empirical framework aims to offer profound insights into the mechanisms driving stock market fluctuations in the aftermath of changes in audit engagements.

The impact of collaboration tenure with an accounting firm on the relationship between auditor change and stock price crash risk

In testing Hypotheses 3, 4, and 5, this study delves deeper into the interplay between the tenure of collaboration with accounting firms and the dynamics of audit engagement partner turnover in relation to stock price crash risk. We posit through Hypothesis 3 that a prolonged engagement with an accounting firm may temper the observed association between auditor changes and increased stock price crash risk. Hypothesis 4 extends this conjecture, proposing that such a

mitigating effect is notably more substantial when the firm in question is one of the Big Four. Hypothesis 5 explores the variance of this effect in non-state-owned enterprises, anticipating that both the dampening impact of sustained auditor relationships and the heightened risk linked to auditor changes will be more marked in these entities.

This study upholds the premise that while auditor changes correlate positively with stock price crash risk, the extent of this relationship is potentially modulated by the duration of the company's partnership with its accounting firm. It is theorized that longer-term collaborations serve as a counterbalance, diminishing the risk escalation typically associated with auditor changes. Accordingly, we propose the following regression model for our empirical analysis:

$$\text{NCSKEW}_{i,t}(\text{DUVOL}_{i,t}) = \alpha_0 + \alpha_1 \text{CH}_{i,t-1} + \alpha_2 \text{AUDITTIME}_{i,t-1} + \alpha_3 \text{CH}_{i,t-1} \times \text{AUDITTIME}_{i,t-1} + \theta_1 \text{CV}_{i,t-1} + \varepsilon_{i,t} \quad (6)$$

Herein, $\text{NCSKEW}_{i,t}(\text{DUVOL}_{i,t})$ denotes stock price crash risk, CH indicates whether there has been a change in the signing accountant within the year, and CV indicates whether there has been a change in the signing accountant within the year, and

Robustness

To further verify the empirical results of this study, we perform a robustness test by dividing the sample into groups based on whether the effect of changing accountants for two consecutive years still exists. We separate the sample into a group that changed accountants in the previous year and test the results using the following equation:

$$\text{NCSKEW}_{i,t}(\text{DUVOL}_{i,t}) = \alpha_0 + \alpha_1 \text{CH}_{i,t-1} + \theta_1 \text{CV}_{i,t-1} + \varepsilon_{i,t} \quad (7)$$

In this robustness test, we aim to determine if the relationship between changing accountants and the risk of stock price collapse persists even when the company has changed accountants for two consecutive years. This robustness test will provide additional evidence supporting or refuting our hypotheses and help ensure the validity of our findings. Among the variables, $\text{NCSKEW}_{i,t}(\text{DUVOL}_{i,t})$ represents stock price crash risk, $\text{CH}_{i,t-1}$ indicates whether the company has changed the signing accountant (1 if changed, 0 if not), and $\text{CV}_{i,t-1}$ represents control variables. Control variables include: firm size (SIZE), return on assets (ROA), debt ratio (LEV), market-to-book value ratio (MB), firm-specific weekly return standard deviation (WRSTD), and firm-specific average weekly return (WRMEAN) for that year.

This study also conducts a robustness test by incorporating different market value calculation methods for stock price crash risk. By employing various market value calculation methods, we further ensure the robustness of our empirical results. The different market value calculation methods for stock price crash risk include: market value of equity average method considering cash dividend reinvestment (MDOS), total market value average method (MDTL), comprehensive market value of equity average method (CMDOS), and comprehensive total market value average method (CMDTL). The study tests the results using the following equation:

$$\text{NCSKEW_MDOS}_{i,t}(\text{DUVOL_MDOS}_{i,t}) = \alpha_0 + \alpha_1 \text{CH}_{i,t-1} + \alpha_2 \text{AUDITTIME}_{i,t-1} + \alpha_3 \text{CH}_{i,t-1} \times \text{AUDITTIME}_{i,t-1} + \theta_1 \text{CV}_{i,t-1} + \varepsilon_{i,t} \quad (8)$$

$$\text{NCSKEW_MDTL}_{i,t}(\text{DUVOL_MDTL}_{i,t}) = \alpha_0 + \alpha_1 \text{CH}_{i,t-1} + \alpha_2 \text{AUDITTIME}_{i,t-1} + \alpha_3 \text{CH}_{i,t-1} \times \text{AUDITTIME}_{i,t-1} + \theta_1 \text{CV}_{i,t-1} + \varepsilon_{i,t} \quad (9)$$

$$\text{NCSKEW_CMDOS}_{i,t}(\text{DUVOL_CMDOS}_{i,t}) = \alpha_0 + \alpha_1 \text{CH}_{i,t-1} + \alpha_2 \text{AUDITTIME}_{i,t-1} + \alpha_3 \text{CH}_{i,t-1} \times \text{AUDITTIME}_{i,t-1} + \theta_1 \text{CV}_{i,t-1} + \varepsilon_{i,t} \quad (10)$$

$$\text{NCSKEW_CMDTL}_{i,t}(\text{DUVOL_CMDTL}_{i,t}) = \alpha_0 + \alpha_1 \text{CH}_{i,t-1} + \alpha_2 \text{AUDITTIME}_{i,t-1} + \alpha_3 \text{CH}_{i,t-1} \times \text{AUDITTIME}_{i,t-1} + \theta_1 \text{CV}_{i,t-1} + \varepsilon_{i,t} \quad (11)$$

By employing these various market value calculation methods in our robustness test, we can better confirm the validity of our findings and provide a more comprehensive understanding of the relationship between changing accountants and stock price crash risk. Among these, NCKEW_MDOS (DUVOL_MDOS) represents the market capitalization-weighted average of NCSKEW (DUVOL) using the dividend market value method for measuring stock price crash risk; NCKEW_MDTL (DUVOL_MDTL) represents the market capitalization-weighted average of NCSKEW (DUVOL) using the total market value method, and NCKEW_CMDOS (DUVOL_CMDOS) represents the comprehensive market capitalization-weighted average of NCSKEW (DUVOL) using the total market value average method. CH represents whether the company has changed its signing accountant (1 if changed, 0 if not), and CV stands for control variables. Control variables include: firm size (SIZE), return on assets (ROA), debt ratio (LEV), market-to-book value ratio (MB), firm-specific weekly return standard deviation (WRSTD), and firm-specific average weekly return (WRMEAN) for that year.

Empirical result

Descriptive statistics

Table 1 provides essential statistical information for the variables analyzed in our study. Central to our investigation, the Negative Conditional Skewness (NCSKEW) serves as an index for assessing stock price crash risk. The mean value of NCSKEW at -0.224 suggests a generally low crash risk across the sampled companies, aligning with typical definitions of stock price crash risk. This index varies significantly within the sample, as indicated by its substantial standard deviation of 0.804 and its range, stretching from a minimum of -3.808 to a maximum of 4.315. Such dispersion underscores the infrequent yet impactful nature of stock price crashes.

Similarly, the Down-to-up Volatility (DUVOL) index, with a mean of -0.074, signals that stock price crash risk, while present, is not pervasive across the sample. This finding is supported by DUVOL's range from -1.357 to 1.443, emphasizing the sporadic occurrence of significant price fluctuations.

Further detailing our dataset, the average Auditor Change (CH) score of 0.636 reflects auditor changes in approximately 5,400 firms. The mean Firm Size (SIZE) of 15.914, along with an average Leverage Ratio (LEV) of 0.435, Return on Assets (ROA) of 0.022, and Market-to-Book Value Ratio (MB) of 1.009, provide insights into the financial characteristics of the companies under study. The Firm-Specific Average Weekly Return (WRMEAN) is nearly zero (-0.002), suggesting stable returns over time. The average Audit Tenure (AUDITTIME) of 7.855 years indicates a relatively long duration of collaboration between companies and their accounting firms. Lastly, the Equity Structure (EQUITY) mean of 0.402 reveals that state-owned enterprises constitute about 40% of our sample, or roughly 4,000 companies.

These descriptive statistics not only illuminate the financial landscape of the sampled companies but also highlight the diverse nature of stock price crash risk and auditor relations within the Chinese market.

Table 1 Descriptive statistics

Variable	Mean	St. Dev.	Min	Max	N
NCSKEW	-0.2238	0.8035	-3.8080	4.3151	9898
DUVOL	-0.0737	0.2798	-1.3569	1.4427	9898
CH	0.6356	0.4813	0.0000	1.0000	9898
SIZE	15.9142	0.9097	13.6638	21.0249	9898
LEV	0.3691	0.3583	0.0000	18.7904	9898
WRMEAN	-0.0019	0.0045	-0.0480	0.3660	9898
WRSTD	0.0548	0.0317	0.0000	1.2862	9898
MB	1.0065	1.2028	0.0010	18.3523	9898
ROA	0.0217	0.2912	-19.1382	0.6153	9898
AUDITTIME	7.8549	5.6529	1.0000	28.0000	9898
EQUITY	0.3918	0.4882	0.0000	1.0000	9898

The stock price crash risk index NCSKEW represents the firm-specific negative skewness of weekly returns for company *i* in year *t*, while DUVOL represents the firm-specific up and down volatility of weekly returns for company *i* in year *t*. CH is a dummy variable indicating whether the company has changed its auditor in that year, with 1 for a change and 0 for no change. SIZE refers to the company size, calculated as the natural logarithm of total assets. LEV is the debt-to-equity ratio. WRMEAN is the mean of individual stock-specific weekly returns. WRSTD is the standard deviation of individual stock weekly returns. MB is the market-to-book ratio. ROA is the return on assets, calculated as earnings divided by total assets. AUDITTIME represents the length of collaboration between the company and the accounting firm. EQUITY is a dummy variable, with 1 for state-owned enterprises and 0 for non-state-owned enterprises.

Table 2 displays the correlation coefficients among the variables analyzed in our research. Notably, the two main indicators of stock price crash risk, Negative Conditional Skewness (NCSKEW) and Down-to-up Volatility (DUVOL), show a significant correlation, with a coefficient value of 0.88. This robust correlation underscores the possibility of NCSKEW and DUVOL representing the same underlying construct of stock price crash risk, thereby validating their concurrent use in analyzing market stability.

Regarding the correlations among other independent variables, all coefficients are observed to be below 0.5, with the highest recorded at 0.269. This pattern of low correlation coefficients suggests that the risk of multicollinearity among these

variables is minimal, supporting the reliability of our study's statistical analyses. The absence of substantial multicollinearity reinforces the integrity of our findings, ensuring that each independent variable provides unique insights into the dynamics of stock price crash risk.

Table 2 Coefficient of correlation matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) NCSKEW	1.000										
(2) DUVOL	0.880	1.000									
(3) CH	0.004	0.010	1.000								
(4) SIZE	-0.069	-0.098	-0.008	1.000							
(5) LEV	0.008	0.005	0.008	-0.013	1.000						
(6) WRMEAN	0.058	0.075	-0.039	0.038	0.001	1.000					
(7) WRSTD	-0.085	-0.082	0.068	-0.053	0.001	-0.149	1.000				
(8) MB	0.031	0.026	-0.028	0.089	0.004	0.106	-0.228	1.000			
(9) ROA	-0.043	-0.035	-0.009	0.076	-0.029	0.008	-0.025	-0.013	1.000		
(10) AUDTIME	0.008	-0.000	-0.053	-0.026	-0.012	0.049	-0.113	0.028	0.010	1.000	
(11) EQUITY	-0.028	-0.028	-0.031	0.125	-0.004	0.073	-0.153	0.269	0.007	0.015	1.000

The NCSKEW is the skewness of weekly stock returns for company *i* in year *t*, while DUVOL is the weekly stock return volatility of company *i* in year *t*. CH is a dummy variable representing whether the company changed auditors in that year, with 1 indicating a change and 0 indicating no change. SIZE is the natural logarithm of total assets, representing the size of the company. LEV is the debt ratio. WRMEAN is the mean of individual weekly stock returns, and WRSTD is the standard deviation of weekly stock returns. MB is the market-to-book ratio. ROA is the return on assets, calculated as earnings divided by total assets. AUDITTIME is the number of years the company has worked with the current auditor. EQUITY is a dummy variable, with 1 indicating a state-owned enterprise and 0 indicating a non-state-owned enterprise. PLUS is a dummy variable representing whether the company increased audit fees in the current year, with 1 indicating an increase and 0 indicating no increase or decrease.

Analysis of Estimated Results

Impact of audit engagement partner turnover on Stock Price Crash Risk

Employing an Ordinary Least Squares (OLS) regression model, this study delves into the relationship between auditor changes and stock price crash risk. To address potential endogeneity concerns, we have lagged independent and instrumental variables by one period, with comprehensive findings detailed in Table 3.

As depicted in Table 4, Model (1) reveals a positive and statistically significant relationship between auditor changes and stock price crash risk (NCSKEW) at the 1% significance level. This outcome suggests that a change in a company's auditor in the preceding year is associated with an increased risk of stock price crashes, thereby supporting Hypothesis 1. This finding points towards auditor changes intensifying the information asymmetry between companies and investors, which in turn escalates stock price volatility, leading to an elevated crash risk.

Model (2) extends the analysis by incorporating various dependent variables associated with crash risk. It confirms a consistent, positive, and significant correlation at the 1% significance level, further substantiating Hypothesis 1 by demonstrating that audit engagement partner turnovers contribute to heightened stock price crash risk.

Models (3) and (4) introduce fixed effects to the analysis, which slightly modulates the outcomes. While the significance levels of the primary variables decrease to 10%, and their coefficients adjust to 0.0222 and 0.007, respectively, these models still lend support to Hypothesis 1. They indicate a meaningful and positive association between auditor changes and stock price crash risk, albeit with diminished magnitude under the fixed effects framework.

Table 3 The Impact of audit engagement partner turnover on Stock Price Crash Risk

	(1)	(2)	(3)	(4)
	NCSKEW	DUVOL	NCSKEW	DUVOL
CH _{t-1}	0.0560*** (2.77)	0.0188*** (2.75)	0.0338* (1.70)	0.0118* (1.76)
SIZE _{t-1}	0.0239** (2.08)	0.0008 (0.20)	0.0616*** (5.28)	0.0129*** (3.22)
LEV _{t-1}	0.0485 (1.26)	0.0255* (1.91)	0.0862** (2.26)	0.0378*** (2.85)
WRMEAN _{t-1}	2.2767 (1.40)	0.7146 (1.07)	-1.6121* (-1.78)	-0.6845** (-2.46)
WRSTD _{t-1}	-1.6753*** (-6.22)	-0.5769*** (-5.84)	0.3800 (1.49)	0.1632* (1.89)
MB _{t-1}	-0.0626*** (-4.95)	-0.0216*** (-4.96)	-0.0670*** (-4.89)	-0.0235*** (-4.96)
ROA _{t-1}	-0.0695* (-1.77)	-0.0212 (-1.58)	-0.0666 (-1.28)	-0.0213 (-1.23)
YEAR FE	NO	NO	YES	YES
IND FE	NO	NO	YES	YES
N	7153	7153	7153	7153
AdjR ²	0.00800	0.00814	0.0501	0.0581

The stock price crash risk indices of NCSKEW refers to the firm-specific weekly return negative skewness of company *i* in year *t*, while DUVOL refers to the firm-specific weekly return up-down volatility of company *i* in year *t*. CH is a dummy variable takes a value of 1 if the company experienced an auditor change during the year and 0 if no change occurred. AUDITTIME represents the cooperation duration between the company and the accounting firm. SIZE measures the size of the company, calculated as the natural logarithm of total assets. LEV refers to the debt ratio. WRMEAN is the mean of individual stock-specific weekly returns. WRSTD is the standard deviation of individual stock weekly returns. MB represents the price-to-book value ratio. ROA is the return on assets, calculated as earnings divided by total assets. YEAR FE stands for the year fixed effects, and IND FE represents industry fixed effects (the significance levels are **p* < 0.01, ***p* < 0.05, and **p* < 0.1, respectively.).

Enhanced Impact of audit engagement partner turnover on Stock Price Crash Risk with Increased Audit Fees

Our investigation extends to assess Hypothesis 2, which postulates that companies might seek to influence audit outcomes through auditor changes, especially when accompanied by increased audit fees. This hypothesis posits that such strategic auditor changes are a mechanism through which companies attempt to manage perceptions of their financial health, potentially leading to increased stock price crash risk. The analysis, segmented based on variations in audit fees, aims to discern the nuanced impact of audit engagement partner turnover on stock price crash risk, with the detailed outcomes presented in Table 4.

In the initial analysis, Models (1) and (2) scrutinize the relationship between auditor changes and stock price crash risk in the context of stable audit fees. The findings from these models reveal a positive but not statistically significant association, suggesting that auditor changes, in isolation from audit fee adjustments, do not markedly influence stock price crash risk. This observation indicates that the act of changing auditors alone, without the accompanying financial lever of increased audit fees, lacks a significant impact on crash risk.

Conversely, the examination shifts in Models (3) and (4) to scenarios where auditor changes coincide with increased audit fees. Here, the relationship between audit engagement partner turnover and stock price crash risk not only becomes statistically significant but also shows a more substantial coefficient compared to scenarios without fee adjustments. These outcomes robustly support Hypothesis 2, highlighting that the heightened crash risk associated with auditor changes is particularly pronounced when audit fees are elevated.

These findings collectively underscore a critical insight: the propensity for increased stock price crash risk following auditor changes is significantly amplified in contexts where audit fees rise. This underscores the strategic implications of auditor changes in financial reporting and audit practices, affirming that the decision to change auditors, especially when linked to increased fees, can be a predictor of elevated crash risk.

Table 4 Impact of audit engagement partner turnover on Stock Price Crash Risk with Increased Audit Fees

	No increase in audit fees		Increase in audit fees	
	(1)	(2)	(3)	(4)
	NCSKEW	DUVOL	NCSKEW	DUVOL
CH _{t-1}	0.0135 (0.51)	0.0008 (0.09)	0.0578* (1.91)	0.0240** (2.35)
SIZE _{t-1}	0.0417** (2.41)	0.0059 (1.02)	0.0905*** (5.41)	0.0233*** (4.05)
LEV _{t-1}	0.1089** (2.56)	0.0461*** (3.12)	-0.0164 (-0.22)	0.0035 (0.14)
WRMEAN _{t-1}	-3.1260 (-1.64)	-0.1940 (-0.31)	-1.6618 (-0.13)	-2.5592 (-0.57)
WRSTD _{t-1}	0.7857 (1.38)	0.0207 (0.11)	0.0134 (0.01)	-0.0135 (-0.03)
MB _{t-1}	-0.0559*** (-3.05)	-0.0240*** (-3.59)	-0.0833*** (-3.81)	-0.0255*** (-3.51)
ROA _{t-1}	-0.4596*** (-2.88)	-0.1527*** (-2.88)	-0.0626 (-1.64)	-0.0211 (-1.49)
YEAR FE	YES	YES	YES	YES
IND FE	YES	YES	YES	YES
N	3739	3739	3414	3414
AdjR ²	0.0417	0.0487	0.0646	0.0742

The stock price crash risk index NCSKEW refers to the firm-specific weekly return negative skewness of company *i* in year *t*, while DUVOL refers to the firm-specific weekly return up-down volatility of company *i* in year *t*. CH is a dummy variable that indicates whether the company changed accountants in the given year, with a change being equal to 1 and no change equal to 0. AUDITTIME represents the cooperation duration between the company and the accounting firm. SIZE measures the size of the company, calculated as the natural logarithm of total assets. LEV refers to the debt ratio. WRMEAN is the mean of individual stock-specific weekly returns. WRSTD is the standard deviation of individual stock weekly returns. MB represents the price-to-book value ratio. ROA is the return on assets, calculated as earnings divided by total assets. YEAR FE stands for the year fixed effects, and IND FE represents industry fixed effects (***) significant at the 1% level; ** significant at the 5% level; * significant at the 10% level).

The results from Table suggest that the link between audit engagement partner turnover and stock price crash risk is predominantly due to increased audit fees. This correlation appears to stem from the accumulation of undisclosed negative news. The

study hypothesizes that firms seeking to hide adverse information might have past occurrences of auditor misconduct. To further explore this dynamic, the sample is divided based on the presence of auditor misconduct in the previous year, categorizing companies into those with clean records and those with a history of misconduct.

Analysis of Models (1) and (2) in Table 5 shows that for companies without prior auditor misconduct, the effect of audit engagement partner turnover, represented by the coefficient of the main variable CH, is positive yet statistically insignificant. This indicates that increases in audit fees do not substantially elevate stock price crash risk in the absence of past misconduct. However, Models (3) and (4) reveal that the influence of audit engagement partner turnover on heightened stock price crash risk is more pronounced among companies with a record of auditor misconduct. This finding underscores that a history of auditor misconduct in a firm is a critical factor contributing to the increased risk of stock price crashes following audit engagement partner turnover, especially when audit fees are elevated.

Table 5 The impact of audit engagement partner turnover on stock price crash risk in the context of whether the company violated any rules last year and increased audit fees

	Audit fee increase			
	Firms without auditor misconduct		Firms with accounting violations	
	(1) NCSKEW	(2) DUVOL	(3) NCSKEW	(4) DUVOL
CH _{t-1}	0.0392 (1.19)	0.0125 (1.13)	0.1489* (1.88)	0.0772*** (2.89)
SIZE _{t-1}	0.1019*** (5.76)	0.0258*** (4.24)	-0.0030 (-0.06)	-0.0032 (-0.18)
LEV _{t-1}	-0.0198 (-0.23)	0.0077 (0.27)	-0.1313 (-0.78)	-0.0637 (-1.11)
WRMEAN _{t-1}	2.4326 (0.19)	-2.7505 (-0.59)	-8.0968 (-0.16)	19.5215 (1.00)
WRSTD _{t-1}	0.7683 (0.56)	0.1063 (0.22)	-2.9518 (-0.60)	0.8297 (0.47)
MB _{t-1}	-0.0813*** (-3.64)	-0.0245*** (-3.32)	-0.0810 (-1.31)	-0.0235 (-1.12)
ROA _{t-1}	0.0177 (0.24)	0.0302 (1.30)	-0.1105 (-1.41)	-0.0521* (-1.92)
YEAR FE	YES	YES	YES	YES
IND FE	YES	YES	YES	YES
N	2913	2913	501	501
AdjR ²	0.0644	0.0743	0.0887	0.116

The stock price crash risk index NCSKEW refers to the firm-specific weekly return negative skewness of company *i* in year *t*, while DUVOL refers to the firm-specific weekly return up-down volatility of company *i* in year *t*. CH is a dummy variable that indicates whether the company changed accountants in the given year, with a change being equal to 1 and no change equal to 0. AUDITTIME represents the cooperation duration between the company and the accounting firm. SIZE measures the size of the company, calculated as the natural logarithm of total assets. LEV refers to the debt ratio. WRMEAN is the mean of individual stock-specific weekly returns. WRSTD is the standard deviation of individual stock weekly returns. MB represents the price-to-book value ratio. ROA is the return on assets, calculated as earnings divided by total assets. YEAR FE stands for the year fixed effects, and IND FE represents industry fixed effects (***) significant at the 1% level; ** significant at the 5% level; * significant at the 10% level).

Impact of Auditor Tenure and Changes on Stock Price Crash Risk

Previous findings suggest that auditor changes may elevate stock price crash risk. Hypothesis 3 posits that longer auditor-firm cooperation could mitigate this risk. This study incorporates auditor tenure into the analysis, with results presented in Table 6.

Models (1) and (2) show that despite including interaction terms, a significant positive correlation between auditor changes and stock price crash risk persists at the 1% level, reinforcing the notion that changing auditors increases crash risk. However, the interaction term between auditor tenure and changes indicates a mitigating effect: prolonged cooperation with accounting firms lessens the heightened crash risk associated with audit engagement partner turnover, as evidenced by a negative coefficient for the interaction term. This supports Hypothesis 3, suggesting that sustained auditor-client relationships can offset the adverse effects of auditor changes on stock price crash risk.

In Model (3), industry and year fixed effects are added, yet the positive correlation between auditor changes and crash risk remains, with the interaction term continuing to show a mitigating influence. Model (4) also maintains a positive relationship between audit engagement partner turnover and crash risk, but here the interaction term's effect is not statistically significant.

Future research will extend this analysis to explore how the size of accounting firms influences this relationship, further elucidating the nuances of auditor changes and tenure in relation to stock price crash risk.

Table 6 Impact of Auditor Tenure and Changes on Stock Price Crash Risk

	(1)	(2)	(3)	(4)
	NCSKEW	DUVOL	NCSKEW	DUVOL
CH _{t-1}	0.1268*** (3.49)	0.0380*** (3.12)	0.0908** (2.54)	0.0266** (2.22)
CH _{t-1} × AUDITTIME _{t-1}	-0.0090** (-2.48)	-0.0025** (-2.04)	-0.0073** (-2.04)	-0.0019 (-1.61)
SIZE _{t-1}	0.0240** (2.09)	0.0007 (0.18)	0.0615*** (5.27)	0.0128*** (3.18)
LEV _{t-1}	0.0518 (1.33)	0.0266** (1.97)	0.0887** (2.31)	0.0386*** (2.90)
WRMEAN _{t-1}	2.4074 (1.48)	0.7660 (1.14)	-1.4836 (-1.63)	-0.6354** (-2.28)
WRSTD _{t-1}	-1.7376*** (-6.41)	-0.6010*** (-6.04)	0.3177 (1.23)	0.1398 (1.61)
MB _{t-1}	-0.0637*** (-5.02)	-0.0220*** (-5.02)	-0.0679*** (-4.94)	-0.0237*** (-5.00)
ROA _{t-1}	-0.0704* (-1.84)	-0.0214 (-1.63)	-0.0673 (-1.32)	-0.0215 (-1.27)
YEAR FE	NO	NO	YES	YES
IND FE	NO	NO	YES	YES
N	7153	7153	7153	7153
AdjR ²	0.00877	0.00880	0.0505	0.0585

The stock price crash risk index NCSKEW refers to the firm-specific weekly return negative skewness of company *i* in year *t*, while DUVOL refers to the firm-specific weekly return up-down volatility of company *i* in year *t*. CH is a dummy variable that indicates whether the company changed accountants in the given year, with a change being equal to 1 and no change equal to 0. AUDITTIME represents the cooperation duration between the company and the accounting firm. SIZE measures the size of the company, calculated as the natural logarithm of total assets. LEV refers to the debt ratio. WRMEAN is the mean of individual stock-specific weekly returns. WRSTD is the standard deviation of individual stock weekly returns. MB represents the price-to-book value ratio. ROA is the return on assets, calculated as earnings divided by total assets. YEAR FE stands for the year fixed effects, and IND FE represents industry fixed effects (***) significant at the 1% level; ** significant at the 5% level; * significant at the 10% level).

Four Firms on Stock Price Crash Risk

This study extends its investigation to Hypothesis 4, focusing on the potential moderating role of the size of accounting firms—specifically, comparing Big Four with non-Big Four firms on the dynamics between auditor changes and stock price crash risk. The nuanced analysis, captured in Table 7, seeks to understand how the duration of auditor-firm relationships influences this relationship.

In the context of non-Big Four accounting firms, Models (1) and (2) explore the interaction between auditor tenure and changes in relation to stock price crash risk. The findings reveal a positive correlation between auditor changes and increased crash risk, albeit at a 10% significance level. Notably, longer tenure with non-Big Four firms fails to significantly mitigate this elevated risk, suggesting that the protective benefits of sustained auditor engagements are less pronounced within these smaller accounting entities.

Conversely, the analysis shifts to Big Four accounting firms in Models (3) and (4), where a distinct pattern emerges. Here, auditor changes are strongly associated with heightened stock price crash risk, with this relationship being significant at the 5% level. Crucially, the interaction terms underscore that extended tenure with Big Four firms serves as a significant moderating factor, evidenced by negative coefficients of -0.036 and -0.0117, significant at the 1% and 5% levels, respectively. This indicates that prolonged engagements with Big Four firms effectively reduce the risk amplification associated with audit engagement partner turnover.

The contrasting findings between Big Four and non-Big Four firms underscore the significance of auditor firm size in the context of stock price crash risk. Specifically, while auditor changes inherently raise risk levels, the duration of the auditor-firm relationship plays a pivotal role in mitigating this risk, with longer tenures at Big Four firms offering a more substantial buffer against the adverse effects of audit engagement partner turnover.

Table 7 The the Differential Impact of Auditor Tenure with Big Four and Non-Big Four Firms on Stock Price Crash Risk

	Non Big 4		Big 4	
	(1)	(2)	(3)	(4)
	NCSKEW	DUVOL	NCSKEW	DUVOL
CH _{t-1}	0.0809** (2.18)	0.0218* (1.76)	0.2936** (2.31)	0.1115** (2.46)
CH _{t-1} × AUDITTIME _{t-1}	-0.0061 (-1.64)	-0.0014 (-1.18)	-0.0355*** (-2.63)	-0.0117** (-2.49)
SIZE _{t-1}	0.0740*** (5.64)	0.0158*** (3.47)	0.0469 (1.34)	0.0199* (1.68)
LEV _{t-1}	0.0991*** (2.60)	0.0394*** (2.94)	-0.1068 (-0.52)	0.0192 (0.28)
WRMEAN _{t-1}	-1.4697 (-1.63)	-0.6201** (-2.20)	15.8118 (0.24)	-4.2404 (-0.20)
WRSTD _{t-1}	0.2635 (1.00)	0.1240 (1.40)	1.5757 (0.30)	-0.0932 (-0.05)
MB _{t-1}	-0.0741*** (-5.30)	-0.0247*** (-5.21)	-0.0046 (-0.10)	-0.0090 (-0.55)
ROA _{t-1}	-0.0628 (-1.23)	-0.0211 (-1.24)	-0.1204 (-0.17)	-0.0310 (-0.14)
YEAR FE	YES	YES	YES	YES
IND FE	YES	YES	YES	YES
N	6690	6690	450	450
AdjR ²	0.0462	0.0534	0.149	0.157

The stock price crash risk index NCSKEW refers to the firm-specific weekly return negative skewness of company *i* in year *t*, while DUVOL refers to the firm-specific weekly return up-down volatility of company *i* in year *t*. CH is a dummy variable that indicates whether the company changed accountants in the given year, with a change being equal to 1 and no change equal to 0. AUDITTIME represents the cooperation duration between the company and the accounting firm. SIZE measures the size of the company, calculated as the natural logarithm of total assets. LEV refers to the debt ratio. WRMEAN is the mean of individual stock-specific weekly returns. WRSTD is the standard deviation of individual stock weekly returns. MB represents the price-to-book value ratio. ROA is the return on assets, calculated as earnings divided by total assets. YEAR FE stands for the year fixed effects, and IND FE represents industry fixed effects (***) significant at the 1% level; ** significant at the 5% level; * significant at the 10% level).

Assessing the Influence of Auditor Changes in SOEs Versus Non-SOEs on Stock Price Crash Risk

Given China's distinct political landscape, where state-owned enterprises (SOEs) enjoy considerable governmental support compared to their non-state-owned counterparts, this study probes Hypothesis 5 by exploring the moderating effects of audit tenure on stock price crash risk across these divergent enterprise categories. The analysis, as detailed in Table 8, delves into whether the political backing of SOEs impacts the efficacy of auditor roles within these entities.

For SOEs, the analysis, through Models (1) and (2), reveals that auditor changes, denoted by the variable CH, exhibit a positive but statistically non-significant relationship with stock price crash risk. This outcome suggests that within the SOE context, audit engagement partner turnover does not markedly influence stock price crash risk, nor does audit tenure serve as a significant moderating factor. This lack of significant impact underscores the potential buffering effect of governmental support on the consequences of auditor changes in SOEs.

In stark contrast, Models (3) and (4) focus on non-SOEs, where a significantly different picture emerges. Here, auditor changes are positively correlated with increased stock price crash risk, with significance levels reaching 1% and 5%, respectively. Moreover, the interaction terms within these models highlight that extended audit tenure can effectively reduce the adverse effects of audit engagement partner turnover on stock price crash risk in non-SOEs. These findings underline a clear disparity between SOEs and non-SOEs, with the latter showing a more pronounced vulnerability to auditor changes in the absence of state backing.

Overall, the evidence from Table 8 supports Hypothesis 5, elucidating that the political and economic backing inherent to SOEs diminishes the impact of auditor changes and audit firm tenure on stock price crash risk. Conversely, in non-SOEs, where such governmental support is absent, the roles of auditor changes and tenure become significantly more influential, highlighting a critical divergence in how these entities navigate audit-related transitions and their subsequent risk profiles..

Table 8 The Influence of Auditor Changes in SOEs Versus Non-SOEs on Stock Price Crash Risk

	State Owned		Non-State Owned	
	(1)	(2)	(3)	(4)
	NCSKEW	DUVOL	NCSKEW	DUVOL
CH _{t-1}	0.0466 (0.94)	0.0163 (0.98)	0.1316*** (2.58)	0.0354** (2.06)
CH _{t-1} × AUDITTIME _{t-1}	-0.0027 (-0.55)	-0.0009 (-0.56)	-0.0119** (-2.33)	-0.0029* (-1.67)
SIZE _{t-1}	0.0658*** (3.84)	0.0113* (1.94)	0.0707*** (4.21)	0.0184*** (3.21)
LEV _{t-1}	0.0685 (0.94)	0.0170 (0.68)	0.0937** (2.02)	0.0451*** (2.86)
WRMEAN _{t-1}	28.8533 (0.97)	5.9751 (0.61)	-0.1735 (-0.19)	-0.3212 (-1.03)
WRSTD _{t-1}	3.8686* (1.74)	0.9974 (1.33)	-0.2493 (-0.87)	-0.0015 (-0.02)
MB _{t-1}	-0.0312** (-1.96)	-0.0114** (-2.09)	-0.0938*** (-3.05)	-0.0313*** (-2.90)
ROA _{t-1}	-0.2989 (-1.31)	-0.0972 (-1.20)	-0.0466 (-1.11)	-0.0130 (-0.88)
N	2873	2873	4280	4280
AdjR ²	0.0462	0.0575	0.0511	0.0567

The stock price crash risk index NCSKEW refers to the firm-specific weekly return negative skewness of company *i* in year *t*, while DUVOL refers to the firm-specific weekly return up-down volatility of company *i* in year *t*. CH is a dummy variable that indicates whether the company changed accountants in the given year, with a change being equal to 1 and no change equal to 0. AUDITTIME represents the cooperation duration between the company and the accounting firm. SIZE measures the size of the company, calculated as the natural logarithm of total assets. LEV refers to the debt ratio. WRMEAN is the mean of individual stock-specific weekly returns. WRSTD is the standard deviation of individual stock weekly returns. MB represents the price-to-book value ratio. ROA is the return on assets, calculated as earnings divided by total assets (** significant at the 1% level; * significant at the 5% level; * significant at the 10% level).

Robustness checks

Upon further scrutiny, the robustness of our conclusions has been put to the test through an intriguing analysis of scenarios where firms have opted for new accountants consecutively over a two-year span, a detailed account of which is provided in Table 9. Within this examination, Models (1) and (2) unveil a persistent and notable influence of such accountant transitions on the risk of stock price crashes—evidence that stands robust even when past alterations are taken into account. Delving deeper, this pattern remains steadfast in Models (3) and (4), notwithstanding adjustments for variances across industries and temporal shifts, thus reinforcing the solidity of our observations. Mirroring these patterns, the interaction terms weave into the narrative, lending credence to Hypothesis 1 by highlighting the tangible impact that shifting accounting alliances have on escalating stock price crash risks.

To further ensure the solidity of our conclusions, we conducted additional robustness tests employing diverse methodologies for calculating stock price crash risk. The comprehensive results, detailed in Table 10 across models (1-5), reveal a unanimous association between accountant changes and an elevated risk of stock price crashes, irrespective of the valuation method employed. This unanimity across varied calculation approaches lends additional credence to the study's primary assertions.

Significantly, these analyses also spotlight the mitigating role of auditor tenure, echoing the tenets of Hypothesis 3. It emerges that sustained engagements with accounting firms can effectively cushion the adverse impact of accountant changes on stock price crash risk. This nuanced finding not only reaffirms the critical importance of auditor tenure as a stabilizing factor but also enhances our understanding of the dynamic interplay between auditor relationships and financial market stability.

Table 9 Changing auditors for two consecutive years

	(1)	(2)	(3)	(4)
	NCSKEW	DUVOL	NCSKEW	DUVOL
CH _{t-1}	0.1282** (2.28)	0.0407** (2.16)	0.1130** (2.01)	0.0374** (1.98)
CH _{t-1} × AUDITTIME _{t-1}	-0.0141*** (-2.58)	-0.0046** (-2.52)	-0.0127** (-2.32)	-0.0042** (-2.30)
SIZE _{t-1}	0.0742*** (4.09)	0.0222*** (3.60)	0.0833*** (4.46)	0.0240*** (3.75)
LEV _{t-1}	0.0611 (1.23)	0.0269 (1.58)	0.0573 (1.17)	0.0244 (1.43)
WRMEAN _{t-1}	7.3326 (0.11)	7.1059 (0.34)	15.1315 (0.24)	9.0274 (0.45)
WRSTD _{t-1}	0.8678 (0.26)	0.4420 (0.39)	1.5387 (0.46)	0.5359 (0.49)
MB _{t-1}	-0.0700*** (-3.35)	-0.0239*** (-3.31)	-0.0688*** (-2.96)	-0.0215*** (-2.65)
ROA _{t-1}	-0.1536 (-1.16)	-0.0552 (-0.90)	-0.1495 (-1.03)	-0.0576 (-0.93)
YEAR FE	NO	NO	YES	YES
IND FE	NO	NO	YES	YES
N	2842	2842	2842	2842
AdjR ²	0.00906	0.00847	0.0137	0.0124

The stock price crash risk index NCSKEW refers to the firm-specific weekly return negative skewness of company *i* in year *t*, while DUVOL refers to the firm-specific weekly return up-down volatility of company *i* in year *t*. CH is a dummy variable that indicates whether the company changed accountants in the given year, with a change being equal to 1 and no change equal to 0. AUDITTIME represents the cooperation duration between the company and the accounting firm. SIZE measures the size of the company, calculated as the natural logarithm of total assets. LEV refers to the debt ratio. WRMEAN is the mean of individual stock-specific weekly returns. WRSTD is the standard deviation of individual stock weekly returns. MB represents the price-to-book value ratio. ROA is the return on assets, calculated as earnings divided by total assets. YEAR FE stands for the year fixed effects, and IND FE represents industry fixed effects (***) significant at the 1% level; ** significant at the 5% level; * significant at the 10% level).

Table 10 Robustness test across different crash risk variables

Panel A: Test of audit engagement partner turnover and Skewness Coefficient of Stock Price under Different Market Value Calculation Methods

	NCSKEW	NCSKEW_MODS	NCSKEW_MDTL	NCSKEW_CMDOS	NCSKEW_CMDTL
CH_{t-1}	0.1268*** (3.49)	0.1289*** (3.55)	0.1316*** (3.60)	0.1330*** (3.71)	0.1374*** (3.77)
CH_{t-1} * AUDITTIME _{t-1}	-0.0090** (-2.48)	-0.0097*** (-2.65)	-0.0101*** (-2.75)	-0.0089** (-2.47)	-0.0093** (-2.56)
Control Variables	YES	YES	YES	YES	YES
N	7153	6836	6836	6836	6836
AdjR ²	0.0505	0.0471	0.0499	0.0593	0.0598

Panel A: Test of audit engagement partner turnover and Stock Volatility Coefficient under Different Market Value Calculation Methods

	DUVOL	DUVOL_MDOS	DUVOL_MDTL	DUVOL_CMDOS	DUVOL_CMDTL
CH_{t-1}	0.0380*** (3.12)	0.0745*** (3.09)	0.0651*** (2.72)	0.0636*** (2.74)	0.0653*** (2.81)
CH_{t-1} * AUDITTIME _{t-1}	-0.0025** (-2.04)	-0.0058** (-2.40)	-0.0048** (-2.02)	-0.0040* (-1.75)	-0.0040* (-1.72)
Control Variables	YES	YES	YES	YES	YES
N	7153	6836	6836	6836	6836
AdjR ²	0.0585	0.0576	0.0577	0.0703	0.0659

The stock price crash risk index NCSKEW is the specific weekly return skewness of the i-th company in the t-th year, while DUVOL is the specific weekly return volatility of the i-th company in the t-th year. CH is a dummy variable that indicates whether the company changed auditors in that year, with 1 indicating a change and 0 indicating no change. AUDITTIME is the number of years that the company has worked with its current auditor.

Conclusion and Implication

his study provides an in-depth analysis of accountant transitions, audit firm tenure, and stock price crash risks among Chinese listed companies (Shanghai A-shares and Shenzhen A-shares) from 2015 to 2023. Drawing on methodologies from Chen et al. (2001), Hutton et al. (2009), and Kim et al. (2011a, 2011b), it sheds light on the complexities of stock price crash risk.

Our research highlights the critical role of information asymmetry in financial markets. The findings reveal a clear connection between audit engagement partner turnover and increased stock price crash risks, suggesting potential concealment of negative information. This risk is further amplified when audit fees are raised, implying possible attempts to influence audit opinions. Conversely, longstanding relationships with audit firms, particularly the Big Four, appear to mitigate these risks. Notably, this effect is more pronounced in non-state-owned enterprises, suggesting distinct risk dynamics within the Chinese market.

Support from Other Research

The results of this study align with and are supported by existing research in the field. For example, Kim et al. (2011a) demonstrated that poor audit quality is associated with higher stock price crash risk, underscoring the importance of robust audit practices. Similarly, Hutton et al. (2009) found that opacity in financial reporting, which can be exacerbated by frequent auditor changes, leads to higher crash risk. The mitigating effect of Big Four auditors found in this study is consistent with the findings of DeAngelo (1981), who highlighted the superior audit quality provided by larger audit firms. These studies collectively reinforce the notion that audit quality is paramount in maintaining financial stability and transparency.

Implications for Investors

The implications for investors are profound. Frequent changes in a company's auditors may indicate financial instability or efforts to disguise negative information. Investors should thus carefully consider the history of corporate-auditor relationships before making investment decisions. For corporations, maintaining enduring relationships with auditors is not only strategic but also reflects financial integrity and reliability. Frequent changes in auditors could raise red flags about potential financial inconsistencies, deterring prospective investors.

Implications for Regulators and Policymakers

This study also has significant implications for regulators and policymakers. It highlights the need for policies that enhance transparency and raise audit standards, promoting stable auditor-corporate relationships. Such policies are crucial not only for protecting investor interests but also for strengthening the overall financial market. In an interconnected global economy, the repercussions of stock market volatility extend

beyond the financial sector, impacting job security and pension funds. This extends the relevance of auditor-corporate relationships beyond the corporate sphere, making it a societal concern that affects public financial security and confidence in the financial markets.

While focused on a specific period and region, the insights from this study have universal relevance. The interplay between stable auditor relationships, audit quality, and market stability is clear. Preserving this balance is crucial not only for financial markets but also for broader societal health and welfare. The evidence presented here underscores the necessity for robust audit practices and stable auditor relationships to mitigate financial risks and ensure market stability globally.

This study contributes to the growing body of literature on audit quality and financial market stability by providing empirical evidence from China's unique capital market context. Future research could explore these dynamics in other emerging markets to further validate and expand upon these findings.

Declarations:

Conflicts of Interest: The authors declare no conflict of interest.

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Appendix A Variable definition and measurement

Variable	Definition	Measurement
Crash Risk Measures*	Refer to the detailed explanation in the "stock price crash risk" subsection	Eg.(1)to Eg(4)
Audit Engagement Partner Turnover	Dummy variable: 1 if audit partner changes, 0 otherwise	Data sourced from the GTA database
Audit Firm Tenure	Number of years the company is audited by the same firm	Data sourced from the GTA database
Audit Fees	Natural logarithm of audit fees	Data sourced from the GTA database
Big Four	Dummy variable: 1 if audited by a Big Four firm, 0 otherwise	Data sourced from the GTA database
State-Owned Enterprise	Dummy variable: 1 if state-owned, 0 otherwise	Data sourced from the GTA database
Control Variables	See detailed explanation in the "Control Variables" subsection.	

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