

The influence of individual partner auditor quality on stock price synchronicity and crash risk

Received 15 May 2024
Revised 28 October 2024
16 April 2025
24 June 2025
4 September 2025
Accepted 24 September 2025

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Abstract

Purpose – This study examines how improvements in auditor partner quality affect the stock price dynamics of client firms by focusing on synchronicity and crash risks. Synchronicity reflects how positively a firm's stocks are consistent with market volatility, whereas crash risk captures the potential for sudden and severe declines. This study contributes to research on audit quality, market efficiency and financial stability by providing insights for regulators and investors on the role of auditor quality in enhancing market efficiency and reducing crash risks.

Design/methodology/approach – Using panel data from Taiwan's publicly listed firms (2005–2021), we applied the fixed-effects methodology of Bertrand and Schoar (2003) and Aobdia *et al.* (2015) to assess auditor partner quality. Audit quality is measured using the standardized ranks of firm and partner fixed effects, with higher ranks indicating higher quality.

Findings – The findings show that although individual audit quality has a minimal impact on stock price synchronicity, it significantly reduces crash risk. High-quality audits enhance financial reporting and investor confidence and lower the chances of panic selling during adverse events, thus helping the market absorb negative news. These results underscore the critical role of auditor quality in promoting financial stability and trust despite its limited effect on synchronicity.

Research limitations/implications – Our findings of studies utilizing fixed effect methodology may not be generalizable beyond the specific context in which the data were collected. This limitation is particularly relevant if the data used is from a specific industry, region or time period.

Practical implications – The findings of this study offer several practical insights for regulators, investors and policymakers. Regulators can promote financial stability by encouraging higher audit partner quality through stricter standards and rotation policies. Investors may use auditor quality as a signal of reliable reporting to make informed decisions and mitigate crash risks. Firms engaging high-quality auditors can enhance reporting credibility, attract long-term investors and reduce volatility during negative events. Strengthening audit quality supports market efficiency, lowers crash risks and boosts investor confidence.

Social implications – Improved audit partner quality promotes transparency and accountability, fostering public trust in financial markets. It reduces the likelihood of sudden market crashes that can harm investors and destabilize economies, protecting individual wealth and pension funds. Additionally, by enhancing market



JEL Classification — G12, G30, M42

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efficiency, high audit quality contributes to sustainable economic growth and financial stability, benefiting society at large. These improvements support responsible corporate governance, align firms with stakeholder interests and reduce the social costs associated with financial misconduct or market disruptions.

Originality/value – Audit quality plays a crucial role in stock price dynamics, influencing both stock price synchronicity and crash risk. Stock price synchronicity measures the extent to which a company's stock moves in line with broader market or industry trends, with high synchronicity indicating that market-wide factors dominate and low synchronicity suggesting greater influence from firm-specific information. On the other hand, stock price crash risk refers to the likelihood of a sudden, severe price drop, often triggered by financial mismanagement, fraud or unexpected negative events. High-quality audits can reduce crash risk by enhancing financial transparency and mitigating information asymmetry.

Keywords Stock price crash risk, Stock price synchronicity, Individual auditor quality, Corporate governance

Paper type Research article

1. Introduction

This study examines how improvements in individual auditor partner quality influence stock price dynamics, focusing on stock price synchronicity and crash risk. Prior research shows that higher-quality audits send positive signals to uninformed investors, improving capital market responses. Traditionally, audit quality has been proxied by firm size, particularly the Big N vs non-Big N [2] distinction (DeAngelo, 1981; DeFond and Zhang, 2014), with Big N auditors generally providing higher-quality audits due to stronger reputational concerns, greater independence and technical expertise (Francis and Wilson, 1988). Jiang *et al.* (2019) found that firms transitioning to Big N auditors experienced improved audit quality, primarily due to general auditor competence. Beyond audit firm classification, recent studies have explored broader market transparency issues. For example, Li *et al.* (2022) show that stock market liberalization via the Shanghai-Hong Kong Stock Connect reduced synchronicity, especially for less open firms, while Sun and Du (2024) demonstrate that data asset disclosures enhance pricing efficiency by reducing synchronicity. Unlike prior studies focused on audit firm or office-level quality, this study uses data from Taiwan to investigate audit quality at the individual auditor level, offering a more granular understanding of how partner-level expertise influences stock price behavior.

Stock price synchronicity measures the extent to which firm-level returns co-move with market and industry factors, serving as a proxy for how much firm-specific information is reflected in stock prices. Following Morck *et al.* (2000), synchronicity is estimated using an extended market model, where a higher R^2 implies greater alignment with aggregate factors. Because R^2 is bounded between 0 and 1, researchers commonly apply a logistic transformation, $\Psi = \ln(R^2/(1 - R^2))$, to allow for unbounded analysis. In this framework, higher Ψ (or R^2) implies less firm-specific information, whereas its reciprocal, $\phi = 1/\Psi$, serves as a measure of price informativeness. A higher ϕ indicates greater incorporation of firm-specific information. Prior studies, such as Morck *et al.* (2000), show that synchronicity is higher in emerging markets with weaker investor protections, reinforcing its importance as an indicator of market efficiency and transparency [3]. Auditor partner quality may influence synchronicity by enhancing the credibility of firm-specific disclosures. For instance, Zhang *et al.* (2023) show that higher firm-specific investor sentiment reduces synchronicity through the incorporation of private information into prices. Moreover, Callen and Fang (2017) found a negative relationship between synchronicity and crash risk, suggesting that more informative prices reduce the likelihood of abrupt downturns. Other studies also show that digital economic development enhances price informativeness by reducing synchronicity through improved information flow (Almaharmeh *et al.*, 2021; Chen *et al.*, 2022).

The second topic addresses the crash risk of stock prices, which refers to the rapid decline in stock prices that results in large negative returns over a short period. Stock price crash risk refers to sharp, extreme declines in stock prices and reflects significant downside risk relevant to asset pricing and corporate decisions. Research shows that lower crash risk, often signaling better transparency, is linked to faster capital structure adjustments (An *et al.*, 2015) and fewer

managerial penalties (Chu *et al.*, 2019). Governance also plays a key role: strong audit quality and oversight reduce crash risk (Qais *et al.*, 2024), while Shari'ah governance improves transparency (Quttainah and BenSaid, 2024). In financing, crash risk raises loan spreads and shortens maturity (Gu *et al.*, 2019) and firms with higher crash exposure often receive more government subsidies, especially if state-owned (Teng *et al.*, 2019).

Given the importance of crash risk, many studies have explored its key predictors. Audit quality plays a central role by curbing managerial discretion and promoting timely disclosure of bad news (Callen and Fang, 2017; Kim *et al.*, 2011). While prior research highlights the benefits of high-quality audit firms, the impact of individual auditors remains underexplored. This study fills that gap by assessing whether high-quality audit partners reduce crash risk and promote market stability. Using 17 years of panel data on Taiwan-listed firms, we employ fixed-effect models (Bertrand and Schoar, 2003) to isolate partner-level effects. Our findings contribute to the literature on audit quality and financial stability and offer practical implications for regulators and investors seeking to improve market transparency and resilience.

The remainder of this article is structured as follows: Section 2 reviews the relevant literature and develops the hypotheses. Section 3 presents the data, variable definitions and empirical methodology. Section 4 reports and discusses the empirical results. Section 5 concludes and suggestions.

2. Literature review and hypothesis development

Prior studies often use audit firm size, particularly the Big N vs. non-Big N distinction, as a proxy for audit quality (DeFond and Jiambalvo, 1993; Teoh and Wong, 1993), treating quality as a binary variable. Most of this research focuses on the firm or office level, examining effects on synchronicity, crash risk and related outcomes. In contrast, this study shifts attention to individual auditors. As audit partners are legally responsible for engagement outcomes, audit quality is shaped directly by their decisions (Goodwin and Wu, 2014) [4]. Supporting this, Gul *et al.* (2011) found significant individual-level effects on audit quality in Taiwan and Aobdia *et al.* (2015) showed that disclosing individual auditor names in Taiwan provides information beyond firm affiliation. Given that partner expertise is not always transferable within firms, it is essential to explore how high-quality engagement partners affect stock price synchronicity and crash risk.

Prior research suggests that partner-level audit quality can influence stock price synchronicity. Zhang *et al.* (2023) show that greater firm-specific investor sentiment reduces synchronicity, which is negatively associated with crash risk. Other determinants include digitalization (Chen *et al.*, 2022), media coverage (Dang *et al.*, 2023), political ties (Xie and Li, 2023), trade credit (Liu and Hou, 2019) and ownership structure (Trong and Thuy, 2021). While digitalization and trade credit reduce synchronicity, political connections and state ownership increase it. Although some studies (e.g. Almaharmeh *et al.*, 2021; Chen *et al.*, 2022) link audit quality to synchronicity, they rely on firm-level proxies such as Big N affiliation. To address this limitation, our study investigates whether individual audit partner quality offers incremental explanatory power. Cahan *et al.* (2021) find that Big N affiliation and longer tenure can increase synchronicity, potentially due to firm-specific noise. Related studies in China highlight how investor sentiment (Cai *et al.*, 2023) and KAM disclosures (Zhai *et al.*, 2021) reduce synchronicity by enhancing transparency. Almaharmeh *et al.* (2021) also find that Big 4 audits improve price informativeness. Building on these insights, we examine whether transitioning to a higher-quality engagement partner, beyond the audit firm's identity, is associated with lower stock price synchronicity. Thus, we propose the following hypothesis:

- H1. Stock price synchronicity is lower when a firm transitions to a higher-quality engagement partner, *ceteris paribus*.

Callen and Fang (2017) find that longer auditor tenure reduces crash risk, supporting the monitoring-by-learning hypothesis, which suggests that auditors develop firm-specific knowledge over time, enhancing their ability to detect and prevent managerial hoarding of bad

news. Similarly, [Zhao et al. \(2020\)](#) showed that mandatory audit partner rotation (MAPR) lowers crash risk in Chinese firms by improving audit quality and limiting opportunistic disclosures. This aligns with the broader theory of high-impact news hoarding, a key explanation for firm-level crash risk (e.g. [Kim et al., 2022](#); [Guan et al., 2023](#); [Fan et al., 2024](#)). Audit partner quality is central to crash risk mitigation, as longer auditor–client relationships enhance monitoring effectiveness. [Chen et al. \(2022\)](#) further show that MAPR reduces crash risk by curbing managerial empire-building. These findings emphasize the importance of both high-quality audits and regulatory frameworks in promoting market stability. [Qais et al. \(2024\)](#) similarly argue that strong audits reduce the likelihood of abrupt price declines and bolster investor confidence. Moreover, governance features such as ownership structure and audit committee composition influence the effectiveness of audit oversight. Based on this literature, we propose the following hypothesis:

- H2.* Stock price crash risk is lower when a firm transitions to a higher-quality engagement partner, *ceteris paribus*.

3. Empirical methodology

Following [DeFond and Francis \(2005\)](#), we focus on individual audit partner quality to assess audit behavior at the engagement level. To isolate partner effects, we adopt the fixed-effects approach of [Bertrand and Schoar \(2003\)](#), which controls for audit firm and client characteristics and captures heterogeneity in individual influence on firm outcomes. This method has been widely applied: [Dyregang et al. \(2010\)](#) link executives to tax avoidance, [Bamber et al. \(2010\)](#) to forecasting behavior and [Ge et al. \(2011\)](#) to financial reporting practices. [Abowd et al. \(1999\)](#) extend this with connectedness techniques, while [Wells \(2020\)](#) finds that manager fixed effects explain more variation in accounting quality than firm-level factors. These studies support our choice to estimate partner-level audit quality via fixed effects, offering deeper insight into how individual auditors shape outcomes beyond firm reputation.

3.1 Sample selection and variables construction

This study utilizes an unbalanced panel dataset of publicly listed Taiwanese firms from 2005 to 2021, sourced from the *Taiwan Economic Journal (TEJ)*, a comprehensive database of firm-level financials, ownership and audit information. Consistent with prior studies, we exclude financial firms due to their distinct regulatory and reporting environments. The final sample included 316 firms and 4,758 firm-year observations. In Taiwan, public companies must have their financial statements jointly certified by two audit partners, with mandatory disclosure of both partner names and affiliated audit firms. The lead partner is primarily responsible for audit execution, while the review partner ensures quality and compliance. This dual-signature system and transparent auditor identification offer a unique setting to examine audit quality at the individual partner level. Leveraging this institutional structure, we construct an audit partner quality measure (AP4) and analyze its impact on stock price synchronicity and crash risk.

3.2 How to determine the individual auditor quality

To assess individual auditor partner quality, we estimated partner fixed effects from regressions of ABSDAC on firm, audit firm, and partner-level controls ([Aobdia et al., 2015](#)), and then ranked these fixed effects into quartiles (AP4), where higher quartiles represent higher audit quality (see Eq. (8) and (9)). We assessed the quality of each auditor partner using their clients' discretionary accruals ([Aobdia et al., 2015](#)). Specifically, we adopted the approaches of [Dechow et al. \(1995\)](#) and [Kothari et al. \(2005\)](#) to obtain the absolute value of discretionary accruals (ABSDAC) using the cross-sectional modified [Jones \(1991\)](#) model. Specifically, we ran the following regressions for each industry-year subsample:

$$\frac{TACC_{it}}{TA_{i,t-1}} = \beta_0 \frac{1}{TA_{i,t-1}} + \beta_2 \frac{\Delta SALES_{it}}{TA_{i,t-1}} + \beta_2 \frac{PPE_{it}}{TA_{i,t-1}} + \epsilon_{it} \quad (1)$$

in which $TACC_{it}$ is the total accruals for firm i during year t , which is calculated as income before extraordinary items minus cash flow from operating activities (adjusted for extraordinary items and discontinued operations); $\Delta SALES_{it}$ is the change in sales for firm i in year t and PPE_{it} is property, plant and equipment for firm i at the end of year t . The above variables were adjusted (divided) by the total assets of firm i at the beginning of the year, i.e. $TA_{i,t-1}$.

$$DAC_{it} = \frac{TACC_{it}}{TA_{i,t-1}} - \hat{\beta}_0 \frac{1}{TA_{i,t-1}} - \hat{\beta}_1 \frac{(\Delta SALES_{it} - \Delta REC_{it})}{TA_{i,t-1}} - \hat{\beta}_2 \frac{PPE_{it}}{TA_{i,t-1}} \quad (2)$$

in which ΔREC_{it} is the change in accounts receivable. DAC_{it} refers to discretionary accruals, and $ABSDAC_{it}$ refers to the absolute value of discretionary accruals, with a higher value indicating a more aggressive (or lax) audit. The measure of audit quality is the absolute value of discretionary accruals, denoted by $ABSDAC_{it}$, with a higher value indicating a more aggressive (or lax) audit. Considering this, we followed [Bertrand and Schoar \(2003\)](#), [Aobdia et al. \(2015\)](#) and [Huang and Yeh \(2023\)](#) to estimate the following specification to determine the audit quality of individual auditor partners.

$$ABSDAC_{it} = \sum \alpha_i Client_i + \sum \beta_j AuditFirm_j + \sum \gamma_m AuditPartner_m + \sum \lambda_t Year_t + \varphi X_{it} + \epsilon_{it} \quad (3)$$

in which firm (*Client*), audit firm (*AuditFirm*), audit partner (*AuditPartner*) and year-fixed effects (*Year*) are included to control for time-invariant client firms, audit firms, individual engagement (lead) partners and time/trend characteristics that can affect accrual quality, respectively. The parameter of main interest is γ_m , which captures the fixed effect of individual auditor m on accounting quality. A positive and statistically significant estimate of γ_m implies that individual auditor m is comparably aggressive, i.e. she is more tolerant of clients' aggressive accounting or maintains higher thresholds for issuing modified audit opinions. As in [Aobdia et al. \(2015\)](#), we multiplied the estimated coefficients of fixed effects β_j, γ_m by -1 , so that higher fixed effects parameters represent higher audit quality. These (auditor quality) fixed effect coefficients were transformed into quartiles and denoted as *AF 4* and *AP 4*. X_{it} is a time-varying controlling variable at the client, audit firm and audit partner levels, which previous studies found influences on accrual quality ([Gul et al., 2013](#)).

However, applying the [Bertrand and Schoar \(2003\)](#) method requires specific data. An auditor must meet two major inclusion criteria. First, the auditor must audit a client for at least three years to ensure sufficient time to "imprint marks" on the client's financial reports. Additionally, there must be at least three years during which the auditor does not audit the same client, ensuring variability in the auditor-client relationship over time. Second, the auditor must audit at least two clients. This condition is necessary to avoid perfect multicollinearity between auditor and client fixed effects. If an auditor serves only one client throughout the sample period, the auditor and client fixed effects are perfectly correlated, making it impossible to identify the influence of the auditor separately.

3.3 Empirical regressions

Before testing [Hypotheses 1](#) and [2](#), we needed appropriate measures of stock price synchronicity and stock price crash risk. To do this, we apply the following extended market model:

$$r_{i,w} = \beta_0 + \beta_1 r_{m,w-2} + \beta_2 r_{m,w-1} + \beta_3 r_{m,w} + \beta_4 r_{m,w+1} + \beta_5 r_{m,w+2} + e_{i,w} \quad (4)$$

in which $r_{i,w}$ is firm i 's return in week w and $r_{m,w}$ is the week w value-weighted return on the market index. Two lag and lead terms are included in the regression to address nonsynchronous trading for market returns (e.g. Dimson, 1979). For each firm and year, we run the above regression and obtain R^2 , which is a measure of stock price synchronicity. We applied a logistic transformation that allows the transformed variable to range from negative to positive infinity because R^2 is bounded between zero and one.

$$Syn = \frac{R^2}{1 - R^2} \quad (5)$$

A high value of Syn indicated that company i 's stock price is more correlated and synchronized with the market/industry.

Additionally, we established the firm-specific weekly returns $W_{i,w} = \ln(1 + e_{i,w})$, in which the residual $\hat{e}_{i,w}$ is from Equation (4). Considering $W_{i,w}$, the first indicator of firm-specific stock price crash risk (FDUVOL), is the "negative coefficient of skewness" (NCSKEW), calculated as:

$$NCSKEW_{i,t} = -\frac{n(n-1)^{3/2} \sum w \in t W_{i,w}^3}{(n-1)(n-2) \left(\sum w \in t W_{i,w}^2 \right)^{3/2}} \quad (6)$$

The second indicator is the "down-to-up volatility" (DUVOL), and is obtained as

$$DUVOL_{i,t} = \left[\frac{\sum w \in t, \text{down} W_{i,w}^2 / (n_d - 1)}{\sum w \in t, \text{up} W_{i,w}^2 / (n_u - 1)} \right] \quad (7)$$

in which n_d and n_u are the numbers of *up* and *down* weeks, respectively. For both indicators, a high value corresponds to a more left-skewed return distribution, and hence, a greater stock price crash risk.

Considering the measures of stock price synchronicity and crash risk, we tested the first H1, i.e. stock price synchronicity is lower when the firm transitions to a higher quality engagement partner, and estimated the following regression:

$$Syn = \beta_0 + \beta_1 AP4 + \beta_2 AF4 + \kappa X + e \quad (8)$$

in which Syn is an indicator of stock price synchronicity, $AP4$ and $AF4$ are the fixed effects coefficients as discussed above and X is a vector of controls that affect the extent of stock price synchronicity. Under H1, we expected that the estimated coefficient on the $AP4$, i.e. β_1 , would be negative and statistically significant.

To test H2, the stock price crash risk is lower when the firm transitions to a higher-quality engagement partner, we considered the following specification:

$$CrashRisk = \beta_0 + \beta_1 AP4 + \beta_2 AF4 + \kappa X + e \quad (9)$$

in which $CrashRisk$, $AP4$ and $AF4$ as well as X are an indicator of stock price crash risk, fixed effects coefficients and a list of control variables that affect the extent of stock price crash risk, respectively. If H2 is valid, we expected the estimated coefficient on the $AP4$, i.e. β_1 , to be significantly negative.

4. Empirical results

First, we estimated Equations (1) and (2) to generate an audit quality measure, defined as the absolute value of discretionary accruals, in which higher values indicate more aggressive or lax auditing. Following Aobdia *et al.* (2015), we used data from 2005 to 2021 to estimate Equation (3) and extract audit firm and partner fixed effects organized into quartiles. The dependent variables included stock price synchronicity, measured by R^2 and Syn and stock price crash risk, represented by NCSKEW and DUVOL. We include several control variables following prior literature to account for firm characteristics influencing stock price synchronicity and crash risk:

- (1) Market-to-book ratio (MAR): Often linked to growth expectations and valuation uncertainty. Consistent with Kim *et al.* (2014) and Boubaker *et al.* (2014), we find a positive and significant association with crash risk, suggesting that overvalued firms are more prone to abrupt declines.
- (2) Leverage: Higher leverage increases financial risk and may incentivize bad news hoarding (Kim *et al.*, 2011; An *et al.*, 2015). Our results show a negative association with synchronicity, indicating that financial risk introduces firm-specific variation.
- (3) Return on assets (ROA): A proxy for profitability. While prior research (e.g. Chen *et al.*, 2024) suggests a negative relationship with crash risk, our findings show a weakly positive association, possibly reflecting firm-specific disclosure behavior.
- (4) Firm size (log of market capitalization): Larger firms not only face greater scrutiny but also greater systemic risk. In line with Callen and Fang (2017) and Wu and Lai (2020), we find a positive and significant relationship with crash risk.
- (5) Stock return (mean weekly return) and volatility (sigma): Capture price performance and uncertainty. Volatility is negatively related to synchronicity and positively but insignificantly associated with crash risk, consistent with Gassen *et al.* (2020).
- (6) Turnover change (dturn): Reflects trading intensity and liquidity. High turnover improves information flow (Kim *et al.*, 2011). We find a negative relationship with synchronicity and a mostly insignificant effect on crash risk, echoing the findings by Dang *et al.* (2023).

To strengthen the robustness of our regression models, we included key firm-level controls capturing risk and information characteristics. These include the mean and standard deviation of firm-specific weekly returns (return, sigma) and changes in monthly share turnover (dturn), calculated as trading volume divided by shares outstanding. For crash risk models, we added lagged-dependent variables (NCSKEW or DUVOL) to account for persistence in risk. All models incorporate industry and year-fixed effects to control for sectoral and temporal heterogeneity. To address potential heteroscedasticity and serial correlation, standard errors are clustered at the firm and year levels. Descriptive statistics and correlation matrices are reported in A1[1] and A2[1], respectively.

Table A1 [1] summarizes descriptive statistics from 4,758 firm-year observations of Taiwanese listed firms (2005–2021). The crash risk proxies – NCSKEW (–0.4167) and DUVOL (–0.2778) – indicate a left-skewed return distribution, suggesting a systemic tendency toward crashes. The audit partner quality variable (AP4) ranges from 1 to 4 (mean = 2.42), showing sufficient variation to assess its effect on price dynamics. Firm-level controls (e.g. leverage, ROA and firm size) exhibit notable heterogeneity, supporting the robustness of our model. These patterns underscore the importance of partner-level audit quality in reducing crash risk, particularly in emerging markets such as Taiwan, where transparency and governance challenges persist despite regulatory oversight.

Table A2 [1] shows strong internal consistency between crash risk proxies NCSKEW and DUVOL ($r = 0.88$). Individual auditor quality (AP4) is negatively and significantly correlated

with crash risk (-0.03 with NCSKEW; -0.02 with DUVOL), supporting the view that higher partner quality reduces crash risk. In contrast, audit firm quality (AF4) shows weaker or insignificant correlations. Crash risk is positively correlated with synchronicity measures (R^2 , Syn) and firm characteristics such as size and volatility show expected associations, validating their role as controls. These patterns underscore the distinct value of partner-level audit oversight, particularly in emerging markets such as Taiwan, where information frictions are prevalent.

Table A3 [1] presents the impact of audit quality on stock price synchronicity. The first two columns use R^2 as the dependent variable and apply fractional regression due to its bounded nature; the last two use Syn. In all models, audit firm quality (AF4) and individual auditor quality (AP4) show negative but statistically insignificant coefficients, suggesting that neither firm-level reputation nor partner quality significantly affects synchronicity. Although high-quality auditors are expected to reduce information asymmetry, these results indicate a limited influence on market-level price informativeness. Factors such as investor inattention, behavioral biases or industry opacity may weaken the transmission of audit quality into stock price signals. Overall, the findings underscore the complexity of the audit-synchronicity relationship, highlighting gaps between disclosure quality and market interpretation.

Column (4) of Table A3 [1] presents the regression results for the relationship between AP4 and stock price synchronicity, including a range of firm-level controls. Firm size, measured as the logarithm of total assets, has a positive and highly significant coefficient (0.1382 at the 1% level), indicating that larger firms tend to exhibit higher synchronicity, likely because of greater market influence and lower firm-specific return variations. In contrast, leverage is negatively and significantly associated with stock price synchronicity (-0.0027 , $p < 0.05$), suggesting that higher debt levels are linked to greater firm-specific risk. Additionally, three variables derived from firm-specific weekly returns – mean return (-12.4764), return volatility (-0.5279) and turnover (-2.6158) – are all negative and significant at the 1% level. These results indicate that firms with lower performance, lower trading activity and greater idiosyncratic volatility tend to exhibit lower synchronicity, reinforcing the idea that firm-specific dynamics dominate in such cases. All models control for firm age and the market-to-book ratio and include industry and year fixed effects to account for sectoral and macroeconomic influences. These controls enhance the precision of our estimates and ensure that the observed effects on synchronicity are not confounded by broader firm or market characteristics, thereby isolating the incremental influence of individual auditor quality (AP4) on price informativeness.

While high-quality auditors enhance reporting, their effect on stock price synchronicity may be limited by external factors such as investor sentiment, market efficiency or state influence (Zhang *et al.*, 2023; Chen *et al.*, 2022). These dynamics can overshadow firm-specific signals. Overall, the absence of a significant relationship between auditor quality and synchronicity suggests that external market forces may play a more dominant role. Thus, H1 is not supported.

Table A4 [1] reports the impact of individual auditor quality on stock price crash risk. The first two columns use FNCSKEW, and the last two use FDUVOL as the dependent variable. The lagged-dependent variable is positive and significant in the FNCSKEW models, indicating persistence in crash risk, but insignificant in the FDUVOL models. Audit firm quality (AF4) shows positive but inconsistent effects, suggesting that firm reputation alone does not reliably reduce crash risk. In contrast, individual auditor quality (AP4) is consistently negative and statistically significant (-0.0175 to -0.0161), supporting H2. This implies that high-quality partners help curb crash risk by reducing managerial hoarding of bad news (Callen and Fang, 2017). These results align with the high-impact news hoarding framework and prior evidence that quality auditors enhance transparency and limit opportunistic behavior (Kim *et al.*, 2022; Guan *et al.*, 2023). Robustness checks using standardized ranks confirm that AP4's effect remains stable, reinforcing its importance in mitigating crash risk.

Table A4 [1] presents regression results examining the relationship between AP4 and stock price crash risk, measured by negative conditional skewness (NCSKEW). In Columns (2) and (4), which include full controls, AP4 remains negative and statistically significant, confirming that higher partner audit quality is associated with lower crash risk. This supports the view that quality audits mitigate high-impact news hoarding and improve transparency. Among controls, the market-to-book ratio (*mbratio*) is positively significant (0.0473 and 0.0351 at the 1% level), indicating that overvalued or financially constrained firms are more prone to crashes. Firm size also shows a positive and significant relationship with crash risk (0.0739 and 0.0474), suggesting that larger firms face greater reputational damage when negative news emerges. All regressions include industry and year fixed effects to control for macro and sectoral influences. The persistence of AP4’s negative effect after these adjustments reinforces the robustness of its role in reducing crash risk.

Table A5 [1] presents results consistent with those in Table A4 [1], further reinforcing the conclusion that a higher individual AP4 reduces the crash risk of client stock prices. The consistency across specifications confirms the robustness of our findings and emphasizes the key role of individual auditors in reducing crash risk through effective oversight. While a firm reputation offers general assurance, partner-level quality uniquely contributes to financial reporting accuracy and limits managerial opportunism. These results support policies promoting transparency at the engagement partner level, such as mandatory disclosures and audit rotation. The stability of results across alternative measures, including standardized ranks, reinforces the reliability of our conclusions. Overall, the evidence strongly supports the hypothesis that individual auditor quality reduces stock price crash risk.

To assess robustness under external shocks, we split the sample into pre-COVID-19 (2005–2019) and COVID-19 (2020–2021) periods. As shown in Table A6 [1], AP4 remains negative and significant across all models, confirming that individual auditor quality consistently reduces crash risk and enhances transparency. In contrast, AF4 remains insignificant, reinforcing the limited role of firm-level quality. Key controls like *mbratio* and firm size remain significant, while variables such as return, DUVOL and *dturn* lose significance during COVID-19, reflecting increased market-wide uncertainty. Overall, these results confirm that the impact of AP4 is robust and generalizable, even under extreme conditions.

To address endogeneity, we use lagged AP4 as an instrument for current AP4 assuming that it is correlated with current audit quality but not with contemporaneous shocks. In the first stage (Eq. 10), we regress current AP4 on its lagged value and controls to obtain predicted audit quality.

$$AP4_{it} = \alpha_0 + \alpha_1 Lagged_AP4_{it-1} + \alpha_2 X_{it} + \mu_{it} \tag{10}$$

Where $AP4_{it}$: current individual auditor quality; $Lagged_AP4_{it-1}$: one-year lag of AP4 (instrument); X_{it} : vector of firm-level control variables (e.g. size, ROA, leverage, *mbratio*, etc.) In the second stage (Eq. 11), we regress crash risk (NCSKEW or DUVOL) on the predicted AP4, controlling for firm characteristics, thereby isolating the exogenous impact of auditor quality.

$$CrashRisk_{it} = \beta_0 + \beta_1 \widehat{AP4}_{it-1} + \beta_2 X_{it} + \varepsilon_{it} \tag{11}$$

Where $CrashRisk_{it}$: measured by NCSKEW or DUVOL; $\widehat{AP4}_{it-1}$: fitted value from the first-stage regression.

Table A7 [1] presents 2SLS estimates using NCSKEW and DUVOL as crash risk measures. The instrumented AP4 coefficients (−0.0185 and −0.0173) were negative and consistent with the ordinary least squares (OLS) results, with firm-clustered standard errors (0.0242) confirming robustness. This supports a causal link: higher partner-level audit quality significantly reduces crash risk and endogeneity is unlikely to drive the results.

5. Conclusion and future research

5.1 Conclusion remarks

This study examined the impact of individual auditor quality on stock price synchronicity and crash risk for Taiwan-listed firms (2005–2021). While auditor quality showed no significant effect on synchronicity, it was strongly linked to lower crash risk, underscoring the role of high-quality audits in mitigating extreme downside events. Although synchronicity captures how firm returns move with market trends, our results suggest that audit quality does not significantly alter the incorporation of firm-specific information. In contrast, higher-quality auditors reduce crash risk by promoting timely disclosure and deterring bad-news hoarding, consistent with prior findings (Callen and Fang, 2017; Guan *et al.*, 2023). These results highlight the value of partner-level audit oversight in enhancing transparency, investor confidence and market stability.

Policy implications follow from these insights. Regulators should require disclosure of individual engagement partners to improve accountability and strengthen partner rotation rules to preserve independence. Stock exchanges and analysts should integrate auditor quality indicators (AQIs) – such as restatements or audit adjustments – into firm-level risk assessments. Investor education programs should emphasize the role of audit quality in reducing systemic risk and stricter enforcement for audit failures should be adopted. These recommendations are aligned with global best practices and underscore the role of individual auditors in maintaining a stable and trustworthy capital market.

5.2 Directions for future research

Future research could explore whether government ownership moderates the effect of auditor quality on stock price behavior, using proxies such as government shareholding thresholds (e.g. $\geq 20\%$) from TEJ data. Once standardized SASB-aligned ESG disclosures become available, studies could also examine whether audit partner quality and material ESG reporting jointly reduce crash risk and improve price informativeness. Additionally, the impact of audit firm changes could be investigated to assess how firm culture and auditor mobility influence the persistence of audit quality, especially under mandatory rotation or market competition. These avenues offer valuable insights into how auditor and institutional factors shape capital market outcomes.

Acknowledgments

We would like to thank referees for helpful comments and suggestions. All errors remain ours. The first author, Chih-Chuan Yeh, acknowledges the support from the National Science and Technology Council of Taiwan (project no. MOST 110–2410-H-025–028).

Notes

1. Please see it on the [Online Appendix](#)
2. Using data from Taiwan, Chi *et al.* (2012) found that Big N partners maintain their independence with economically important clients, while non-Big N partners show mild evidence of compromising it.
3. Jin and Myers (2006) show that limited transparency shifts firm-specific risk from investors to managers, leading to a higher R^2 . Using measures of opacity, they find a positive and significant relationship between opacity and stock price synchronicity.
4. Chi and Chin (2011) argued that individual auditor industry specialization has a stronger impact on audit quality than firm-level specialization.

Supplementary material

The supplementary material for this article can be found online.

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