The Relationship Between Abnormal Audit Fees and Future Stock Price Crash Risk: An Audit Quality Approach

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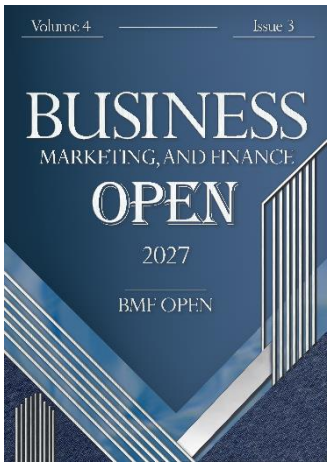

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Abstract: The present study aimed to investigate the relationship between abnormal audit fees and future stock price crash risk and to examine the moderating role of audit quality in this relationship among companies listed on the Tehran Stock Exchange. This study employed an applied, quantitative, and explanatory research design using panel data analysis. The statistical population consisted of all non-financial firms listed on the Tehran Stock Exchange during the period 2018–2024. After applying screening criteria, including continuous trading activity, availability of complete financial information, and consistency in fiscal year reporting, a final sample of 168 firms comprising 1,176 firm-year observations was selected. Data were collected from audited financial statements, annual reports, and stock market databases. Future stock price crash risk was measured using firm-specific crash-risk indicators derived from stock returns, while abnormal audit fees were estimated as the residual component of an audit fee expectation model. Audit quality was assessed using audit-related quality indicators, including auditor characteristics and reporting quality measures. Descriptive statistics, correlation analysis, and panel regression techniques were employed to test the study hypotheses. The F-Limer and Hausman tests were used to determine the appropriate panel estimation model, and robustness diagnostics were conducted to ensure the validity of the findings. The results revealed a significant positive relationship between abnormal audit fees and future stock price crash risk ($\beta = 0.384$, $p < 0.001$), indicating that firms paying unusually high audit fees were more likely to experience future stock price crashes. Audit quality exhibited a significant negative effect on crash risk ($\beta = –0.296$, $p < 0.001$), suggesting that higher-quality audits reduce the likelihood of extreme negative stock price movements. Furthermore, the interaction term between abnormal audit fees and audit quality was negative and statistically significant ($\beta = –0.248$, $p < 0.001$), demonstrating that audit quality weakens the positive association between abnormal audit fees and crash risk. The final moderated regression model explained 51.6% of the variance in future stock price crash risk and showed strong overall explanatory power. The findings suggest that abnormal audit fees constitute an important governance signal associated with increased future stock price crash risk. However, high audit quality mitigates this adverse effect by enhancing transparency, strengthening monitoring effectiveness, and reducing managerial incentives to conceal unfavorable information. The study highlights the critical role of auditing quality in protecting investors and promoting capital market stability. These results provide valuable implications for regulators, auditors, investors, and corporate boards seeking to improve financial reporting credibility and reduce information-related market risks.

Keywords: Abnormal Audit Fees, Stock Price Crash Risk, Audit Quality, Corporate Governance, Information Asymmetry, Financial Reporting Quality, Tehran Stock Exchange.

1. Introduction

The integrity and efficiency of capital markets depend heavily on the availability of transparent, reliable, and timely financial information. Investors, creditors, regulators, and other stakeholders rely on audited financial statements to assess firm performance, estimate future cash flows, and make informed economic decisions.

However, information asymmetry between corporate managers and external stakeholders remains a persistent challenge in financial markets. Managers often possess private information regarding the firm's current condition and future prospects, creating opportunities for selective disclosure, earnings management, and the concealment of adverse information. When unfavorable information accumulates and is eventually released to the market, investors may react sharply, resulting in substantial declines in stock prices. This phenomenon has been conceptualized in the literature as stock price crash risk, which refers to the probability of extreme negative firm-specific stock returns resulting from the sudden release of previously withheld bad news [1, 2]. Stock price crash risk has become an important area of inquiry because it reflects not only firm-specific governance problems but also broader concerns related to market efficiency, investor protection, and financial stability [3, 4].

The theoretical foundation of stock price crash risk is largely rooted in the bad-news-hoarding hypothesis. According to this perspective, managers may strategically withhold unfavorable information to protect personal interests, maintain compensation incentives, preserve reputations, or avoid negative market reactions. As hidden adverse information accumulates beyond a sustainable threshold, it eventually becomes impossible to conceal, leading to a sudden and significant downward adjustment in stock prices [5, 6]. Previous research has shown that managerial characteristics, information environments, governance structures, and reporting transparency significantly influence the likelihood of crash events [1, 2]. Recent reviews of crash risk literature emphasize that the quality of corporate information disclosure and the effectiveness of monitoring mechanisms are among the most important determinants of crash risk across developed and emerging markets [4, 7]. Consequently, researchers have increasingly focused on identifying institutional mechanisms capable of constraining managerial opportunism and reducing information asymmetry.

External auditing represents one of the most significant governance mechanisms available to capital market participants. Independent auditors serve a monitoring function by verifying the credibility of financial information and enhancing stakeholder confidence in corporate disclosures. Through audit procedures, auditors reduce information asymmetry, improve reporting quality, and limit managerial discretion in financial reporting. The effectiveness of this monitoring role, however, may vary depending on audit effort, auditor independence, auditor expertise, and economic relationships between auditors and clients [8, 9]. Within this context, audit fees have attracted substantial attention as a proxy for the economic bond between auditors and their clients. Audit fees reflect compensation for audit effort, risk assessment, industry specialization, and engagement complexity. Nevertheless, when audit fees deviate significantly from expected levels, concerns may arise regarding auditor independence and audit quality [10, 11].

Abnormal audit fees, commonly defined as the difference between actual audit fees and fees predicted by standard audit pricing models, have emerged as a particularly important construct in accounting and auditing research. Positive abnormal audit fees may indicate additional audit effort associated with complex engagements, but they may also reflect excessive economic dependence on clients, potentially impairing auditor objectivity. Consequently, abnormal audit fees have been interpreted through competing theoretical perspectives. The economic bonding perspective argues that unusually high audit fees may create incentives for auditors to accommodate management preferences in order to preserve lucrative client relationships. In contrast, the audit effort perspective suggests that higher fees may represent increased auditor scrutiny and more extensive audit procedures designed to address elevated engagement risks [12, 13]. The coexistence of these competing interpretations has generated considerable debate regarding the implications of abnormal audit fees for financial reporting quality and market outcomes.

Several studies have examined determinants of audit fees and documented their sensitivity to firm characteristics, disclosure practices, and governance environments. Research has shown that financial statement comparability, readability of disclosures, goodwill impairment recognition, environmental reporting, carbon emissions, corporate social responsibility initiatives, and shareholder monitoring mechanisms significantly influence audit pricing decisions [14-18]. Additional evidence suggests that disclosure complexity, redacted reporting practices, and key audit matter disclosures may alter auditor workload and engagement risk, leading to adjustments in audit fees [19, 20]. Furthermore, the threat of shareholder exit and the monitoring role of institutional investors have been shown to influence auditor behavior and transparency outcomes [18, 21]. These findings collectively indicate that audit fees capture a broad set of economic and informational factors, making them a potentially valuable indicator of governance effectiveness and audit quality.

A growing body of literature has also explored the relationship between auditing attributes and stock price crash risk. Studies indicate that high-quality audits can reduce the accumulation of hidden bad news by improving financial reporting transparency and constraining opportunistic managerial behavior. Evidence from multiple markets suggests that audit quality is negatively associated with future crash risk, highlighting the importance of effective monitoring in mitigating information asymmetry [22-24]. Audit partner rotation, auditor experience, disclosure of critical audit matters, and extended auditor reporting have similarly been linked to lower levels of crash risk through enhanced transparency and improved stakeholder monitoring [2, 25-27]. These findings support the notion that auditing serves not only as a verification mechanism but also as a governance tool capable of influencing market perceptions and investor confidence.

The relationship between abnormal audit fees and stock price crash risk is particularly important because it combines two critical dimensions of corporate governance: auditor-client economic relationships and information transparency. When auditors receive unusually high compensation from clients, stakeholders may question the independence of audit judgments and the credibility of reported financial information. Such concerns may increase uncertainty regarding undisclosed risks and heighten the likelihood of future stock price crashes. Empirical evidence supports this concern. Zhao (2021) documented a positive association between abnormal audit fees and stock price crash risk among listed firms, suggesting that excessive audit compensation may facilitate managerial bad-news hoarding and weaken external monitoring effectiveness [12]. Similarly, research examining audit partner rotation and disclosure practices has shown that stronger auditor independence mechanisms are associated with lower crash risk, reinforcing concerns regarding economic dependence between auditors and clients [6, 27].

Recent developments in auditing and corporate governance have further expanded the discussion surrounding stock price crash risk. Digital transformation initiatives, environmental sustainability practices, and evolving disclosure requirements have altered the information environment in which firms operate. Evidence suggests that digital transformation can reduce crash risk by improving transparency and information dissemination, while enhanced audit quality can strengthen the reliability of digital reporting environments [28, 29]. Similarly, environmental, social, and governance (ESG) performance has been linked to lower crash risk, particularly when supported by credible auditor oversight and informative audit opinions [30]. Research examining customer concentration, local social norms, governance structures, and financial crises also highlights the multifaceted determinants of crash risk and underscores the importance of monitoring mechanisms capable of reducing managerial information concealment [5, 31, 32].

Despite substantial progress in understanding stock price crash risk and auditing outcomes, several gaps remain in the existing literature. First, empirical evidence regarding the implications of abnormal audit fees remains mixed

due to competing theoretical explanations and differences across institutional settings. Second, most prior studies have examined either audit fees or audit quality independently, while relatively few have investigated their joint influence on future stock price crash risk. Third, evidence from emerging markets remains limited despite the unique governance characteristics and information asymmetries that often characterize these environments. The Tehran Stock Exchange provides a particularly relevant setting for examining these relationships because of its evolving regulatory framework, concentrated ownership structures, and increasing emphasis on audit quality and financial transparency. Understanding how abnormal audit fees influence crash risk within this context can provide valuable insights for regulators, investors, auditors, and corporate decision-makers seeking to strengthen market confidence and reduce information-related risks.

Moreover, contemporary auditing research continues to emphasize the importance of auditor expertise, audit effort, disclosure quality, and institutional monitoring in shaping capital market outcomes [9, 33, 34]. Studies investigating auditor turnover, audit effort, key audit matter disclosures, and auditor responses to client-specific risks suggest that audit-related characteristics significantly affect the flow of information to market participants and the likelihood of future crash events [9, 26, 35]. Consequently, examining abnormal audit fees through the lens of audit quality offers a promising framework for understanding how auditor-client relationships influence the accumulation and release of firm-specific information.

Therefore, the present study aims to investigate the relationship between abnormal audit fees and future stock price crash risk with an emphasis on the moderating and explanatory role of audit quality among companies listed on the Tehran Stock Exchange.

2. Methodology

This study was conducted using a quantitative, applied research design with a correlational and explanatory approach. Given the nature of the research objective, which seeks to investigate the relationship between abnormal audit fees and future stock price crash risk while considering the role of audit quality, the study employed an ex post facto design based on archival financial data. The statistical population consisted of all companies listed on the Tehran Stock Exchange (TSE) during the period from 2018 to 2024. Financial institutions, banks, insurance companies, investment firms, and other financial intermediaries were excluded from the sample because of their unique reporting requirements, regulatory frameworks, and financial structures, which could affect the comparability of financial information and audit fee patterns.

A systematic screening procedure was applied to select the final sample. Firms were required to have uninterrupted trading activity during the study period, a consistent fiscal year ending in March, complete financial statements and audit reports available through official databases, and sufficient information to calculate all research variables. Companies experiencing major structural changes, such as mergers, acquisitions, or prolonged trading suspensions, were excluded to avoid potential distortions in the results. After applying these criteria, a final sample of 168 companies listed on the Tehran Stock Exchange was selected. Considering the seven-year study period, the research dataset comprised 1,176 firm-year observations. The selected firms represented a broad range of industries operating within the Tehran capital market, providing an appropriate basis for examining the relationship between audit-related factors and future stock price crash risk.

Data collection was based on documentary and archival methods. Financial and accounting information was obtained from audited annual reports, financial statements, board reports, and accompanying notes published through the official databases of the Tehran Stock Exchange and the Comprehensive Database of All Listed

Companies. Additional market-related information, including stock prices, trading volumes, and return data, was extracted from financial information platforms commonly used in capital market research.

The dependent variable, future stock price crash risk, was measured using established market-based indicators derived from firm-specific weekly stock returns. Consistent with prior literature, crash risk was estimated through negative conditional skewness (NCSKEW) and down-to-up volatility (DUVOL) measures. These indicators capture the asymmetry of stock return distributions and reflect the likelihood of extreme negative price movements in subsequent periods.

The primary independent variable, abnormal audit fees, was estimated through a residual-based approach. First, a benchmark model was developed to estimate expected audit fees based on firm characteristics such as company size, operational complexity, leverage, profitability, inventory intensity, receivables, and other determinants commonly associated with audit pricing. The residual component from this model represented abnormal audit fees, indicating the extent to which actual audit fees deviated from expected levels. Positive residuals reflected unusually high audit fees, whereas negative residuals indicated lower-than-expected audit compensation.

Audit quality, as the central moderating and explanatory construct, was measured using commonly accepted proxies in audit research. These measures included audit firm size, auditor industry specialization, auditor tenure, and discretionary accruals-based indicators of earnings quality. Higher audit quality was assumed to reflect stronger monitoring mechanisms, greater auditor independence, and enhanced reliability of financial reporting. Several control variables were also incorporated into the analysis to reduce omitted-variable bias. These variables included firm size, financial leverage, market-to-book ratio, return on assets, stock return volatility, operating cash flows, firm age, and industry affiliation.

The collected data were analyzed using a combination of descriptive and inferential statistical techniques. Initially, descriptive statistics, including means, standard deviations, minimum and maximum values, skewness coefficients, and kurtosis measures, were calculated to evaluate the distributional properties of the variables and provide an overview of the sample characteristics. Correlation analysis was subsequently conducted to assess the preliminary relationships among the study variables and identify potential multicollinearity concerns.

To test the research hypotheses, panel data regression models were employed due to the longitudinal structure of the dataset. The suitability of panel estimation techniques was examined through the F-Limer test and the Hausman specification test in order to determine the most appropriate estimation method among pooled, fixed-effects, and random-effects models. Following the results of these tests, the preferred panel regression specification was selected for hypothesis testing.

The relationship between abnormal audit fees and future stock price crash risk was evaluated through multivariate regression analysis while controlling for firm-specific characteristics and market-related factors. Additional interaction models were estimated to assess the role of audit quality in influencing the relationship between abnormal audit fees and crash risk. Diagnostic tests were conducted to ensure the validity of the statistical models, including variance inflation factor (VIF) analysis for multicollinearity, the Breusch–Pagan test for heteroscedasticity, the Wooldridge test for autocorrelation, and residual normality assessments. Where necessary, robust standard errors were applied to address potential violations of classical regression assumptions.

All statistical analyses were performed using EViews and Stata software packages. Hypothesis testing was conducted at the 95% confidence level, and statistical significance was evaluated using a significance threshold of 0.05. The analytical framework enabled a comprehensive examination of how abnormal audit fees influence future

stock price crash risk and whether higher audit quality mitigates or strengthens this relationship within the context of the Tehran Stock Exchange.

3. Findings and Results

The final sample consisted of 168 firms listed on the Tehran Stock Exchange, yielding 1,176 firm-year observations over the period 2018–2024. The sampled companies represented a wide range of industries, including manufacturing, chemical products, pharmaceuticals, food products, automotive, metal industries, cement, construction, and other non-financial sectors. Approximately 28.6% of the observations belonged to manufacturing industries, 17.3% to chemical and petrochemical industries, 12.8% to metal and mining industries, 9.4% to food and agricultural industries, and the remaining observations were distributed among other sectors. The average firm age was 21.84 years, indicating that the majority of firms had established operating histories within the capital market. Furthermore, approximately 46% of the sampled firms were audited by large audit institutions, while 54% were audited by smaller audit firms. The distribution of firms across industries and years suggests that the sample provides an appropriate representation of the Tehran Stock Exchange and supports the generalizability of the study findings.

Table 1. Descriptive Statistics of the Study Variables

Variable	Mean	Median	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis
Future Stock Price Crash Risk (NCSKEW)	-0.218	-0.196	0.594	-2.118	1.742	-0.423	3.284
Future Stock Price Crash Risk (DUVOL)	-0.074	-0.061	0.476	-1.893	1.508	-0.286	3.167
Abnormal Audit Fees	0.031	0.018	0.284	-0.861	1.247	0.372	3.491
Audit Quality	0.624	0.630	0.183	0.112	0.981	-0.247	2.841
Firm Size	14.762	14.683	1.452	11.204	18.673	0.514	3.008
Leverage	0.584	0.571	0.187	0.118	0.942	0.261	2.692
Return on Assets	0.113	0.106	0.082	-0.153	0.374	0.497	3.351
Market-to-Book Ratio	1.974	1.821	0.893	0.514	5.287	0.961	4.114
Stock Return Volatility	0.298	0.284	0.119	0.071	0.692	0.684	3.784
Operating Cash Flow	0.128	0.119	0.095	-0.201	0.482	0.391	3.165

The descriptive statistics indicate that future stock price crash risk exhibited substantial variation among firms, reflecting differences in the probability of extreme negative stock price movements. The mean abnormal audit fee was positive, suggesting that, on average, firms paid audit fees slightly above expected levels after controlling for normal determinants of audit pricing. Audit quality demonstrated a relatively high average value, indicating the prevalence of acceptable audit standards among listed firms. The skewness and kurtosis statistics suggest that most variables approximate normal distributions, with all skewness values remaining below the commonly accepted threshold of ±2 and kurtosis values below ±7. Therefore, the distributional characteristics of the data support the application of parametric statistical techniques and panel regression analysis.

Table 2. Pearson Correlation Matrix Among Study Variables

Variable	1	2	3	4	5
1. Future Crash Risk	1.000				
2. Abnormal Audit Fees	0.412**	1.000			
3. Audit Quality	-0.365**	-0.218**	1.000		
4. Firm Size	0.173**	0.291**	0.267**	1.000	
5. Leverage	0.246**	0.194**	-0.128**	0.142**	1.000

**$p < 0.01$

The correlation matrix reveals a significant positive association between abnormal audit fees and future stock price crash risk ($r = 0.412$, $p < 0.01$), suggesting that firms paying unusually high audit fees tend to experience greater future downside stock price risk. Conversely, audit quality demonstrates a significant negative relationship with crash risk ($r = -0.365$, $p < 0.01$), indicating that higher-quality audits may contribute to greater transparency and lower information-hoarding behavior. The correlations among independent variables are moderate and remain well below the threshold commonly associated with multicollinearity concerns. Subsequent variance inflation factor analyses also confirmed that multicollinearity was not a significant issue in the regression models.

Table 3. Results of Panel Regression Analysis Examining the Effect of Abnormal Audit Fees on Future Stock Price Crash Risk

Variable	Coefficient	Std. Error	t-value	p-value
Constant	-0.413	0.118	-3.500	0.001
Abnormal Audit Fees	0.384	0.051	7.529	0.000
Audit Quality	-0.296	0.067	-4.418	0.000
Firm Size	0.083	0.022	3.773	0.000
Leverage	0.175	0.056	3.125	0.002
Return on Assets	-0.132	0.061	-2.164	0.031
Market-to-Book Ratio	0.091	0.018	5.056	0.000
Stock Return Volatility	0.267	0.073	3.658	0.000

$R^2 = 0.471$; Adjusted $R^2 = 0.463$; F-statistic = 67.842; Prob(F-statistic) = 0.000; Durbin–Watson = 2.041

The regression results indicate that abnormal audit fees exert a significant positive effect on future stock price crash risk ($\beta = 0.384$, $p < 0.001$). This finding suggests that when companies pay audit fees substantially above expected levels, the likelihood of future severe negative stock price movements increases. Audit quality, on the other hand, exhibits a significant negative relationship with crash risk ($\beta = -0.296$, $p < 0.001$), implying that higher-quality audits contribute to reducing information asymmetry and mitigating the accumulation of undisclosed negative information. The model explains approximately 47.1% of the variation in future stock price crash risk, demonstrating substantial explanatory power. The Durbin–Watson statistic close to two further indicates the absence of significant autocorrelation among residuals.

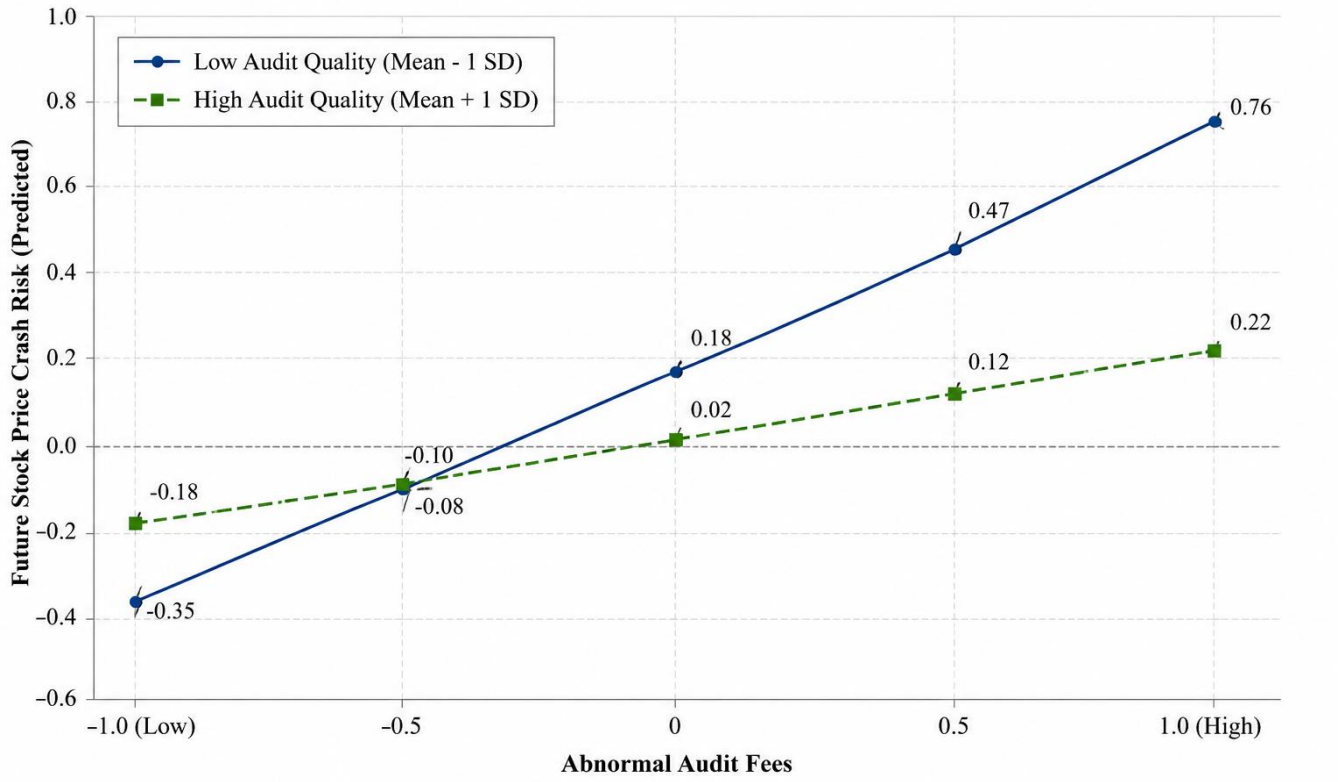

Figure 1. Moderating Effect of Audit Quality on the Relationship Between Abnormal Audit Fees and Future Stock Price Crash Risk

The interaction pattern illustrated in Figure 1 demonstrates that audit quality substantially influences the relationship between abnormal audit fees and future stock price crash risk. Specifically, the positive association between abnormal audit fees and crash risk is considerably stronger among firms characterized by lower audit quality. In contrast, firms with higher audit quality exhibit a noticeably flatter slope, indicating that effective audit oversight weakens the adverse implications of abnormal audit fees. The figure suggests that although abnormal audit fees may be associated with greater agency problems and information opacity, high-quality auditing can partially mitigate these risks by enhancing financial reporting credibility and reducing managerial incentives to conceal unfavorable information.

Table 4. Moderated Regression Analysis: Interaction Effect of Abnormal Audit Fees and Audit Quality

Variable	Coefficient	Std. Error	t-value	p-value
Constant	-0.386	0.122	-3.164	0.002
Abnormal Audit Fees	0.427	0.059	7.237	0.000
Audit Quality	-0.311	0.074	-4.203	0.000
Abnormal Audit Fees × Audit Quality	-0.248	0.069	-3.594	0.000
Firm Size	0.079	0.021	3.762	0.000
Leverage	0.171	0.054	3.167	0.002
Return on Assets	-0.138	0.064	-2.156	0.032
Market-to-Book Ratio	0.088	0.019	4.632	0.000

$R^2 = 0.516$; Adjusted $R^2 = 0.507$; F-statistic = 71.394; Prob(F-statistic) = 0.000; Durbin–Watson = 2.083

The moderated regression analysis provides strong evidence supporting the moderating role of audit quality. The interaction term between abnormal audit fees and audit quality is negative and statistically significant ($\beta = -0.248$, $p < 0.001$), indicating that audit quality weakens the positive effect of abnormal audit fees on future stock

price crash risk. The inclusion of the interaction term increased the explanatory power of the model from 47.1% to 51.6%, reflecting a meaningful improvement in model performance. These findings suggest that audit quality functions as an important governance mechanism capable of constraining managerial opportunism and reducing the negative market consequences associated with abnormal audit fee arrangements. Overall, the empirical evidence supports the proposition that abnormal audit fees are associated with higher future stock price crash risk, while stronger audit quality substantially mitigates this relationship and contributes to greater market stability and financial reporting reliability.

4. Discussion and Conclusion

The primary objective of this study was to investigate the relationship between abnormal audit fees and future stock price crash risk, while examining the moderating role of audit quality among firms listed on the Tehran Stock Exchange. The empirical findings revealed that abnormal audit fees are positively and significantly associated with future stock price crash risk. Furthermore, audit quality demonstrated a significant negative relationship with crash risk, and the interaction analysis indicated that higher audit quality weakens the positive association between abnormal audit fees and future stock price crash risk. These findings provide important insights into the role of auditing mechanisms in mitigating information asymmetry and enhancing market transparency in emerging capital markets.

The first major finding of the study indicated that abnormal audit fees significantly increase future stock price crash risk. This result suggests that when firms pay audit fees that exceed expected levels after controlling for normal determinants of audit pricing, investors face a higher probability of severe negative stock price movements in subsequent periods. This finding is consistent with the economic bonding perspective, which argues that excessive audit compensation may create incentives for auditors to become economically dependent on their clients. Such dependence can weaken auditor independence and reduce the likelihood that auditors will challenge aggressive accounting practices or managerial attempts to conceal unfavorable information. Consequently, managers may enjoy greater opportunities to withhold bad news, allowing adverse information to accumulate until its eventual disclosure triggers a substantial stock price decline. This interpretation aligns closely with the bad-news-hoarding theory, which identifies information concealment as a fundamental driver of stock price crash risk [5, 12]. The present findings support prior evidence demonstrating that abnormal audit fees are positively associated with crash risk and managerial information opacity. Zhao reported that firms paying unusually high audit fees experienced significantly greater stock price crash risk, suggesting that excessive auditor compensation may compromise effective monitoring [12]. Similarly, research examining managerial bad-news withholding behaviors has consistently shown that weaker monitoring environments facilitate the accumulation of undisclosed negative information, ultimately increasing the likelihood of crash events [5, 6]. The findings also complement broader literature emphasizing that poor information environments and insufficient external monitoring contribute directly to future crash risk [1, 4].

Another explanation for the positive relationship between abnormal audit fees and crash risk may stem from the risk characteristics of client firms themselves. Firms facing higher operational uncertainty, greater financial reporting complexity, or elevated governance risks may require more extensive audit procedures, leading to higher audit fees. These same risk factors may simultaneously increase the probability of stock price crashes. Nevertheless, the persistence of the abnormal audit fee effect after controlling for firm-specific characteristics suggests that economic dependence and information asymmetry remain important explanatory mechanisms. Therefore,

abnormal audit fees appear to serve as a signal of potential governance weaknesses that may not be fully captured by traditional financial indicators. This interpretation is consistent with research showing that audit pricing reflects both engagement risk and the quality of auditor-client relationships [10, 11, 15].

The second major finding demonstrated that audit quality exerts a significant negative effect on future stock price crash risk. Firms characterized by higher audit quality experienced lower levels of crash risk, suggesting that effective auditing serves as an important governance mechanism capable of reducing information asymmetry and constraining managerial opportunism. High-quality auditors are generally expected to perform more rigorous audit procedures, maintain greater professional skepticism, and resist management pressure when evaluating accounting estimates and disclosures. As a result, managers face greater difficulty concealing unfavorable information, thereby reducing the accumulation of hidden bad news and lowering the probability of future stock price crashes. This finding is strongly consistent with previous empirical evidence emphasizing the protective role of audit quality in financial markets [22-24].

The results closely align with the findings of Mostafa, who reported that audit quality significantly reduces stock price crash risk among Egyptian listed firms by enhancing transparency and strengthening financial reporting credibility [22]. Similarly, Sultana and colleagues found that high-quality auditing contributes to lower crash risk by improving monitoring effectiveness and reducing information asymmetry between managers and investors [23]. Salehi and colleagues further demonstrated that accounting quality and audit attributes jointly influence crash risk, emphasizing the critical role of external auditing in emerging capital markets [24]. The consistency of the present findings with these studies suggests that the beneficial effects of audit quality extend across diverse institutional contexts and are not confined to specific regulatory environments.

The negative association between audit quality and crash risk may also be interpreted through the lens of information transparency. Recent studies indicate that various audit-related mechanisms—including audit effort, auditor experience, audit partner rotation, and disclosure of critical audit matters—improve information quality and reduce opportunities for managerial concealment [2, 9, 25, 26]. For example, Han and colleagues demonstrated that greater audit effort is associated with lower stock price crash risk because enhanced audit procedures improve the detection of misstatements and strengthen investor confidence [9]. Likewise, auditor experience has been found to reduce crash risk through superior professional judgment and more effective identification of reporting irregularities [2]. These studies reinforce the conclusion that high-quality auditing functions as a critical mechanism for reducing hidden information accumulation and improving market efficiency.

Perhaps the most important contribution of the present study lies in the finding that audit quality moderates the relationship between abnormal audit fees and stock price crash risk. Specifically, the positive effect of abnormal audit fees on crash risk becomes significantly weaker when audit quality is high. This result suggests that although abnormal audit fees may signal potential concerns regarding auditor independence or managerial influence, high-quality auditors possess the professional competence and institutional safeguards necessary to mitigate these risks. In other words, audit quality appears capable of offsetting some of the adverse consequences associated with excessive auditor compensation.

This moderating effect is theoretically meaningful because it reconciles competing interpretations of abnormal audit fees. While economic bonding theory predicts negative consequences resulting from excessive auditor-client dependence, the audit quality perspective suggests that strong professional standards and effective monitoring can limit such consequences. The interaction effect observed in this study indicates that both perspectives may be valid simultaneously. Abnormal audit fees increase crash risk primarily when auditing quality is insufficient to

counterbalance potential independence concerns. When audit quality is high, however, auditors may remain sufficiently independent and effective despite receiving above-normal compensation. This interpretation is supported by evidence showing that auditor expertise, auditor reputation, and institutional monitoring improve transparency and reduce information-related risks [8, 21, 33].

The findings also have important implications for understanding contemporary developments in auditing and financial reporting. Recent studies indicate that digital transformation, environmental reporting, ESG performance, and enhanced disclosure requirements increasingly influence audit outcomes and information transparency [20, 29, 30]. Digital transformation, for instance, improves information processing capabilities and disclosure quality, thereby reducing crash risk and strengthening audit effectiveness [28]. Similarly, firms with strong ESG performance and transparent sustainability disclosures tend to exhibit lower crash risk due to improved stakeholder trust and reduced information asymmetry [30]. These developments suggest that audit quality operates within a broader ecosystem of governance and disclosure mechanisms that collectively influence market stability.

Furthermore, the results contribute to ongoing debates regarding audit fee determinants and their economic implications. Previous studies have documented that audit fees are influenced by carbon emissions, CSR-linked compensation arrangements, financial statement readability, shareholder monitoring, and disclosure complexity [14, 16-19]. While these factors may increase audit fees for legitimate reasons, the present findings suggest that investors should pay particular attention to abnormal fee components that cannot be explained by ordinary engagement characteristics. Such fees may contain valuable information regarding governance quality and future downside risk.

Finally, the findings support broader theoretical perspectives emphasizing the importance of transparency, monitoring, and information quality in capital markets. Research on crash risk consistently highlights the central role of managerial disclosure behavior, institutional monitoring, governance quality, and information environments in determining crash probabilities [1, 4, 32]. The present study extends this literature by demonstrating that abnormal audit fees represent an important governance signal whose consequences depend substantially on the quality of auditing. Consequently, effective audit oversight emerges as a critical mechanism for protecting investors from the adverse effects of information concealment and future stock price crashes.

Several limitations should be considered when interpreting the findings of this study. First, the analysis was restricted to firms listed on the Tehran Stock Exchange, which may limit the generalizability of the results to other capital markets with different regulatory and institutional environments. Second, audit quality was measured through proxy variables rather than direct observations of audit performance, which may not fully capture all dimensions of auditing effectiveness. Third, the study relied on archival financial data and could not directly observe managerial intentions, auditor-client negotiations, or internal governance processes. Fourth, although several control variables were included, the possibility of omitted variables influencing stock price crash risk cannot be entirely eliminated. Finally, the study examined annual observations and therefore may not capture short-term fluctuations in audit relationships and market reactions.

Future studies could extend this line of inquiry by examining the relationship between abnormal audit fees and stock price crash risk across different countries and institutional settings. Comparative studies involving developed and emerging markets may provide deeper insights into the role of regulatory quality and investor protection mechanisms. Researchers may also investigate whether specific dimensions of audit quality, such as industry specialization, audit committee effectiveness, or auditor reputation, exert differential moderating effects on crash risk. Additional studies could incorporate behavioral factors, managerial characteristics, ownership structures, and

corporate culture variables to develop a more comprehensive understanding of the mechanisms linking audit fees to crash risk. Longitudinal studies employing alternative econometric approaches and natural experiments may further strengthen causal inference and improve the robustness of empirical findings.

The findings suggest that regulators should monitor abnormal audit fee arrangements more carefully because they may signal elevated governance and transparency risks. Audit firms should strengthen independence safeguards and quality-control procedures to minimize concerns regarding economic dependence on clients. Corporate boards and audit committees should closely evaluate audit compensation structures and ensure that fee arrangements do not compromise auditor objectivity. Investors and financial analysts may benefit from incorporating abnormal audit fee information into risk assessment models when evaluating firms' future downside risk. Finally, policymakers should continue promoting high-quality auditing standards, disclosure transparency, and effective governance mechanisms to enhance investor confidence and reduce the likelihood of stock price crash events in capital markets.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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References

[1] B. S. Yi, "Factors Affecting Firm-Specific Stock Price Crashes: A Review," *International Journal of Frontiers in Sociology*, vol. 3, no. 19, 2021, doi: 10.25236/ijfs.2021.031902.

[2] P. Wang and R. Chen, "Review of the Empirical Literature on Stock Crash Risk: The Role of Managers' Characteristic, Information Environment and Its Micro-Consequences," pp. 374-381, 2023, doi: 10.2991/978-94-6463-246-0_45.

[3] J. Y. Jin and Y. Liu, "The Impact of Stock Price Crash Risk on Bank Dividend Payouts," *Journal of Risk and Financial Management*, vol. 17, no. 5, p. 209, 2024, doi: 10.3390/jrfm17050209.

[4] L. Wang, S. Li, B. Zhang, Y. Zhang, and T. Peng, "The Effect of Auditor Experience on Stock Price Crash Risk," *Accounting and Finance*, vol. 64, no. 1, pp. 411-444, 2023, doi: 10.1111/acfi.13150.

[5] Y. Chen, G. Hu, J. Yao, and J. Zhao, "Customer Concentration and Managerial Bad News Withholding," *Journal of Accounting Auditing & Finance*, vol. 39, no. 3, pp. 673-696, 2022, doi: 10.1177/0148558x221100864.

[6] Y. Zhao, N. Xu, D. Zhou, and K. C. Chan, "Audit Partner Rotation and Negative Information Hoarding: Evidence From China," *Accounting and Finance*, vol. 60, no. 5, pp. 4693-4722, 2020, doi: 10.1111/acfi.12676.

[7] F. Hu, L. Liao, W. Q. Tan, and D. Yao, "Guest Editorial: The Ever-Changing Market in China," *Pacific Accounting Review*, vol. 35, no. 4, pp. 505-511, 2023, doi: 10.1108/par-11-2023-211.

[8] S.-H. Lee, S. U. Choi, and J. Y. Ryu, "Do Audit Efforts Increase the Future Equity Value of Client Firm?," *Managerial Auditing Journal,* vol. 36, no. 1, pp. 132-166, 2021, doi: 10.1108/maj-11-2019-2473.
[9] X. Han, W. Luo, L. Wu, and W. Zhou, "Audit Effort and Stock Price Crash Risk," *Abacus,* vol. 59, no. 1, pp. 230-257, 2023, doi: 10.1111/abac.12281.
[10] J. Sun, L. Li, and B. Qi, "Financial Statement Comparability and Audit Pricing," *Accounting and Finance,* vol. 62, no. 5, pp. 4631-4661, 2022, doi: 10.1111/acfi.12970.
[11] L. Wang, X. Chen, X. Li, and G. Tian, "MD&A Readability, Auditor Characteristics, and Audit Fees," *Accounting and Finance,* vol. 61, no. 4, pp. 5025-5050, 2021, doi: 10.1111/acfi.12748.
[12] W. Zhao, "Research on the Relationship Between Abnormal Audit Fees of Listed Companies and the Risk of Stock Price Crash," *E3s Web of Conferences,* vol. 235, p. 03022, 2021, doi: 10.1051/e3sconf/202123503022.
[13] T. C. Huang, Y. H. Lin, D. Chai, and S. Hairston, "Are Auditors Insulated to Positive Client News? Evidence From Audit Fees and Going-concern Opinions," *Accounting and Finance,* vol. 65, no. 3, pp. 2339-2386, 2025, doi: 10.1111/acfi.13407.
[14] M. Salehi, M. L. Dashtbayaz, S. Mohammadi, M. S. Adibian, and S. H. Fahimifard, "Auditors' Response to Readability of Financial Statement Notes," *Asian Review of Accounting,* vol. 28, no. 3, pp. 463-480, 2020, doi: 10.1108/ara-03-2019-0066.
[15] A. E. Ji, "Goodwill Impairment Losses and Audit Fees," *Journal of Accounting and Finance,* vol. 23, no. 6, 2023, doi: 10.33423/jaf.v23i6.6742.
[16] J. Tan, K. C. Chan, S. Chang, and B. Wang, "Effects of Carbon Emissions on Audit Fees," *Managerial Auditing Journal,* vol. 38, no. 7, pp. 1112-1140, 2023, doi: 10.1108/maj-10-2022-3734.
[17] Y. Tan, "CSR-Linked Compensation Contract and Audit Pricing," *Australian Accounting Review,* 2025, doi: 10.1111/auar.70015.
[18] Z. Chen and X. Zhou, "A Study on the Impact of the Threat of Exit From Non-Controlling Shareholders on Audit Fees," *Highlights in Business Economics and Management,* vol. 33, pp. 578-586, 2024, doi: 10.54097/6hnyk486.
[19] X. Fei, E. Sun, H. Xu, and J. Zhang, "Redacted Disclosure and Audit Fees," *Journal of Accounting Auditing & Finance,* 2024, doi: 10.1177/0148558x241260908.
[20] G. Wang and M. Wu, "Corporate Carbon Emissions Management and the Disclosure of Key Audit Matters," *Frontiers in Environmental Science,* vol. 12, 2024, doi: 10.3389/fenvs.2024.1381466.
[21] M. Haq, S. Pathan, C. Fernández, and G. J. Lobo, "Institutional Investors' Horizons and Bank Transparency," *Journal of Business Finance & Accounting,* vol. 51, no. 5-6, pp. 1378-1407, 2023, doi: 10.1111/jbfa.12749.
[22] M. Mostafa, "The Effect of Audit Quality on Stock Price Crash Risk "An Empirical Study on Egyptian Listed Companies"," مجلة الدراسات المالية والتجارية, vol. 33, no. 2, pp. 38-59, 2023, doi: 10.21608/mosj.2023.313019.
[23] F. Sultana, M. Aslam, A. Sarwar, and A. Iqbal, "Impact of Audit Quality on Stock Price Crash Risk: Evidence From Pakistan Stock Exchange," *Journal of Economic Impact,* vol. 4, no. 3, pp. 161-169, 2022, doi: 10.52223/jei4032202.
[24] M. Salehi, G. Zimon, H. A. Hashim, R. Jędrzejczak, and A. Sadowski, "Accounting Quality and Audit Attributes on the Stock Price Crashes in an Emerging Market," *Risks,* vol. 10, no. 10, p. 195, 2022, doi: 10.3390/risks10100195.
[25] Y. Fan, G. Hu, and X. Chen, "Mandatory Audit Partner Rotation and Stock Price Crash Risk: Causal Evidence From a Natural Experiment," *Managerial Auditing Journal,* vol. 39, no. 5, pp. 477-499, 2024, doi: 10.1108/maj-11-2023-4124.
[26] X. Zhi and Z. Kang, "Critical Audit Matters and Stock Price Crash Risk," *Frontiers of Business Research in China,* vol. 15, no. 1, 2021, doi: 10.1186/s11782-021-00102-z.
[27] D. Li, L. Xing, and Y. Zhao, "Does Extended Auditor Disclosure Deter Managerial Bad-News Hoarding? Evidence From Crash Risk," *Journal of Corporate Finance,* vol. 76, p. 102256, 2022, doi: 10.1016/j.jcorpfin.2022.102256.
[28] Z. Xing, X. Li, and C. Ren, "Can Digital Transformation Reduce Corporate Stock Price Crashes?," *Plos One,* vol. 18, no. 12, p. e0295793, 2023, doi: 10.1371/journal.pone.0295793.
[29] L. Fang, C. H. Tang, W. Li, and C. Hong, "Impact of Auditor Turnover on Stock Price Crash Risk: Insights From China's Capital Market," *Mitteilungen Klosterneuburg Journal of Viticulture Oenology Pomology and Fruit Processing,* 2024, doi: 10.61586/a4krl.
[30] Y. Li, "The Impact of ESG Performance on Stock Price Crash Risk: A Study Based on the Perspective of Auditor Opinion Influence," *Highlights in Business Economics and Management,* vol. 37, pp. 415-429, 2024, doi: 10.54097/ssbvkz18.
[31] A. Habib, M. D. Costa, and A. Al-Hadi, "Consequences of Local Social Norms: A Review of the Literature in Accounting, Finance, and Corporate Governance," *SSRN Electronic Journal,* 2021, doi: 10.2139/ssrn.3868581.
[32] F. Zulfiqar, N. U. Sahar, R. N. Jalal, M. W. Akhtar, U. E. R. Fayyaz, and M. Venditti, "Nexus Between Financial Crises, Corporate Governance and Future Stock Price Crash Risk," *Sage Open,* vol. 12, no. 4, 2022, doi: 10.1177/21582440221131205.
[33] K. M. Kong and H. J. Huang, "Do Auditors Respond When Listed Firms Pledge Shares? Evidence From China," *Pacific Accounting Review,* vol. 35, no. 4, pp. 562-593, 2023, doi: 10.1108/par-08-2022-0127.
[34] R. E. Bedeir, "The Effect of KAMs Disclosure in the Extended Audit Report on Managerial Bad News Hoarding Behavior and Stock Price Crash Risk: The Role of Audit Firm Characteristics," *The Academic Journal of Contemporary Commercial Research,* vol. 3, no. 1, pp. 1-23, 2023, doi: 10.21608/ajccr.2023.293120.

[35] F. Fang, D. Mo, and R. S. Chen, "Enterprise Digital Transformation and Audit Quality: Empirical Evidence From Annual Reports of Chinese Listed Companies," *Economics and Politics,* vol. 36, no. 2, pp. 1056-1075, 2024, doi: 10.1111/ecpo.12280.