Auditor Supply and Audit Quality: Evidence from Chinese A-Share Firms

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Abstract

This study examines the relationship between auditor supply capacity and audit quality in China's A-share market, drawing on 2,878 firm-year observations from 2021 to 2023. Audit quality is measured by discretionary accruals (DA) estimated using the Modified Jones Model, with robustness checks using absolute discretionary accruals (AbsDA). The analysis incorporates four key auditor supply variables: audit fees, Big 4 affiliation, audit firm organizational capacity (CICPA score), and auditor tenure. Results show that higher audit fees and stronger organizational capacity are significantly associated with lower discretionary accruals, indicating enhanced audit quality through greater auditor effort and institutional resources. By contrast, Big 4 status and auditor tenure do not exhibit significant effects in this context. These findings highlight the importance of supporting appropriate audit pricing mechanisms and recognizing the role of organizational capacity, while also acknowledging the limited influence of reputational and tenure-based factors in improving financial reporting quality in emerging markets.

Keywords: 1) auditor supply 2) audit quality 3) Discretionary accruals 4) Auditor incentives 5) Auditor competency

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Introduction

Audit quality is fundamental to credible financial reporting, investor confidence, and the overall stability of capital markets. Globally, high-quality audits are essential for safeguarding transparency, constraining earnings management, and supporting efficient capital allocation (Francis, 2011, pp. 130-132). Recent studies further emphasize that robust audits influence not only firm-level reporting credibility but also financial market development and investor protection in emerging economies (Velte, 2023, pp. 960-962; Santi, Dicky and Dwiyanti, 2023, pp. 737–744).

Despite this global importance, the academic literature on audit quality is already extensive, with numerous demand-side proxies such as discretionary accruals, abnormal accruals, audit opinions, and board governance mechanisms (Dechow, Sloan and Sweeney, 1995, pp. 193-196; Warrad, 2018, pp. 163–172). While these studies have provided valuable insights, they disproportionately emphasize client-side demand factors—such as ownership concentration, political connections, and corporate governance (Zhan, Her and Chen, 2020, pp. 170–184; Wang, Wong and Xia, 2008, pp. 112-134). In contrast, the supply-side perspective, which concerns auditors' incentives and competencies, remains underexplored (Santi, Dicky and Dwiyanti, 2023, pp. 737-742). Yet, supply capacity—comprising both monetary and reputational incentives (e.g., audit fees, Big Four affiliation) and organizational competencies (e.g., partner expertise, CPA staffing, internal training)—is critical to determining whether auditors can consistently deliver high-quality audits (Mohapatra et al., 2022, Article 106947; Wang and Liang, 2025, p. 104142).

China's institutional setting provides a unique and meaningful context to investigate these supply-side factors. The A-share market—referring to domestically listed companies trading in renminbi on the Shanghai and Shenzhen Stock Exchanges—is characterized by high retail investor participation, substantial state ownership, and evolving but still uneven regulatory enforcement (Lennox and Wu, 2022, pp. 1-51). The Shanghai Stock Exchange (SSE) in particular is the largest and most regulated equity market in China, established in 1990 and operating under close oversight by the China Securities Regulatory Commission (CSRC). It has stricter disclosure obligations and greater international visibility than alternative domestic exchanges, making it an ideal laboratory for assessing audit supply capacity in an emerging-market context.

This study further narrows its focus to firms audited by China's Top 20 CPA firms, which represent the most reputable and resource-rich segment of the domestic audit industry. These firms are characterized by advanced quality-control systems, extensive professional expertise, and in many cases registration with the Public Company Accounting Oversight Board (PCAOB). Their dual exposure to domestic regulatory oversight and international standards makes them especially suited for evaluating how auditor incentives and competencies influence audit outcomes (Chen et al., 2024, pp. 419-441).

Accordingly, the contribution of this study is threefold. First, it shifts attention from

the demand-side to the supply-side determinants of audit quality, thereby addressing a persistent gap in the literature. Second, it incorporates underutilized proxies such as CICPA firm scores to capture organizational capacity, alongside traditional audit quality measures. Third, it provides novel evidence from China's A-share market, where unique institutional features—state ownership, regulatory reforms, and international oversight—may alter the effectiveness of conventional audit quality mechanisms. By situating the analysis within the SSE and focusing on top-tier audit firms, this study offers insights of both domestic and international relevance.

Literature Review and Hypothesis Development

1. Literature Review

Audit quality, commonly defined as the probability that auditors will both detect and truthfully report material misstatements, is fundamental to the stability of financial markets and the protection of investor interests (DeAngelo, 1981, p. 186; Francis, 2011, pp. 125-126). High-quality audits are widely recognized as essential for enhancing the credibility of financial statements, reducing information asymmetry, and constraining opportunistic earnings management by corporate insiders (DeFond and Zhang, 2014, pp. 275-326). These mechanisms ultimately underpin investor confidence and efficient capital allocation, especially in emerging economies such as China, where institutional environments are still evolving and the risk of corporate misconduct remains salient (Chen et al., 2024, pp. 419-441).

Traditionally, much of the research on audit quality has focused on demand-side determinants, including corporate governance mechanisms, board independence, ownership concentration, and the role of regulators (Zhan, Her and Chen, 2020, pp. 170–184; Wang, Wong and Xia, 2008, pp. 112-134). These factors, while critical, do not fully account for the supply-side factors that shape auditor behavior and audit outcomes.In recent years, there has been a noticeable shift in the literature toward exploring the auditor supply capacity, which highlights the resources, incentives, and competencies that auditors themselves bring to the audit engagement (Santi, Dicky and Dwiyanti, 2023, pp. 737-742; Nguyen and Kend, 2020, pp. 1257–1278). This approach is particularly relevant in the Chinese context, where the audit market is characterized by rapid growth, regulatory transformation, and significant heterogeneity in audit firm size and expertise (Gul, Sami and Zhou, 2009, pp. 29-33).

Auditor supply capacity can be decomposed into two key dimensions: auditor incentives and auditor competency (DeFond and Zhang, 2014, pp. 275-326). Auditor incentives comprise both monetary rewards, such as audit fees, and reputational incentives arising from affiliation with prestigious global audit networks like the Big 4. Auditor competency, meanwhile, reflects the depth and breadth of auditors' professional expertise, technical knowledge, and organizational resources, often measured by audit firm size and audit effort (Knechel et al., 2012, pp. 385–421).

1.1 Auditor Incentives

Monetary Incentives and Quasi-Rent Theory

Quasi-rent theory posits that auditors make client-specific investments, developing specialized knowledge and relationships that yield future economic rents (DeAngelo, 1981, pp. 183-199; Simunic, 1980, pp. 161-163). These rents are protected by consistently high audit quality—auditors have a strong incentive to uphold rigorous standards to avoid jeopardizing their long-term earnings and reputation (DeFond and Zhang, 2014, pp. 275-326). Audit fees serve as a key proxy for this incentive structure, representing the compensation auditors receive for allocating resources and effort to an engagement. Substantial empirical evidence demonstrates that higher audit fees are associated with increased audit effort, more extensive substantive testing, and ultimately higher audit quality (Caramanis and Lennox, 2008, pp. 116-138; Simunic and Stein, 1995, pp. 121-123; Xiao, Geng and Yuan, 2020, pp. 109–127; Li, Pittman, Wang and Zhao, 2025, p. 101608). In China, the regulatory environment has further amplified the importance of auditor incentives, as government programs aimed at enhancing auditor independence—such as the auditor disaffiliation program—have shown significant impacts on audit fees and auditor behavior (Gul, Sami and Zhou, 2009, pp. 29-31). Moreover, auditors with higher fee income have stronger incentives to deliver thorough and effective audits, thereby reducing the risk of litigation, regulatory sanctions, or reputational loss (Gong, Gul and Shan, 2018, pp. 169-172; Choi, et al., 2008, pp. 55-60; Magnan, 2008, p. 101).

Reputational Incentives and Reputation Theory

Reputation theory suggests that auditors, particularly those affiliated with globally recognized firms, have strong incentives to safeguard and enhance their professional image (Gunn, et al., 2024, p. 101569). The Big 4 firms, for instance, are widely perceived as market leaders due to their comprehensive training systems, robust internal controls, and extensive international networks. Their ability to command fee premiums is tied to their sustained delivery of high audit quality, which serves to protect both their own reputation and that of their clients (Chi, Liao and Lin, 2022, pp. 291-295; Skinner and Srinivasan, 2012, pp. 1737–1765; Choi, et al., 2010, pp. 73-77). Numerous studies have documented that Big 4 auditors are associated with lower discretionary accruals and fewer financial misstatements, reflecting their superior quality control and commitment to reputational capital (Chen, et al., 2025, p. 100707; Nagy, Sherwood and Zimmerman, 2023, pp. 129–152). As recent research on audit partner accountability in China demonstrates, reputational mechanisms can have direct consequences for auditor careers—financial restatements often result in reduced future engagements and diminished status for responsible partners (Chen et al., 2024, pp. 419-441). Thus, both firm-wide and individual reputational incentives are powerful drivers of auditor behavior and audit quality.

1.2 Auditor Competency

Audit firm size

Reputation theory suggests that auditors, particularly those affiliated with globally recognized firms, have strong incentives to safeguard and enhance their professional im-

age (DeFond, Francis and Wong, 2000, pp. 269-272). The Big 4 firms, for instance, are widely perceived as market leaders due to their comprehensive training systems, robust internal controls, and extensive international networks. Their ability to command fee premiums is tied to their sustained delivery of high audit quality, which serves to protect both their own reputation and that of their clients (Kurniawati, Van Cauwenberge and Vander Bauwhede, 2020, pp. 731-757; Skinner and Srinivasan, 2012, pp. 1737–1765; Choi, et al., 2010, pp. 73-77). Numerous studies have documented that Big 4 auditors are associated with lower discretionary accruals and fewer financial misstatements, reflecting their superior quality control and commitment to reputational capital (Xiao, Geng and Yuan, 2020, pp. 109–127; Lo, Lin and Wong, 2019, pp. 71-75). As recent research on audit partner accountability in China demonstrates, reputational mechanisms can have direct consequences for auditor careers—financial restatements often result in reduced future engagements and diminished status for responsible partners (Chen et al., 2024, pp. 419-441). Thus, both firm-wide and individual reputational incentives are powerful drivers of auditor behavior and audit quality.

Audit Effort

Audit effort, often quantified by the number of experienced CPAs or the total audit hours invested in an engagement, is another critical determinant of audit quality (Skinner and Srinivasan, 2012, pp. 1737–1765). Experienced auditors are more likely to possess the expertise needed to identify complex accounting irregularities, exercise sound professional judgment, and effectively respond to unique industry risks (Nguyen and Kend, 2020, pp. 1257–1278; Lo, Lin and Wong, 2019, pp. 71-75). Empirical research indicates that increased audit effort is linked to reduced earnings management, fewer restatements, and higher compliance with auditing standards (Skinner and Srinivasan, 2012, pp. 1737–1765). Moreover, as the complexity of financial reporting in China increases, the role of auditor competency and professional judgment becomes even more central to ensuring the reliability and credibility of financial disclosures (DeFond and Zhang, 2014, pp. 275-326).

2. Hypothesis Development

Drawing on the theoretical framework of auditor incentives and competencies, this study proposes a central hypothesis regarding the impact of auditor supply capacity on audit quality in China's A-share market:

H1: Auditor supply capacity is negatively associated with discretionary accruals, indicating that higher auditor incentives and competencies lead to improved audit quality.

This overarching hypothesis is further detailed into four specific sub-hypotheses:

H1a (Monetary Incentive – Audit Fees):

Higher audit fees are negatively associated with discretionary accruals, reflecting that greater auditor effort and resource commitment reduce earnings management.

H1b (Reputational Incentive – Big 4 Affiliation):

Big 4 auditors are negatively associated with discretionary accruals, indicating that their stronger reputational incentives enhance audit quality.

H1c (Auditor Competency – Audit Firm Size):

Audit firm size, measured by CICPA comprehensive scores, is negatively associated with discretionary accruals, suggesting that larger firms deliver higher-quality audits due to greater resources and professional capacity.

H1d (Auditor Competency – Audit Effort):

Audit effort, measured by the number of experienced CPAs, is negatively associated with discretionary accruals, implying that firms with more experienced auditors achieve better audit quality.

In addition to these primary variables of auditor supply capacity, this study includes several control variables to account for alternative explanations of earnings management. Financial leverage is controlled for, as higher debt ratios may create incentives for earnings manipulation to meet covenant or market expectations (Jelinek, 2007, pp. 24-30). Auditor tenure and audit firm switching are included to capture the effects of relationship duration and potential disruption on audit quality (Chen, Lee and Li, 2008, pp. 262-265). Moreover, state ownership (SOE) is controlled for to reflect China's distinctive institutional environment, as SOEs may have different governance structures, political incentives, and demand for audit quality compared to non-SOEs (Wang, Wong and Xia, 2008, pp. 112-114; Chen, Liao and Liu, 2023, pp. 1-18). Including these controls helps isolate the unique impact of auditor supply capacity on discretionary accruals.

Methods

1. Sample and Data Sources

This study employs panel data covering listed firms on the Shanghai Stock Exchange (SSE) for the period 2021 to 2023. Data are primarily obtained from two authoritative sources: the China Stock Market and Accounting Research (CSMAR) database and the official website of the Chinese Institute of Certified Public Accountants (CICPA). The SSE is selected because it is China's largest and most established equity market, characterized by stricter disclosure requirements, larger firm size, and greater regulatory oversight compared with alternative domestic exchanges. This ensures consistency in governance standards and enhances data reliability.

The study period (2021–2023) is particularly relevant because it captures the post-COVID recovery period, during which regulatory oversight and investor demand for audit quality intensified. To enhance data quality and comparability, financial firms and firms with special treatment statuses (ST and PT) are excluded due to their unique regulatory and financial characteristics.

Focusing on the top 20 audit firms ranked by CICPA ensures that the sample covers auditors with dominant market presence, established reputation, and resource-rich infrastructures, thereby providing a robust setting for examining supply-side determinants of audit quality.

2. Measurement of Audit Quality

Audit quality is proxied by discretionary accruals (DA), a widely used measure that reflects the extent of managerial discretion in financial reporting. Discretionary accruals capture earnings management behaviors that

auditors are expected to detect and constrain.

Following established auditing research, this study employs the Modified Jones Model (Dechow, Sloan and Sweeney, 1995, pp. 193-196), which adjusts for firm performance in estimating expected accruals. While this model is widely applied and allows comparability with prior studies, we acknowledge its limitations: DA captures only one dimension of audit quality and may be sensitive to model specification (DeFond and Zhang, 2014, pp. 275-326).

As a robustness check, we supplement DA with an alternative proxy: financial restatements, obtained from CSMAR disclosures. Restatements directly indicate material misstatements requiring correction, thereby providing an outcome-based measure of audit quality. The Modified Jones Model is specified as:

Specifically, the model estimates total accruals (TA) as follows:

$$TA\_it/A\_\{i,t-1\} = \alpha\_1(1/A\_\{i,t-1\})+\beta\_1[(\Delta REV\_it-\Delta REC\_it)/A\_\{i,t-1\}]+\beta\_2(PPE\_it/A\_\{i,t-1\})+\varepsilon\_it$$

where:

TA_it = total accruals for firm i in year t

A_{i,t-1} = lagged total assets

ΔREV_it = change in revenue

ΔREC_it = change in receivables

PPE_it = gross property, plant, and equipment

ε_it = residual term

The DA are measured as the residuals from this cross-sectional regression, representing the component of accruals unexplained by normal business activities. A higher absolute value of DA indicates greater earnings management, implying lower audit quality.

We use the Modified Jones Model (Dechow, Sloan and Sweeney, 1995, pp. 193-196) to estimate discretionary accruals (DA). As a robustness check, we also use the absolute value of discretionary accruals (AbsDA) to focus on the magnitude of accrual-based earnings management irrespective of sign; consistent results across DA and AbsDA strengthen inference.

3. Auditor Supply Capacity Measures

To capture auditor supply capacity, we employ measures along two dimensions—incentives and competencies.

Incentives

Monetary incentive (Audit fees). The natural logarithm of annual audit fees from CSMAR, reflecting economic resources and effort devoted to engagements (Caramanis and Lennox, 2008, pp. 116-138; Aobdia, Liu, Na and Wu, 2025, p. 101741).

Reputational incentive (Big 4 affiliation). An indicator equal to 1 for PwC, EY, Deloitte, or KPMG, and 0 otherwise, capturing brand-based reputational capital (Chi, Liao and Lin, 2022, pp. 291-307.).

Competencies

Human-capital depth (CPA numbers). Following prior auditing research that uses office/firm size and human-capital stock as proxies for deployable expertise and capacity, we measure competency by the natural logarithm of the number of licensed CPAs in each audit firm (year-end counts from CICPA). This proxy reflects the depth of qualified personnel available for staffing, supervision, and specialist support, which enhances the detec-

tion of misstatements and the enforcement of auditing standards (e.g. Choi, et al., 2010, pp. 88-93; Knechel et al., 2012, pp. 385–421;Harris and Williams, 2020, p. 100485). In the Chinese context, where engagements are commonly staffed from a centralized pool within large networks, firm-level headcount is informative of deployable human capital even if it is not a perfect measure of engagement-specific hours.

Organizational capacity (CICPA composite score). The natural logarithm of CICPA's comprehensive firm score, capturing scale, infrastructure, internal quality controls, and market standing. Higher scores indicate greater capacity to deliver high-quality audits (Hull et al., 2025, n.p.).

Construct-validity checks. To alleviate concerns that raw headcount may not map one-for-one into engagement effort, we: (i) winsorize continuous variables at the 1st/99th percentiles; (ii) re-estimate models dropping one competency proxy at a time (CPA numbers vs. CICPA score); and (iii) examine multicollinearity (all VIFs < 2, see Table 1), showing the two competency measures are not redundant and do not inflate variance.

4. Control Variables

To isolate the effect of auditor supply capacity on audit quality, the analysis includes several control variables that prior literature identifies as determinants of earnings management:

Total Leverage: The firm's debt-to-assets ratio, representing financial distress risk, which could incentivize earnings management (Francis, 2011, pp. 129-132).

Audit Firm Change: A binary variable indicating if the client firm changed its audit firm during the observation period, controlling for potential impacts of auditor-client relationship disruption on audit quality (Chen, Sun and Wu, 2010, pp. 130-135).

Auditor Tenure: The number of consecutive years the audit firm has served the client, capturing both learning effects and auditor independence risks over time (Francis, 2011, pp. 129-132).

State Ownership (SOE): A binary indicator of state-owned enterprises (SOEs). Although conceptually critical, this variable is analyzed separately in heterogeneity tests to avoid multicollinearity with firm fixed effects.

5. Econometric Model Specification

The empirical analysis adopts a fixed-effects regression model to mitigate unobservable heterogeneity across firms. The baseline regression model is specified as follows:

$$DA\_it=\beta0+\beta1*log(audit\_fees)\_it+\beta2*Big4\_it+\beta3*log(CPA\_numbers)\_it+\beta4*log(AuditFirmScore)\_it+\beta5*Total\_leverage\_it+\beta6*Auditor\_change\_it+\beta7*Auditor\_tenure\_it+\beta8*SOE\_it+\beta\_year+\mu i+\varepsilon\_it$$

where:

DA_it: Discretionary accruals for firm i in year t

log(audit_fees)_it: Natural log of audit fees

Big4_it: Dummy variable for Big4 auditor

log(CPA_numbers)_it: Natural log of number of CPAs in the audit firm

AuditFirmScore_it: Composite score of audit firm quality

Total_leverage_it: Firm's total leverage ratio, a control for client financial risk

Auditor_change_it: Dummy variable indicating whether the firm switched auditors, controlling for engagement disruption

Auditor_tenure_it: Number of consecutive years with the same auditor, capturing relationship length

SOE_it: Dummy variable for state-owned enterprise status, controlling for ownership effects

δ_year: Year fixed effects

μ_i: Firm fixed effects

ε_it: Error term

We also re-estimate the model replacing DA with AbsDA as a robustness test.

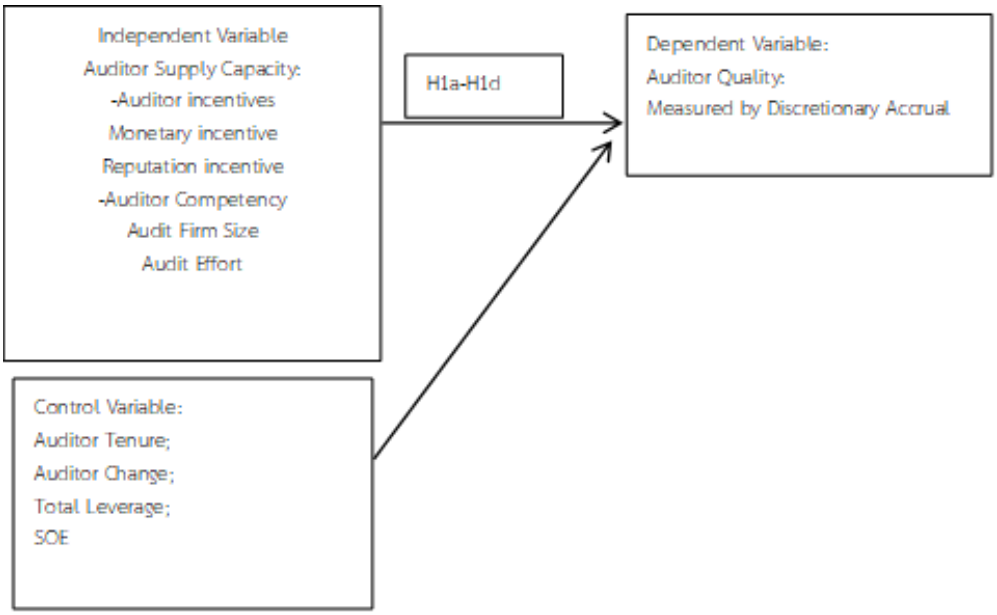

Figure 1 Conceptual Framework

Results

1. Descriptive Statistics

Table 1 presents the descriptive statistics of the main variables employed in this study. The mean discretionary accruals (DA) is 0.016, with a standard deviation of 0.067, indicating moderate variation in earnings management across firms. The absolute value of DA (AbsDA), used in robustness tests, shows similar dispersion. The natural logarithm of audit fees (lg_audit_fees) has an average of 14.23, suggesting relatively high audit costs among the sampled A-share firms.

Regarding auditor supply capacity, approximately 10.5% of the sample is audited by Big 4 auditors, while the average CICPA comprehensive score (log_cpas) is 6.53, reflecting differences in organizational infrastructure among domestic firms. Auditor tenure averages 8.81 years, though the distribution is wide (ranging from 1 to 33 years), consistent with the relatively stable auditor–client relationships in China.

For control variables, leverage has a mean of 0.416, consistent with prior evidence in the Chinese capital market. Firm-level dummy variables further indicate that around 7% of firms experience an auditor change in a given

year, while 39.7% of firms are state-owned enterprises (SOEs).

These results provide a broad picture of the sample, highlighting considerable heterogeneity in both audit supply characteristics and firm ownership structures, which are essential for subsequent regression analysis and heterogeneity testing.

To assess multicollinearity concerns, a Variance Inflation Factor (VIF) test was conducted. All VIF values were well below the conventional threshold of 10, with the highest being 1.65. The mean VIF across all explanatory variables was approximately 1.27, indicating that multicollinearity is not a concern in this dataset. These results suggest that the independent variables are sufficiently distinct to support stable and reliable regression estimates.

Table 1a Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	Vif
DA	2,878	0.0160	0.0670	-0.3384	0.5333	
lg_audit_fees	2,878	14.2308	0.7410	12.1548	17.6657	1.65
big4	2,878	0.1046	0.3061	0	1	1.35
log_cpas	2,878	6.5300	0.4426	5.0938	7.1317	1.07
leverage	2,878	0.4153	0.1859	0.0189	0.8993	1.31
auditor_tenure	2,878	8.8131	6.4705	1	33	1.14
change_firm	2,878	0.0702	0.2555	0	1	1.16
soe	2,878	0.3975	0.4895	0	1	1.20

Table1b Frequency Distribution of Dummy Variables

Variable	Category	Frequency	Percent (%)	Cumulative (%)
SOE (State-owned Enterprise)	0 = Non-SOE	1,734	60.25	60.25
	1 = SOE	1,144	39.75	100.00
	Total	2,878	100.00	–
Big4 Auditor	0 = Non-Big4	2,577	89.54	89.54
	1 = Big4	301	10.46	100.00
	Total	2,878	100.00	–

Notes: This table reports the frequency and percentage distribution for key dummy variables. Approximately 39.8% of firms are state-owned enterprises (SOEs), while only 10.5% of firm-year observations are audited by Big 4 accounting firms, reflecting their limited presence in China's A-share market.

2. Main Regression Results

Table 1 presents the descriptive statistics of the main variables employed in this study. The mean discretionary accruals (DA) is 0.016, with a standard deviation of 0.067, indicating moderate variation in earnings management across firms. The absolute value of DA (AbsDA), used in robustness tests, shows a similar distribution. The natural logarithm of audit fees (lg_audit_fees) has an average of 14.23, suggesting relatively high audit costs among the sampled A-share firms.

Regarding auditor supply capacity, approximately 10.5% of the sample is audited by Big 4 auditors, while the average CICPA comprehensive score (log_cpas) is 6.53, reflecting variation in organizational infrastructure among domestic firms. Auditor tenure averages 8.81 years, though the distribution is wide (ranging from 1 to 33 years), consistent with the relatively stable auditor–client relationships in China.

For control variables, leverage has a mean of 0.416, consistent with prior evidence in the Chinese capital market. Around 7% of firms experience an auditor change in a given year, while 39.7% of firms are state-owned enterprises (SOEs). Pairwise correlations (not tabulated) further suggest that while some variables (e.g., audit fees and firm size) are related, multicollinearity is not a major concern.

2.1 Model Overview and Fit

Table 2 reports the baseline regression results evaluating how auditor supply capacity and client-related factors influence audit quality, measured by both discretionary accruals (DA) and its absolute value (AbsDA) as robustness. All models include year fixed effects (2021–2023) and employ robust standard errors clustered at the firm level to account for heteroscedasticity and within-firm correlation.

The overall model fit is statistically meaningful, with F-statistics significant at the 1% level in both specifications. The explanatory power, while modest (R^2 = 0.045 for DA and 0.033 for AbsDA), is consistent with prior audit-quality and earnings-management research, where a large portion of variation arises from unobservable managerial discretion and firm-specific heterogeneity (Francis, 2011, pp.125-152; DeFond and Zhang, 2014, pp.275-326). Thus, although R^2 values appear low in absolute terms, they align with established findings in the literature and do not compromise the interpretability of the results. Instead, inference relies on the statistical significance and direction of estimated coefficients, which provide meaningful insights into the determinants of audit quality.

2.2 Main Hypotheses Testing

H1a (Monetary Incentive – Audit Fees)

The coefficient on lg_audit_fees is negative across both DA and AbsDA specifications (β= –0.0041, p = 0.084; β = –0.0055, p = 0.002). While only marginally significant in the DA model, the effect becomes stronger and highly significant in the AbsDA robustness test. This provides partial but consistent support for H1a. The findings suggest that higher audit fees—reflecting greater auditor effort, risk exposure, or engagement complexity—are associated with reduced earnings management. This aligns with the quasi-rent perspective (DeAngelo, 1981, pp. 183-199; Caramanis and Lennox, 2008, pp.

116-138).

H1b (Reputational Incentive – Big 4 Affiliation)

The big4 indicator is negative but statistically insignificant in both regressions (β = –0.0073, p = 0.112; β = –0.0039, p = 0.260), providing no support for H1b. This suggests that the reputational premium of Big 4 auditors does not systematically constrain accrual-based earnings management in the Chinese A-share context. The finding is consistent with studies in other emerging markets where weaker enforcement reduces the differentiation effect of Big 4 auditors (Ke, Lennox and Xin, 2015, pp. 1591-1619; Chi, Liao and Lin, 2022, pp. 291-307.).

H1c (Auditor Competency – Organizational Capacity)

The coefficient on log_cpas is negative and statistically significant in the DA model (β = –0.0063, p = 0.036) and marginally significant in the AbsDA model (β = –0.0047, p = 0.085). These results support H1c, indicating that firms audited by larger and more resourceful audit firms exhibit lower discretionary accruals. This underscores the role of institutional capacity in constraining earnings management.

H1d (Auditor Competency – Human Capital / Experience)

The coefficient on auditor_tenure is small and statistically insignificant across all specifications (DA:β= 0.0001, p = 0.511; AbsDA: β = –0.0001, p = 0.339). This provides no support for H1d. One possible explanation is that tenure captures only relationship length, not actual expertise or staffing allocation. Prior studies emphasize that tenure-based or headcount measures may not adequately reflect partner-level involvement or engagement-specific team quality (Skinner and Srinivasan, 2012, pp. 1737–1765; Knechel et al., 2012, pp. 385–421).

2.3 Control Variables Interpretation

Among the control variables, several exhibit significant associations with DA.

SOE firms are associated with significantly lower DA (β = –0.0111, p < 0.001), suggesting that stronger political oversight constrains earnings manipulation.

Leverage has a large and significant negative effect (β= –0.0315, p < 0.001), indicating closer creditor monitoring in highly leveraged firms.

Auditor tenure and audit firm change are insignificant, showing little impact on earnings management.

The year dummies for 2022 and 2023 are both negative and highly significant (β= –0.0163 and –0.0170, respectively; p < 0.001), consistent with a temporal decline in earnings management. This trend likely reflects tightened CSRC enforcement and enhanced disclosure regulation during the post-pandemic period, improving overall audit discipline.

2.4 Robustness Checks

As a robustness exercise, we replace DA with AbsDA. Results in Table 2, Panel B remain consistent with the baseline (Panel A): lg_audit_fees is negative and significant (p = 0.002), and log_cpas remains negative with marginal significance (p = 0.085). Big4 remains insignificant. These results confirm that the findings are not driven by the sign of accruals.

In additional checks (not tabulated),

we re-estimated the models with two-way clustered standard errors (firm and year), excluded firm-years with auditor switches, and re-scaled audit fees by total assets. All results remained qualitatively unchanged, reinforcing the robustness of the baseline conclusions.

Table 2 Baseline Regression Results

Variables	(1) DA Coef.	(1)p-value	(2)AbsDA Coef.	(2)p-value
lg_audit_fees	−0.0041	0.084	−0.0055**	0.002
big4	−0.0073	0.112	−0.0039	0.260
log_cpas	−0.0063**	0.036	−0.0047*	0.085
leverage	−0.0315***	0.000	0.0125*	0.055
auditor_tenure	0.0001	0.511	−0.0001	0.339
change_firm	−0.0002	0.964	0.0028	0.454
soe	−0.0111***	0.000	−0.0105***	0.000
year 2022	−0.0163***	0.000	−0.0067***	0.001
year 2023	−0.0170***	0.000	−0.0119***	0.000
_cons	0.1475***	0.000	0.0501***	0.000
Observations	2,878		2,878	
R^2	0.045		0.033	

Notes: *Robust standard errors clustered at the firm level. ***, *, * denote significance at the 1%, 5%, and 10% levels.

2.5 Heterogeneity Analysis: SOE vs. non-SOE

To explore ownership heterogeneity, we re-est imate the model separately for SOEs and non-SOEs (Table 3).

For non-SOEs, the negative coefficients for lg_audit_fees and log_cpas are larger in magnitude, suggesting that market-discipline channels may amplify the effectiveness of auditor incentives and organizational capacity.

For SOEs, coefficients on Big4 and log_cpas turn positive but insignificant, consistent with the idea that political objectives and administrative oversight may dilute reputational or capacity advantages.

Leverage is significantly negative in both groups, indicating consistent creditor monitoring effects.

The year effects diverge: DA increases in SOEs in 2023 (positive and significant), whereas it declines sharply for non-SOEs, reflecting heterogeneous regulatory pressures and reporting incentives.

Overall, these findings highlight the importance of ownership structure in moderating the relationship between auditor supply capacity and audit quality, thereby extending the literature on institutional heterogeneity in emerging markets.

Table 3 Heterogeneity Analysis (by Ownership Type)

Variables	SOE firms (soe=1)		non-SOE firms (soe=0)	
	Coef.	(Robust SE)	Coef.	(Robust SE)
lg_audit_fees	−0.003591	(0.002943)	−0.005624	(0.004077)
big4	0.006548	(0.009204)	−0.004765	(0.010529)
log_cpas	0.007520	(0.006348)	−0.005185	(0.007004)
score	−0.000061	(0.000051)	−0.000056	(0.000053)
leverage	−0.029992 **	(0.010926)	−0.027279 *	(0.011994)
auditor_tenure	0.000389	(0.000258)	0.000168	(0.000365)
change_firm	−0.001212	(0.005983)	0.005990	(0.011323)
Year 2022	0.005637	(0.003963)	−0.028356 ***	(0.004076)
Year 2023	0.009142 *	(0.003911)	−0.033914 ***	(0.003883)
Constant	0.066283	(0.048199)	0.212270 ***	(0.065837)
Observations	1,144		1,734	
Clusters (firmid)	467		701	
F-statistic	2.82		13.96	
Prob > F	0.0031		0.0000	
R-squared	0.0258		0.0626	
Root MSE	0.0579		0.0691	

Notes: OLS with year dummies; standard errors are clustered at the firm level (reported in parentheses). p-values from two-sided tests. p < 0.10 = *, p < 0.05 = **, p < 0.01 = ***.

Discussion and Conclusion

Discussion of Main Findings

This study investigates how auditor supply capacity influences audit quality in China's A-share market, using discretionary accruals (DA) as the primary proxy for earnings management. The empirical results provide partial support for the main hypothesis.

Specifically, audit fees are consistently and negatively associated with DA (and AbsDA in robustness tests), confirming H1a. This supports quasi-rent theory, suggesting that higher audit fees—reflecting greater auditor effort, more extensive testing, and broader resource commitment—are associated with lower levels of earnings management (DeAngelo, 1981, pp. 183-199; Caramanis and Lennox, 2008, pp. 116-138).

For H1c, auditor organizational capacity, proxied by log_cpas, also shows a negative and statistically significant association with DA, indicating that larger and more resourceful audit firms constrain accrual-based manipulation more effectively. This highlights the importance of institutional capacity in shaping audit outcomes.

By contrast, the evidence does not support H1b (Big 4 affiliation) or H1d (auditor tenure). Big 4 status is negatively signed but

statistically insignificant, consistent with prior evidence that the reputational premium of international audit firms may be weakened in emerging markets where enforcement is uneven (Ke, Lennox and Xin, 2015, pp. 1591-1619; Chi, Liao and Lin, 2022, pp. 291-307). Similarly, auditor tenure does not show a systematic relationship with earnings management, which may reflect offsetting forces between knowledge accumulation and familiarity threats (Skinner and Srinivasan, 2012, pp. 1737–1765).

Robustness tests using absolute accruals confirm these findings, while heterogeneity analysis reveals ownership-related differences. The fee–quality relationship is stronger among non-SOEs, consistent with market-discipline channels, whereas the effect of organizational capacity is muted for SOEs, possibly due to political objectives and administrative oversight diluting reputational or structural advantages.

Taken together, these results suggest that engagement-level incentives and capacities (audit fees, firm resources) are stronger predictors of audit quality than broad reputational or tenure-based indicators in the Chinese institutional context.

Implications

These findings have important implications for regulators, practitioners, and corporate governance stakeholders:

Regulators and policymakers: The strong association between audit fees and audit quality highlights the need for pricing mechanisms that support sufficient audit effort. Regulators should discourage excessively low audit fees that compromise audit quality and instead promote pricing models that reflect audit complexity and risk. Additionally, current reliance on Big 4 affiliation or aggregate firm ratings may be misplaced in emerging markets. Quality evaluation frameworks should incorporate engagement-level metrics such as inspection outcomes, partner track records, and audit planning documentation.

Audit firms and practitioners: The results emphasize that organizational capacity matters, but raw size or CPA headcount alone is insufficient. Investment in engagement-specific resources, industry specialization, and partner-level involvement is critical. Firms should focus on resource allocation strategies and continuous professional development to improve effectiveness.

Corporate boards and investors: Audit fees should not be viewed merely as a cost, but as an investment in credible financial reporting. A willingness to pay for higher-quality audits signals governance strength and enhances investor confidence. This is particularly important in high-risk or complex engagements, where resource-intensive audits are essential.

Limitations and Future Research

This study is subject to several limitations. First, the sample period (2021–2023) is relatively short, which may restrict the generalizability of the findings across different regulatory cycles. Second, the proxies for audit quality are limited to accrual-based measures (DA and AbsDA), which, while widely used, may not fully capture audit effectiveness. Third, the analysis focuses exclusively on A-share listed firms, and results may differ in other market segments or for cross-listed companies.

These limitations open avenues for

future research. Scholars are encouraged to explore how regulatory reforms—such as enhanced inspection regimes or mandatory partner disclosure—may reshape the effectiveness of different audit quality proxies, and to examine whether similar dynamics apply in other emerging economies. By shifting the analytical focus toward engagement-specific incentives and capacities, future research can provide richer insights into how audit markets function under varying institutional conditions.

Conclusion

This study contributes to the literature on audit quality in emerging markets by showing that audit fees and organizational capacity are robust indicators of audit quality, while reputational (Big 4 affiliation) and tenure-based proxies are less effective in the Chinese A-share context. The findings underscore the unique institutional and regulatory environment in China, where international brand reputation and aggregate quality scores do not translate into consistent audit outcomes.

From a theoretical perspective, the results extend quasi-rent theory by highlighting that monetary incentives and institutional resources are more effective constraints on earnings management than reputational signals in emerging markets. From a practical standpoint, the findings inform regulators, audit firms, and corporate governance actors about the limitations of conventional audit quality proxies and the need to focus on engagement-specific investments and oversight mechanisms.

Overall, the hypothesis is only partially supported: while audit fees and organizational capacity are robust predictors, Big4 affiliation and auditor tenure are not significant. This nuanced conclusion helps reconcile mixed prior findings and provides new evidence from the Chinese capital market.

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