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Annual report inquiry letters, disclosure of key audit matters and audit fees: Evidence from Chinese A-share listed companies

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Abstract

Research background: Issuing an annual report inquiry letter is a powerful means by which securities exchanges regulate the information of listed companies, which can convey information, reveal risks, and sustain the orderly development of capital markets. However, research on the economic consequences is limited.

Purpose of the article: This study analyses the relationships and mechanisms between annual report inquiry letters, key audit matters (KAMs), and audit fees.
Methods: We collected data from Chinese A-share companies listed on the Shanghai and Shenzhen Stock Exchanges between 2017 and 2022, totalling 9,903 observations. We used Stata to conduct mediation effects and heterogeneity tests on the data. We also conducted further research on the relationship between audit fees and the purchase of audit opinions.
Findings & value added: The results indicate that (1) companies that receive annual report inquiry letters have higher audit fees. Furthermore, (2) companies that receive annual report inquiry letters are more likely to increase the number of disclosed KAMs, leading to higher audit fees. Finally, (3) the above relationship is more significant amongst companies audited by non-Big-Four accounting firms than amongst those audited by Big-Four accounting firms. Further, the increase in audit fees for the sample companies is not due to the purchase of audit opinions and is combined with robustness tests, further validating the conclusions of this study. These findings contribute to research on the economic impact of implementing the annual report inquiry system and new auditing standards, providing empirical evidence for the effectiveness of government oversight of capital markets.

Introduction

With the continuous development of capital markets and strengthening government regulatory efforts, the annual report inquiry letter (ARIL), a new supervisory means of non-administrative punishment on stock exchanges, has frequently received public attention. China Stock Exchanges (CSE) publicly disclosed the inquiry status of listed companies' annual reports for the first time in 2014. In 2022, A-share listed companies received 519 ARILs (data from the Chinese Research Data Services Platform), indicating that issuing ARILs has become an important means of government supervision of information disclosure by listed companies. Moreover, the scope of the content covered in ARILs has expanded, requiring listed companies to provide comprehensive, systematic, and detailed responses to abnormal events within a short period. These letters help standardise information disclosure, strengthen corporate governance mechanisms, narrow market information asymmetry, protect the interests of small and mid-sized investors, and maintain healthy capital market development. At the same time, the issuance of inquiry letters also serves as a warning to listed companies and conveys risk signals to the market, resulting in market reactions and economic consequences.

From 2013 to 2017, the Financial Reporting Council in the UK, the International Auditing and Assurance Standards Board, and the US Public Company Accounting Oversight Board successively revised auditing reporting standards. This key revision required auditors to reveal critical

matters in the audit. Against international standard changes, in December 2016, the Ministry of Finance in China issued the 'Chinese Certified Public Accountants Auditing Standard No. 1504—Communication of Key Audit Matters in the Auditor's Report'. Starting on 1 January 2018, this standard was made mandatory for firms listed on the Shanghai and Shenzhen Stock Exchanges. Disclosing key audit matters (KAMs) helps enhance the amount of information in audit reports and the usefulness of decision making; however, it may also increase accounting firms' audit risk.

The inquiry letter system and new audit report standards represent significant changes in China's capital market regulatory system. Amongst all the types of inquiry letters, ARILs account for the majority, and its focus is often closely related to the review emphasis on audit work. When listed companies receive ARILs, they often signify omissions to varying degrees in annual report disclosures, requiring further explanation from the listed companies and serving as a risk warning signal. Furthermore, some ARILs may require accounting firms to provide professional opinions on relevant matters, which, to some extent, increases regulatory pressure on auditors. Despite the high degree of attention from practitioners, there is relatively little academic research on nonpunitive regulations, such as inquiry letters. Based on the unique scenarios in China, existing studies mostly focus on the impact of ARILs on companies and explore its effect on audit fees from the perspective of risk premiums (Wang & Zhou, 2022; Cai *et al.*, 2023); however, few explore the impact from the perspective of auditor input.

Moreover, existing studies on inquiry letters mostly concentrate on the Securities and Exchange Commission (SEC) comment letters (Schantl & Wagenhofer, 2021; Skomra *et al.*, 2022), whereas research on audit fees mostly focuses on developed countries such as the United States, England, Canada, and Sweden (Sellami & Chérif, 2020; Chang *et al.*, 2021; Firoozi & Magnan, 2022; Xue & O'Sullivan, 2023; Costa & Habib, 2023), leaving insufficient research on developing countries such as China. As China moves into a new stage of development and increasingly takes its place on the world stage, facing complex and diverse capital markets, 'Relaxing controls and strengthening regulation' is the core idea of comprehensive deepening reform of China's capital markets. ARILs, an emerging non-administrative regulatory method in China's capital market, have become an important tool for the government to supervise the information disclosure of listed companies, and has a series of economic consequences. Meanwhile, the regulatory bodies and systems related to the SEC's comment letter in the

United States are quite different from those in China. The Chinese ARIL system is specific to China's unique national conditions, and the governance characteristics of Chinese listed companies are also unique. Therefore, using Chinese listed companies as a sample allows for research within a unique context. It provides references for the development of China's and international capital markets, as well as beneficial supplements and extensions for relevant research. Based on these considerations, this paper utilizes Chinese A-share listed companies between 2017 and 2022 as the research sample to delve into the inherent impact mechanism of enquiries on audit fees from the perspective of disclosing KAMs, and tests for heterogeneity.

This study contributes in the following ways. First, it adds to the research on the economic impact of China's ARIL system. Empirical evidence regarding the impact of non-administrative penalty regulatory measures on auditor behaviour is provided by this study. Second, by integrating the inquiry system and the new audit reporting standards, this study explores the causal pathways and mechanisms through which the inquiry system affects audit pricing from the perspective of KAM disclosure. It expands the research scope of the economic implications of China's new audit reporting standards and adds the literature on the factors influencing audit pricing. Third, the findings have practical implications. Under the regulatory concepts of 'establishing systems, non-intervention, and zero tolerance' and 'market-oriented and professional-respecting', exploring the economic consequences of the inquiry system and new audit reporting standards provides direct evidence of the effectiveness of these relevant regulations. This approach is beneficial for strengthening the accountability of the 'critical few' and intermediary institutions, enhancing information disclosure, improving regulatory efficiency, optimising the chain of capital market regulation, establishing a sound capital market regulatory system, and promoting the stability and orderly development of the capital market.

The remainder of this paper is organised as follows. The second part introduces the relevant existing studies. The third part introduces the theoretical analysis and research hypothesis. The fourth part describes the research methodology. The fifth and sixth part present and discuss the results, respectively. The seventh section offers the main conclusions.

Literature review

Regulatory inquiry letters

Existing research on inquiry letters is mainly based on ARILs and generally concentrates on the influencing factors and economic consequences. For example, Ettredge *et al*. (2011) find that companies with higher governance quality, better internal control quality, and those engaged in the Big-Four accounting firms (i.e. Deloitte, Ernst & Young, PricewaterhouseCoopers, and Klynveld Peat Marwick Goerdeler) are less likely to receive inquiry letters. Heese *et al*. (2017) discover that companies receiving ARILs tend to be larger, have higher stock price volatility, and have a higher probability of bankruptcy. Additionally, companies are likely to receive ARILs if they have lower-quality cybersecurity risk disclosure, less richness and proactiveness in interactive information disclosure, fewer management rights, and a more negative tone in annual reports (Calderon & Gao, 2022; Wang *et al*., 2022; Cao *et al*., 2022). Furthermore, companies that restate or revise their financial statements are more prone to receiving enquiries (Cassell *et al*., 2013), and regulatory inquiry letters from the CSE serve as purposeful and efficient supervision, playing a role in revealing corporate risks to some extent.

Regarding economic consequences, relevant research is mainly divided into adverse and favourable impacts on companies. Regarding adverse impacts, Zhu *et al*. (2023) used data from Chinese companies listed on the A-share market between 2015 and 2020 to explore the effects of annual report enquiries and information transparency on corporate debt contracts. They found that receiving an ARIL and the frequency of such enquiries correlated positively with corporate debt costs. This finding implies that annual report enquiries can lead to increased corporate debt costs, add to the burden of corporate liabilities, and raise financial risk for the company. Furthermore, Gietzmann *et al.* (2016) conduct an analysis using a dynamic risk model to examine the relationship between executive turnover and cumulative inquiry volume. They find that companies receiving ARILs may experience abnormal changes in executive positions. In terms of favourable impacts, Hutton *et al*. (2022) utilise decisions from the US Securities and Exchange Commission (SEC) publicly disclosed comment letters in 2004 to investigate the actions of the SEC and shareholder litigation participants. Their empirical analysis reveals that the public disclosure of inquiry letters

enhances incentives for regulatory agencies while reducing their ability to capture companies with problematic financial statements. It also strengthens the consistency between public and private enforcement; therefore, it can be inferred that increasing the intensity of inquiry letter issuance provides more opportunities for companies to rectify issues, indicates revision directions, and narrows the scope of companies' responses to enforcement measures. Other researchers report that inquiry letters can improve the information value of stock prices, reduce the risk of delisting for companies, increase the disclosure of corporate financial and non-financial information, enhance transparency between companies and investors, and reduce litigation risk (Zhou, 2023; Lu & Qiu, 2023; Bozanic *et al*., 2017). Therefore, ARILs elicit positive market responses, transmit corporate risk information, and encourage companies to improve their management practices.

Disclosure of KAMs

China provided new audit reporting standards in 2016, requiring registered accountants to disclose KAMs in audit reports. KAMs are issues registered accountants deemed to be the most important in the audit of current financial statements and are matters that deserve attention from financial statement users. Camacho-Miñano *et al*. (2023) study the disclosure of KAMs in UK listed entities from 2013 to 2018. They conclude that as a company's level of financial distress increases, there is a higher likelihood of disclosing KAMs related to profitability and solvency. Furthermore, iinquiry letters provide auditors with risk information when issuing audit reports, and auditors, being risk-oriented, respond to risks by disclosing KAMs. Disclosing information synchronously affects a company's stock prices. Simultaneously, factors such as the leverage ratio, client characteristics, complexity of structure, accounting restatements, corporate litigation risk, reputation loss, the relationship between auditors and clients, and the applicability of accounting standards and regulatory agencies impact the quantity of KAMs disclosed (Sierra-García *et al*., 2019; Chen *et al*., 2023; Pinto & Morais, 2019). The economic consequences of disclosing KAMs are multifaceted. Kong *et al*. (2022) conduct an empirical study on Chinese companies cross-listed in Hong Kong in 2017. They found that the disclosure of KAMs can augment the amount of information available about the company, reduce the frequency of analyst visits, increase the speed and quality of analyst predictions, and reduce delays in stock price responses to

improve the information environment. Li and Luo (2023) find that investors can derive incremental information from KAM disclosures, enhancing the informativeness and relevance of audit reports; however, disclosing multiple KAMs can lead to higher fees and delays. Furthermore, disclosing KAMs enhances the usefulness of information on company characteristics and client audit risks (Seebeck & Kaya, 2022). Conversely, some studies suggest that disclosing KAMs may not offer additional information or reduce information opacity and managerial opportunism (Lennox *et al*., 2023; Liao *et al*., 2023). Therefore, considering the diverse literature, one can conclude that disclosed KAMs generally relate to areas of higher risk, but the impact of such disclosure is still subject to debate and requires further investigation.

Audit fees

Research on audit fees began in 1980 with an empirical study by Simunic (1980). The study points out that factors affecting audit fees include the size of the audited entities, number of subsidiaries, level of business diversification, return on total assets, and type of audit opinion. This study paves the way for further investigation of the factors affecting audit fees. Subsequently, many scholars researched this area, the key focus being on how resource investment and risk premium affect audit fees. For example, Duong *et al*. (2022) conduct an empirical study of American companies from 2003 to 2018 and find that lower ethical quality levels of audit clients are associated with higher litigation risks. Auditors may spend more effort auditing, allocate more resources, and charge higher risk premiums. Moreover, companies with lower internal control risks, fewer corruption convictions in their location, inconsistent executive tenures, and lower motivation for earnings management generally face lower audit fees. Auditors usually reduce their auditing efforts and charge lower risk premiums when facing lower audit risk (Ji *et al*., 2018; Cai & Li, 2022; Hu *et al*., 2023). In summary, the factors influencing audit fees revolve around the magnitude of audit risks, and the level of risk that auditors face directly affects their choices of audit input and risk premiums.

Influencing mechanism and research hypothesis

ARILs and audit fees

According to the literature, companies that receive inquiry letters often face potential risks and exceptional issues. Issuing ARILs through securities exchanges serve as an early warning mechanism, revealing potential problems and deficiencies within a company (Xu *et al*., 2022). In risk-oriented auditing, auditors increase their risk awareness, invest more in audit input, and charge higher risk premiums, thereby increasing their audit fees.

From the perspective of audit input, exchanges require companies receiving ARILs to provide more explanations and supplementary disclosures; therefore, the company is likely to seek additional assistance from auditors to effectively respond to the inquiry letter, which will increase the workload of the audit. Additionally, receiving annual report enquiries sends a risk signal to the company; thus, auditors allocate more resources and focus on areas of concern to the exchanges during the audit. They also pay extra attention to the risk assessment procedures performed on the company and collect more audit evidence to support the identification and evaluation of significant misstatement risks, further increasing audit input (Tang & Liu, 2022). To some extent, even receiving ARILs prompts companies to improve their operational and managerial behaviours. Auditors also maintain professional scepticism and caution regarding the company's improvement actions and increase audit procedures to verify the authenticity, reasonableness, and legality of these actions, resulting in an increased audit workload.

From the perspective of risk premiums, the fact that a company received an ARIL indicates deficiencies in its disclosure practices, suggesting higher risks for the company and increased audit difficulty for auditors; therefore, auditors typically request higher risk premiums from their audit clients to compensate for the risks of audit failure. After receiving an ARIL, the company inevitably attracts attention from stakeholders and the media, which increases the audit pressure on auditors. If an audit fails, investors' expectations of the accounting firm will significantly decrease, and the media may report excessively. Auditors often charge higher risk premiums as compensation to minimise the impact on a firm's reputation. Additionally, auditors are responsible for the audit results of financial reports. After a company receives an ARIL, the likelihood of identifying misstatements

and violations increases, which can result in auditors becoming involved in litigation cases and facing penalties. Auditors may charge premiums to account for these potential risks. In summary, audit input and risk premiums collectively influence audit fees; thus, we propose H_1.

H1: *Companies that receive ARILs have higher audit fees than those that did not.*

ARILs and disclosure of KAMs

As the focus of China's new audit standards, KAMs are closely observed by the China Securities Regulatory Commission and its stakeholders. As a means of administrative regulation of listed companies by stock exchanges, inquiry letters can prompt companies to improve their information disclosure and require auditors to verify and issue specific opinions; thus, regulatory pressure is transferred to auditors (Tang & Liu, 2022). Stock exchanges also pay more attention to the audit outcomes of companies that receive enquiries during the reporting period. Therefore, to reduce the probability of clients being subjected to inquiry regulations and audit risk in the current period, auditors increase their sense of responsibility and caution and choose to disclose more KAMs to enhance the amount of information.

Furthermore, when a company receives an inquiry letter, the capital market captures the risk signals. As independent third parties, auditors must provide fair and objective evaluations of the audited entities. Users' expectations of financial statements from auditors have increased, and auditors often choose to disclose KAMs to convey company information and meet investors' expectations. Additionally, investors' attention to a company that receives an inquiry letter increases significantly, increasing the likelihood of identifying audit failures. Therefore, auditors choose to disclose more KAMs to meet investor demand, reduce the risk of audit failure, transmit more information, and alleviate internal and external information asymmetry. Based on this, hypothesis H_2 is proposed.

H2: *Inquiry regulations have increased the number of KAMs disclosed in audit reports.*

The relationship between regulatory inquiries in annual reports, disclosure of KAMs, and audit fees

According to the new standards, auditors are tasked with investing additional time and effort to considering and identifying areas with higher significant misstatement risks, special risks, matters involving significant management judgements, and significant transactions or events to determine which matters should be disclosed as KAMs. The greater the quantity of KAMs disclosed, the more time and effort auditors have invested and the more substantial procedures need to be performed, resulting in increased audit input (Espahbodi *et al*., 2023). In addition, the disclosure of KAMs by auditors increases the amount of information about the company. The more matters disclosed, the greater the disclosed information content and the higher the company's risk. Consequently, management increases its communication with auditors while disclosing KAMs. Back-and-forth communication also increases audit costs. Simultaneously, auditors may charge a risk premium to compensate for the risk of not meeting investors' expectations and audit failure. Audit fees increase because of increased audit inputs and risk premiums. Based on this, we propose hypothesis H_{3a}.

Auditors' risk perceptions have significantly increased as regulatory agencies impose increasingly severe penalties on accounting firms for audit failures. When a company receives an inquiry letter, it indicates issues with its information disclosure. To meet the requirements of new standards and investors' expectations, and reduce the potential fines resulting from audit failures, auditors may choose to disclose more KAMs to reveal company information and risk signals to reduce information asymmetry between investors and enterprises and the risk of being sued (Wang & Wang, 2022). Disclosing KAMs can demonstrate the corresponding attention and procedures undertaken by auditors and reduce the likelihood of auditors being found negligent; therefore, it is likely that auditors will disclose additional KAMs for clients receiving ARILs. Firms typically transfer increased audit input in assessing and addressing matters to clients. In addition to the risk premium that auditors charge, audit fees also increase. Based on this, hypothesis H_{3b}.

H3a: *The number of disclosed KAMs significantly and positively correlates with audit fees.*

H3b: *ARILs increase audit fees by increasing the volume of KAMs disclosed by auditors, thus demonstrating the intermediary role of disclosing these KAMs*.

The relationship between ARILs, KAM disclosures, and audit fees: firm-level accounting analysis

Based on the concept of audit market segmentation, varying degrees of audit quality are provided by the audit firms (Gandía & Huguet, 2018), the level of the audit work is influenced by many factors, such as the independence of auditor and the culture of auditing firm (Hudaib & Haniffa, 2009; Alberti *et al*., 2022). Large international firms can typically provide differentiated and specialised products, which leads to a strong brand reputation; however, this reputation often leads to higher audit premiums. Additionally, providing high-quality audit services requires greater effort and resource allocation, which increases audit costs (Mohammad Rezaei *et al*., 2018). When compared with non-Big Four accounting firms, the Big Four firms generally have higher risk awareness, and maintain better independence, implement broader audit scopes, disclose more KAMs, execute audit procedures more cautiously, and demand higher audit quality to uphold their reputation and client relationships. Consequently, they contribute to relatively high and stable audit fees. By contrast, non-Big-Four firms are subject to greater external influences, leading to more significant fluctuations in audit fees.

When audit clients receive ARILs, it indicates issues with the company's report disclosure and increases the risks associated with the business. The Big-Four firms typically maintain a higher level of professional scepticism and caution, along with a stronger perception of business risks. As a result, they are less affected by such enquiries, require fewer additional KAMs, and therefore experience smaller increases in audit fees. However, non-Big-Four firms tend to have weaker risk awareness. When clients receive inquiry letters, they often expand their audit scope, allocate more audit resources, implement additional audit procedures, and disclose more KAMs to convey information to financial statement users. This significant increase in audit effort has led to a significant increase in audit fees. Based on this, H_4 is proposed.

H4: *The association between ARILs, the disclosure of KAMs, and audit fees is more pronounced in non-Big-Four accounting firms than in Big-Four firms.*

Methods

Sample selection and data sources

This study chose Chinese A-share listed companies as the study sample from 2017 to 2022. The sample excludes financial companies, ST-and * ST-listed firms as well as companies lacking relevant research data. Ultimately, 9,903 observations were obtained. The ARIL data were obtained from the CNRDS, whereas the dependent and control variables were sourced from CSMAR and CCER. Winsorisation was applied by capping and flooring continuous variables at the 1% level to mitigate the influence of extreme values.

Definitions of variables

Explained variable: *Audit Fee (AF)*

Audit fees refer to the amount charged by an accounting firm to the audited entity to compensate for costs incurred during the audit process. This study uses the natural logarithm of a company's current domestic audit expenses.

Explanatory variable: *Annual Report Inquiry Letter (ARIL)*

The ARIL is correspondence issued by the securities regulatory authority to a listed company after reviewing its disclosed financial and operational information when issues are identified or further clarification is needed. We use a virtual variable, '*ARIL*', to measure whether a company received an inquiry letter. When a company receives an inquiry letter, *ARIL* equals 1; otherwise, it equals 0.

Mediating variable: *KAM Disclosure Quantity (KAM)*

Based on their professional judgement, registered accountants consider KAMs crucial in auditing current financial statements. Referring to Duboisée and Waroun (2023), we use the volume of KAMs recorded by accounting firms as a measure.

Control variable

In order to ensure the stability of the results, we chose the following control variables.

Company (*Size*) is an important factor that affects audit fees. This study measures a company's year-end total assets on a logarithmic scale, following existing research (Dao *et al*., 2022). Larger companies generally have more complex business operations, which imply higher potential risks. To provide reasonable assurance, auditors must expand their scope, face higher risks, and disclose more KAMs. Therefore, audit fees tend to be higher for larger companies because, a direct relationship exists between company size and audit fees.

The debt-to-asset ratio (*LEV*) is an important indicator of a company's debt-paying ability. The higher the *LEV*, the more frequently a company borrows for its development; a company with a high *LEV* indicates greater operational pressure and higher financial risk (Liu *et al*., 2023; Tian & Sun, 2023). Cash flow disruption and insolvency risks may arise because of the inability to repay debt; hence, auditors typically face greater audit failure risks when auditing companies with higher *LEV*. They must invest more time and effort in identifying and addressing clients' financial risks, resulting in higher risk premiums and thus increasing audit fees.

Return on equity (*ROE*) is a crucial measure of a company's profitability. A higher *ROE* implies higher productivity and efficiency in utilising assets. A company with a lower *ROE* has lower asset utilisation and slower returns on investment. Companies with a low *ROE* are at a higher risk of experiencing financial fraud (Tian & Sun, 2023). Therefore, auditors must maintain professional scepticism and gather sufficient and appropriate audit evidence to identify and assess significant misstatement risks. By disclosing KAMs, they transmit information about the company's risk to financial statement users. These back-and-forth auditing processes incur additional costs that are transferred to clients. These factors contributed to higher audit fees.

Enterprise profit and loss (*Loss*) are a direct way of measuring an enterprise's operating results in the current year. This study used a virtual variable to measure *Loss*. When a company has a negative net profit for the year, the value is 1; otherwise, it is 0 (Lu *et al*., 2023). A negative net profit indicates weaker profitability and a higher likelihood of earnings management or financial statement manipulation; therefore, auditors must dedi-

cate more effort to gathering evidence. This has resulted in higher audit fees.

Complexity of operations (*CP*) indicates the complexity of a company's audit engagements. Following Lv *et al*. (2022), our measurement involves summing accounts receivable and inventory, then dividing the total by total assets. As auditors face more complex engagements, they require more time to understand the business, identify and assess significant misstatement risks, and follow more procedures. Consequently, they face a higher risk of audit failure, and audit fees will increase.

The proportion of independent directors (*Iend*) is defined as the percentage of independent directors out of the total board members. The higher the proportion of independent directors on the board and the more prestigious their positions, the more independent the board is from both management and shareholders' general meetings. This independence allows the board to better fulfil its supervisory role and is often associated with better company performance (Liu & Liu, 2023; Ebaid, 2023). Companies with a higher proportion of independent directors usually have more effective business supervision, standardised operations, and fewer significant misstatement risks. Consequently, auditors require less time and effort, leading to lower fees.

In the dual role (*Dua*l), the board's chairman also serves as the chief executive officer (CEO) (Sun *et al*., 2023). When a company has a dual-role situation, the board's CEO oversight is typically weakened, increasing the likelihood of business risks. Auditors must expend more effort to address these risks, which leads to increased audit fees.

The top ten shareholders (*Share*) is an important indicator of corporate governance balance. A higher proportion of shareholdings amongst the top ten shareholders indicates stronger checks and balances, which helps prevent abuse by controlling shareholders and facilitates better management decision making (Zhao *et al*., 2023). In such cases, the likelihood of fraud decreases, resulting in a lower audit risk and fees.

The specific variable definitions are presented in Table 1.

Model setting

Principal regression model

This paper establishes Model (1) to test hypothesis H_1 as follows:

$$AF_{i,t} = a_0 + a_1 IL_{i,t} + a_2 \sum Controls_{i,t} + \sum Year + \sum Industry + \varepsilon_{i,t} \quad (1)$$

Design of the mediation test model

This study tested H_2 and H_3 following the mediation analysis method used by Xie *et al.* (2023):

$$KAM_{i,t} = \beta_0 + \beta_1 IL_{i,t} + \beta_2 \sum Controls_{i,t} + \sum Year + \sum Industry + \varepsilon_{i,t} \quad (2)$$

$$AF_{i,t} = \varphi_0 + \varphi_1 KAM_{i,t} + \varphi_2 \sum Controls_{i,t} + \sum Year + \sum Industry + \varepsilon_{i,t} \quad (3)$$

$$AF_{i,t} = \lambda_0 + \lambda_1 IL_{i,t} + \lambda_2 KAM_{i,t} + \lambda_3 \sum Controls_{i,t} + \\ + \sum Year + \sum Industry + \varepsilon_{i,t} \quad (4) \quad (4)$$

Here, 'i' and 't' indicate the company 'i' and the year 't' variables. 'Controls' refers to the selected control variables. The inclusion of 'Year' and 'Industry' in the model signifies the control for Year' and 'Industry effects, respectively. The term 'ε' denotes the random error term in the model.

Results

Descriptive statistics

Table 2 offers the descriptive statistics of the variables used in this study. The mean audit fees for the sample companies is 1.451 million Chinese yuan (CNY), the maximum is 10.1 million CNY and the minimum is 360,000 CNY, indicating significant variations in audit fees across companies. The average ARIL value is 0.0716, indicating that approximately 7.16% of the listed companies in the sample received enquiries from the CSE. The mean number of disclosed KAMs was 2.047, suggesting that the listed companies in the sample disclosed an average of approximately 2.

Amongst the control variables, the average shareholding ratio of the top 10 shareholders was 56.68, implying a generally high shareholding concentration in the sample companies. Overall, the control variables fell within reasonable ranges.

Correlation coefficient

Table 3 summarises the correlation coefficients and VIF test, where Panel A shows the correlation coefficient results (Cramer's V coefficient using the chi square statistic is more applicable for measuring the correlation between two dichotomous variables; we use Cramer's V coefficient to analyse the correlation between two dichotomous variables (e.g. Loss, ARIL, and Dual). The Pearson correlation coefficient was used for the correlation analysis of other variables), showing that ARILs and audit fees are remarkably positively correlated at the level of 1%. This indicates that listed companies that receive annual report enquiries tend to receive more audit fees. This finding is similar to existing research and provides preliminary validation for hypothesis H_1. Furthermore, the number of ARILs significantly and positively correlates with the quantity of disclosed KAM at the 1% level. This observation demonstrates that listed companies tend to disclose more KAMs disclosures; thus, H_2 is initially verified. Additionally, a noteworthy positive correlation exists between KAMs and audit fees at the 1% level, indicating that, as the number of disclosed KAMs increases, audit fees tend to increase. This observation provides preliminary evidence supporting H_{3a}. The VIF test on Panel B shows an average VIF of 1.36, with each explanatory variable's VIF value not exceeding two, indicating the absence of multicollinearity among the variables.

Regression analysis

Multiple regression analysis of ARILs and audit fees

The regression results of model (1) are shown in Table 4. In the first column, without controlling for year and industry effects, it can be observed that the estimated coefficient of whether a company received an ARIL on audit fees is 0.216, which is significant at the 1% level and positive. This finding suggests that companies receiving ARILs tend to have higher audit fees. In the second column, after controlling for year and industry effects,

we can see that the estimated coefficient between ARIL and audit fees is 0.199, remarkable at the level of 1%. This finding is the same as the outcomes obtained without annual and industry controls, validating hypothesis H_1. Amongst the control variables, the *LEV* and audit fees are significantly positive at 1%, indicating that as the *LEV* increases, audit fees also tend to increase. *ROE* significantly negatively affects audit fees at the 1% level, implying that the higher the profitability and the lower the business risk of a company, the lower the audit fees. The profitability *(Loss)* variable and audit fees are remarkably positive at the level of 1%, indicating that companies in a loss position face higher risks, increasing the likelihood of fraud and leading to higher audit fees. These regression results align with existing findings (Xue & O'Sullivan, 2023; Cai *et al*., 2023).

Mediating effect test

We constructed Models (2), (3), and (4) to test Hypotheses H_2 and H_3. Table 5 presents the estimation results of the model parameters. In the second column, which represents Model (2), the regression coefficient of ARIL on the quantity of disclosed KAMs is positive and significant at the 5% level. This result indicates that, when companies receive ARILs, auditors gain insights into the risks associated with the company, leading to an increased sense of responsibility and caution. Thus, auditors expand their audit procedures and increase the disclosure of KAMs to mitigate audit risk. This finding supports hypothesis H_2. In the third column, representing Model (3), the quantity of disclosed KAMs significantly correlates with audit fees at the level of 1%, indicating that auditors must allocate more resources when disclosing more KAMs. Auditors increase risk premiums and pass on costs to clients to compensate for these additional costs and reduce the litigation risks associated with audit failures. Consequently, audit fees increase, thus supporting hypothesis H_{3a}. In the fourth column, representing Model (4), both ARIL and the number of disclosed KAMs are remarkably positive, with audit fees at the level of 1%. By examining the results of the second, third, and fourth columns, we can infer that when companies receive ARILs, auditors choose to disclose more KAMs to meet financial statement users' expectations and transfer audit risk. Increased investment in auditing and the risk premium result in higher audit fees, indicating that the number of disclosed KAMs acts as a mediator between ARILs and audit fees, validating hypothesis H_{3b}. We conducted a Sobel–

Goodman mediation test to examine the mediating effect of the quantity of disclosed KAMs. The mediating effect of the quantity of disclosed KAMs is significant at the 5% level, providing further support for H_{3b}.

Heterogeneity test

Table 6 presents the regression results grouped according to whether the auditing firm is a Big-Four. The first column represents the results for the samples of listed companies that hired non-Big-Four accounting firms, whereas the second column represents those of companies that hired Big-Four accounting firms. In both columns, the amount of KAMs disclosed is significantly related to audit fees at the 1% level. This finding indicates that the Big-Four and non-Big-Four accounting firms are significantly influenced by the quantity of disclosed KAMs when determining audit fees. Companies that hired non-Big-Four accounting firms showed a notably positive correlation between ARILs and audit fees at the level of 1%. This finding suggests that listed companies hiring non-Big-Four accounting firms experience a significant increase in audit fees after receiving an ARIL. By contrast, for companies that hired Big-Four accounting firms, the impact of ARILs on audit fees was not significant. This finding is consistent with the proposed research hypothesis and supports hypothesis H_4. Regarding the control variables, for companies that hired Big-Four accounting firms, all variables except for firm size were insignificant in terms of audit fees. This implies that the Big-Four accounting firms' business scope and quality of services are relatively stable, leading to stable audit fees.

Table 7 shows the results of the mediation effect test for accounting firms in the Big-Four. The table shows no significant relationship between ARILs, audit fees, or the number of KAMs disclosed. At the 1% level, there is a significant positive correlation between the quantity of disclosed KAMs and audit fees, which is the same as the results in Table 6. Therefore, no significant relationship exists between annual report regulatory enquiries, KAM disclosures, and audit fees in the Big-Four.

Table 8 gives the results of the mediation effect test for accounting firms in the non-Big-Four group. In the non-Big-Four group, there is a remarkable positive correlation between ARIL and audit fees at the level of 1%. Additionally, they are positively and remarkably related to the number of disclosed KAMs at the 5% level. The quantity of disclosed KAMs is also positively and significantly correlated with audit fees at the 1% level. These

findings demonstrate a significant relationship among annual report regulatory enquiries, KAM disclosures, and audit fees in the non-Big-Four group. The regression outcomes from Tables 6, 7, and 8 collectively validate hypothesis H_4.

Further study

From a company's perspective, a standard audit opinion suggests, to some extent, that the company has sound financial conditions and operating performance. Investors have often paid attention to the types of audit opinions in recent years as a reference for their investment decisions; however, when a company receives an ARIL, it signifies that risks associated with the company have been revealed. Investors typically become more cautious and companies' stock prices decline. Therefore, companies may increase their audit fees to purchase a standard audit opinion to create a favourable operating situation and facilitate successful fundraising. Based on this, the audit opinion types of the sample companies were divided into standard unqualified and nonstandard opinions for regression analysis. A value of 1 was assigned when the opinion was a standard unqualified opinion; otherwise, it was 0. This approach aims to ascertain if the rise in audit fees is a result of purchasing audit opinions.

The regression analysis results for audit fees and types of audit opinions are provided in Table 9. The interaction term *FI* indicates that ARILs and audit fees are significantly negatively correlated with audit opinion type at the 10% level. This finding suggests that increased regulatory enquiries and audit fees do not improve audit opinions; thus, high fees are not due to buying audit opinions. This finding indirectly validates the analytical framework of the study.

Robustness test

Lag one and two phases

This study ensures the stability of the research findings by introducing lagged variables for the APIL with lags of one and two periods. These lagged variables are denoted as *ILL1* and *ILL2*. Table 10 presents the results are presented in Table 10. After introducing a lag of one or two periods, there is a remarkable positive correlation between ARILs and audit fees at

the 1% level. Similarly, at the 1% level, the quantity of disclosed KAMs has a remarkable positive effect on audit fees. These results further bolster the conclusions drawn in this study.

Alternative measure of ARIL

To ensure the robustness of the outcomes, we replaced the previous independent variable of whether a company's annual report was subject to inquiry with the frequency of receiving an ARIL *(ILtimes)* for re-evaluation. Table 11 presents the regression results. This table indicates that at the 1% level, the frequency of receiving ARILs is remarkably positively associated with audit fees. This finding indicates that audit fees increase with the frequency of ARILs. The frequency of enquiries is significantly correlated with the quantity of disclosed KAMs at the level of 5%, and the amount of disclosed KAMs and audit fees are remarkably positive at the level of 1%. This result supports the mediating effect of the disclosure of KAMs. These conclusions are similar to the results of previous studies, which proves the robustness of the conclusions of this study.

Quantile regression

Quantile regression is employed to examine the robustness of the study results, because it provides more information about the correlation between ARILs, KAMs, and audit fees. This econometric method demonstrates robustness against outliers and non-Gaussian error distributions (Maçãs *et al*, 2007; Anton, 2021). Table 12 shows that the signs and significance of ARIL and KAM are in line with the baseline regression, confirming the robustness of the study.

Discussion

Based on data from Chinese A-share listed companies from 2017 to 2022, this paper analyses the correlation between ARILs, KAMs, and audit fees. Grouped companies based on the type of accounting firm, exploring the differences in the relationships described above amongst those audited by Big-Four and non-Big-Four accounting firms.

The findings indicate a positive relationship between ARILs and audit fees, suggesting that companies receiving ARILs face higher audit fees. This conclusion is consistent with the findings of Gietzmann and Pet-

tinicchio (2014) and Skomra *et al*. (2022), indicating that companies that receive ARILs often face potential risks. Additionally, companies receiving ARILs face increased attention from investors and the media, increasing the pressure on auditors (Haapamäki & Mäki, 2023). Auditors also demand certain compensation, aligning with the risk premium theory.

Regarding the relationship between ARILs and KAMs, the results indicate that companies that receive ARILs tend to have more KAMs in their audit reports. This implies that the regulatory pressure from enquiries is transmitted to auditors. To mitigate their own risks and meet inquiry requirements, auditors verify the content of enquiries and disclose KAMs to convey company information (Dusadeedumkoeng *et al.* 2023). This finding is consistent with studies based on risk transmission theory and signal transmission theory (Tang & Liu, 2022; Hu *et al*., 2022). However, some studies suggest that disclosing KAMs may not effectively transmit information, which contradicts the results of this analysis (Li, 2017).

Regarding the study results of the correlation between KAMs and audit fees, it is evident that there is a remarkable positive correlation between the two, consistent with the findings of Espahbodi *et al.* (2023) and Elmarzouky *et al.* (2022). The growing number of disclosed KAMs requires auditors to invest more resources, thereby increasing their audit fees. Furthermore, as the number of disclosures increased, more risk information about the company was revealed. Consequently, companies usually seek higher audit quality (Suttipun, 2021), which results in increased audit fees (Bader *et al.*, 2019). However, some studies have found that auditors allocate more resources only after receiving higher fees, indicating a mutual interaction between auditor input and audit fees (Santos-Jaén *et al*. 2023).

For the mediating effect, the results show that the quantity of disclosed KAMs plays a mediating role in the relationship between ARILs and audit fees, which is consistent with the results of Tang and Liu (2022) and Espahbodi *et al.* (2023), but not entirely consistent.

The heterogeneity testing results show that the aforementioned relationships are more significant for companies audited by non-Big-Four firms. Large international accounting firms often have better brand reputations and maintain higher audit quality to safeguard their reputations and client relationships (Wang & Zhou, 2018; Nurjanah & Diyanty, 2019; Lento & Yeung, 2023). Their business stability is higher and they are less affected by external factors, resulting in smaller fee fluctuations. However, some studies suggest that higher-ranked firms do not necessarily provide higher

audit quality, yet charge higher audit fees (Mohammad Rezaei *et al*., 2018), contradicting the findings of this study.

In summary, based on the analysis of the research sample, it is evident that there is a remarkable positive relationship between ARILs and audit fees, and that the number of disclosed KAMs plays a mediating role. The research findings support the positive role of annual reporting inquiry regulations. The entire research process aligns with risk premium theory and signal transmission theory, meaning that when companies receive ARILs, potential risks are revealed, which prompts auditors to become more cautious, increase audit resource allocation, and charge for risk compensation. Although the analytical process contradicts the existing research, the overall direction is consistent, demonstrating the diversity of the research.

Conclusions

In summary, this study collected data from Chinese A-share listed companies between 2017 and 2022, investigating the relationship among ARILs, KAMs, and audit fees. The research findings indicate that for companies receiving ARILs, the quantity of disclosed KAMs in their audit reports grows, leading to a subsequent increase in audit fees, with the number of disclosed KAMs playing a mediating role in the relationship between ARILs and audit fees. Furthermore, after grouping by accounting firm type, we found that in companies audited by non-Big-Four accounting firms, the relationship between ARILs, KAMs, and audit fees became more significant. In addition, this study explores the relationship between audit fees and the purchase of audit opinions. The results show a significantly negative relationship between ARILs, audit fees, and the type of acquired audit opinion, indicating that the escalation in audit fees is not attributable to the purchase of audit opinions, thus indirectly validating the conclusions of this study. Through lagged one- and two-period analyses, variable substitution, and quantile regression analyses, we found that the research conclusions remained robust.

Existing literature has extensively studied the relationship between ARILs, corporate behaviour, and market reactions (Geiger *et al*., 2022; Cao *et al*., 2023). This study supplements this research gap by studying the relationship and mechanisms between ARILs and audit fees using the number

of disclosed KAMs as a mediating variable. Moreover, the study confirms that ARILs increase a company's audit fees, affirming the practical significance of inquiry regulations and reflecting the practical significance of new audit reporting standards in exploring the relationship between the number of disclosed KAMs and a company's audit fees. Overall, the results are conducive to enhancing regulatory effectiveness, standardising corporate disclosure practices, optimising capital market supervision, and providing lessons for accounting firms' audit work.

Based on the above analysis, relevant authorities should continue to strengthen inquiry regulations and further improve inquiry regulatory systems to enhance their effectiveness (Haapamäki & Mäki, 2023). To decrease audit expenses and mitigate the unfavorable effects of market reactions, companies should pay attention to inquiry letters, address issues directly, and provide timely and candid responses to regulatory agency questions (Gietzmann & Pettinicchio, 2014). Additionally, they should promptly trace the corresponding governance systems for disclosure issues and improve the system construction. Accounting firms should also exercise increased vigilance with such clients, maintain a high degree of professional scepticism when conducting audits, expand audit scope, and increase audit procedures to control audit risks. Relevant investors should also heighten their attention to companies receiving enquiries, track market responses promptly, and safeguard their interests.

Limitations and future research

One limitation of this study is that the sample considers only A-share listed companies from the Shanghai and Shenzhen Stock Exchanges. Although the research sample includes firms in one of the world's countries, the results may provide valuable insights. However, as the research sample did not include companies listed in other countries, regions, or unlisted companies, the results are not universally applicable. Therefore, it is necessary to acknowledge the potential consequences of cultural, legal, and institutional differences. Therefore, a sample with more world actors, including firms from different regions, economies, and cultures, can present a more complete understanding of the correlation between inquiry letters, KAMs, and audit fees on a global scale.

Another potential restriction of this study is the period during which the data were collected, which spanned from 2017 to 2022. Because of the

current dynamic and globalised economic environment, while the period covered by the sample reflects significant insights into the matters studied, this study only collected sample data from 2017 to 2022, considering the characteristics of this timeframe. Economic, legal, and business environments may undergo significant changes after 2022. Therefore, future research should consider collecting more recent samples to maintain the stability of the research results in an ever-changing economic context and sustain dynamic research.

Finally, regarding the measurement of the ARIL variable, this study examined only whether companies received an ARIL and the frequency of such enquiries. A detailed classification and comprehensive analysis of the enquiries was not conducted. Moreover, apart from KAMs, other influencing mechanisms may exist. These issues provide directions for future research.

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Annex

Table 1. Definitions of variables

Variable type	Variable	Symbol	Measurement method
Explained Variable	Audit fee	*AF*	The natural log of domestic audit fees for the period
Explanatory Variable	Annual report inquiry letter	*ARIL*	If the listed company received an annual report inquiry letter in the current period, the value is 1; otherwise, the value is 0.
Mediating variable	Key audit matter disclosure quantity	*KAM*	The number of key audit matters disclosed in the audit reports of listed companies
Control variable	Company size	*Size*	The natural log of total assets at the end of the period
	Debt asset ratio	*LEV*	Ending total liabilities/ending total assets
	Return on Equity	*ROE*	Ending net profit/average total assets
	Enterprise profit and loss	*Loss*	If the company's current net profit is negative, the value is 1; otherwise, the value is 0.
	Complexity of Operations	*CP*	(Accounts receivable + inventory)/total assets
	The proportion of Independent Directors	*Ined*	Proportion of independent directors on the board of directors
	Dual Role	*Dual*	If the chairperson is also the general manager, the value is 1; otherwise, the value is 0
	The proportion of Top Ten Shareholders	*Share*	The sum of the top 10 shareholders
	Years	*Year*	Annual dummy variable
	Industry	*Industry*	Industry dummy variable

Table 2. Descriptive statistics

Variable	Sample	Mean	Median	Standard Deviation	Min	Max	25% Quantile	75% Quantile
AF	9903	145.1	100	140.0	36	1010	70	160
KAM	9942	2.047	2	0.628	1	4	2	2
Size	9942	262.9	53.25	1260	2.356	27332	24.94	136.9
LEV	9942	42.83	42.58	18.58	7.602	85.50	28.42	56.39
ROE	9942	4.127	3.880	5.902	−19.62	21.70	1.597	6.900
CP	9942	0.270	0.256	0.147	0.0148	0.682	0.161	0.360
Ined	9942	38.01	36.36	5.458	33.33	57.14	33.33	42.86
Share	9942	56.68	57.70	16.37	0.740	91.09	46.09	68.55

Table 3. Correlation matrix and VIF test

Panel A Correlation Coefficients											
Variable	***AF***	***ARIL***	***KAM***	***Size***	***LEV***	***ROE***	***Loss***	***CP***	***Ined***	***Dual***	***Share***
AF	1										
ARIL	0.027***	1									
KAM	0.166***	0.031***	1								
Size	0.732***	−0.100***	0.129***	1							
LEV	0.404***	0.046***	0.154***	0.499***	1						
ROE	−0.076***	−0.173***	−0.121***	−0.00400	−0.336***	1					
Loss	0.034***	0.1813***^	0.071***	−0.064***	0.146***	−0.645***	1				
CP	−0.042***	0.019*	0.128***	−0.081***	0.265***	−0.078***	−0.018*	1			
Iend	0.036***	0.050***	0.004	0.0120	0.0150	−0.0160	0.019*	0.00300	1		
Dual	−0.098***	0.0135^	0.024**	−0.190***	−0.110***	0.049***	-0.0154^	0.062***	0.099***	1	
Share	0.082***	−0.135***	−0.051***	0.111***	−0.034***	0.217***	−0.149***	−0.066***	0.021**	0.018*	1
Panel B VIF test											
Variable	**Mean**	***ARIL***	***KAM***	***Size***	***LEV***	***ROE***	***Loss***	***CP***	***Ined***	***Dual***	***Share***
VIF value	1.36	1.06	1.05	1.57	1.79	2.00	1.76	1.18	1.01	1.06	1.08

Note: p-value in parentheses.

*, **, and *** represent significance levels of 10%, 5%, and 1%, respectively. The same applies throughout the manuscript.

^ represents Cramer's V coefficient.

Table 4. The results of estimation of model parameters for ARIL and audit fees

Variable	(1) *AF*	(2) *AF*
ARIL	0.216***	0.199***
	(12.72)	(11.89)
Size	0.359***	0.371***
	(88.55)	(89.20)
LEV	0.001**	0.001***
	(2.10)	(3.01)
ROE	−0.003***	−0.004***
	(−3.10)	(−3.98)
Loss	0.108***	0.088***
	(5.75)	(4.69)
CP	0.021	0.065*
	(0.66)	(1.91)
Ined	0.002***	0.002**
	(2.85)	(2.32)
Dual	0.057***	0.051***
	(6.11)	(5.54)
Share	0.001***	0.002***
	(4.90)	(6.96)
_cons	−3.599***	−3.935***
	(−39.15)	(−38.39)
Year	No	Yes
Industry	No	Yes
F-statistic	1368.46***	431.02***
	(0.0000)	(0.0000)
N	9903	9903
Adj. R²	0.554	0.574

Table 5. The results of estimation of model parameters for mediating effect test of KAMs

Variable	(1) *AF*	(2) *KAM*	(3) *AF*	(4) *AF*
ARIL	0.199***	0.052**		0.196***
	(11.89)	(2.15)		(11.73)
KAM			0.065***	0.063***
			(9.40)	(9.20)
Size	0.371***	0.082***	0.361***	0.366***
	(89.20)	(13.69)	(86.16)	(87.49)
LEV	0.001***	0.001**	0.001***	0.001***
	(3.01)	(2.05)	(3.48)	(2.85)
ROE	−0.004***	−0.009***	−0.004***	−0.003***
	(−3.98)	(−6.30)	(−3.85)	(−3.41)
Loss	0.088***	0.070**	0.102***	0.083***
	(4.69)	(2.57)	(5.43)	(4.47)
CP	0.065*	0.389***	0.034	0.040
	(1.91)	(7.90)	(0.99)	(1.18)
Ined	0.002**	−0.000	0.002***	0.002**
	(2.32)	(−0.30)	(2.91)	(2.35)

Table 5. Continued

Variable	(1) *AF*	(2) *KAM*	(3) *AF*	(4) *AF*
Dual	0.051***	0.069***	0.047***	0.047***
	(5.54)	(5.13)	(5.05)	(5.08)
Share	0.002***	−0.001***	0.002***	0.002***
	(6.96)	(−3.14)	(6.15)	(7.24)
_cons	−3.935***	−0.018	−3.827***	−3.937***
	(−38.39)	(−0.12)	(−37.39)	(−38.57)
Year/Industry	Yes	Yes	Yes	Yes
F-statistic	431.02***	26.64***	427.06***	423.74***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
N	9903	9942	9903	9903
Adj. R²	0.574	0.074	0.572	0.577
Sobel–Goodman Mediating Test				
Sobel		0.003**		
		(1.96)		

Table 6. The results of estimation of model parameters for grouping regression test

Variable	Non-Big-Four group *AF*	Big-Four group *AF*
ARIL	0.200***	0.022
	(12.37)	(0.22)
KAM	0.073***	0.066***
	(10.59)	(2.81)
Size	0.324***	0.377***
	(73.00)	(27.62)
LEV	0.001***	−0.001
	(3.73)	(−0.41)
ROE	−0.003***	−0.006
	(−2.75)	(−1.41)
Loss	0.083***	0.058
	(4.54)	(0.70)
CP	0.045	0.198
	(1.35)	(1.43)
Ined	0.001	−0.001
	(0.71)	(−0.24)
Dual	0.049***	0.054
	(5.37)	(1.35)
Share	0.001***	0.002**
	(3.13)	(2.37)
_cons	−3.025***	−3.378***
	(−27.94)	(−10.54)
Year/Industry	Yes	Yes
F-statistic	300.66***	55.81***
	(0.0000)	(0.0000)
N	9211	692
Adj. R²	0.510	0.690

Table 7. The results of estimation of model parameters for the mediating effect test of the big four group

Variable	*AF*	*KAM*	*AF*	*AF*
ARIL	0.032	0.136		0.022
	(0.32)	(0.83)		(0.22)
KAM			0.067***	0.066***
			(2.82)	(2.81)
Size	0.381***	0.072***	0.376***	0.377***
	(28.02)	(3.34)	(27.68)	(27.62)
LEV	−0.000	0.007***	−0.001	−0.001
	(−0.13)	(3.11)	(−0.40)	(−0.41)
ROE	−0.008*	−0.030***	−0.006	−0.006
	(−1.93)	(−4.71)	(−1.40)	(−1.41)
Loss	0.055	−0.012	0.058	0.058
	(0.66)	(−0.09)	(0.71)	(0.70)
CP	0.195	0.004	0.198	0.198
	(1.39)	(0.02)	(1.43)	(1.43)
Ined	−0.001	−0.001	−0.001	−0.001
	(−0.23)	(−0.27)	(−0.22)	(−0.24)
Dual	0.074*	0.279***	0.054	0.054
	(1.86)	(4.43)	(1.36)	(1.35)
Share	0.002**	0.001	0.002**	0.002**
	(2.55)	(0.97)	(2.37)	(2.37)
_cons	−3.392***	−0.366	−3.377***	−3.378***
	(−10.52)	(−0.71)	(−10.54)	(−10.54)
Year/Industry	Yes	Yes	Yes	Yes
F-statistic	56.99***	9.74***	9.74***	55.81***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
N	692	731	692	692
Adj. R²	0.686	0.244	0.690	0.690
		Sobel–Goodman Mediating Test		
Sobel		0.008		
		(0.82)		

Table 8. The results of estimation of model parameters for the mediating effect test of the non-big four group

Variable	*AF*	*KAM*	*AF*	*AF*
ARIL	0.204***	0.052**		0.200***
	(12.53)	(2.13)		(12.37)
KAM			0.075***	0.073***
			(10.78)	(10.59)
Size	0.331***	0.092***	0.318***	0.324***
	(74.84)	(13.86)	(71.53)	(73.00)
LEV	0.001***	0.000	0.001***	0.001***
	(3.81)	(0.88)	(4.44)	(3.73)
ROE	−0.003***	−0.007***	−0.003***	−0.003***
	(−3.27)	(−4.82)	(−3.25)	(−2.75)
Loss	0.089***	0.086***	0.102***	0.083***
	(4.86)	(3.11)	(5.52)	(4.54)

Table 8. Continued

Variable	*AF*	*KAM*	*AF*	*AF*
CP	0.075**	0.412***	0.038	0.045
	(2.25)	(8.20)	(1.13)	(1.35)
Ined	0.001	0.000	0.001	0.001
	(0.71)	(0.06)	(1.29)	(0.71)
Dual	0.052***	0.051***	0.048***	0.049***
	(5.75)	(3.73)	(5.29)	(5.37)
Share	0.001***	−0.001***	0.001*	0.001***
	(2.82)	(−2.63)	(1.94)	(3.13)
_cons	−3.036***	−0.157	−2.898***	−3.025***
	(−27.88)	(−0.96)	(−26.67)	(−27.94)
Year/Industry	Yes	Yes	Yes	Yes
F-statistic	303.07***	22.04***	300.44***	300.66***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
N	9211	9211	9211	9211
Adj. R²	0.504	0.066	0.502	0.510
		Sobel–Goodman Mediating Test		
Sobel		0.004**		
		(1.98)		

Table 9. The results of estimation of model parameters for audit fees and audit opinion purchase

Variable	Audit Opinion	Audit Opinion	Audit Opinion
FI			−0.016*
			(−1.72)
AF		−0.014***	−0.007**
		(−4.30)	(−2.07)
ARIL	−0.090***		−0.009
	(−16.65)		(−0.20)
Controls	Yes	Yes	Yes
_cons	0.780***	0.676***	0.747***
	(23.78)	(18.99)	(21.04)
Year/Industry	Yes	Yes	Yes
F-statistic	22.82***	14.08***	21.64***
	(0.0000)	(0.0000)	(0.0000)
N	9942	9903	9903
Adj. R²	0.064	0.039	0.064

Table 10. The results of estimation of model parameters for robustness test: lag one and two phases

Variable	*AF*	*AF*
KAM	0.070***	0.070***
	(9.31)	(8.32)
ARILL1	0.193***	
	(10.56)	
ARILL2		0.188***
		(9.09)
Controls	Yes	Yes
_cons	−3.927***	−3.841***
	(−35.32)	(−31.06)
Year/Industry	Yes	Yes
F-statistic	362.79***	292.83***
	(0.0000)	(0.0000)
N	8255	6604
Adj. R²	0.576	0.570

Note: *ARILL1* represents a lag of one period and *ARILL2* represents a lag of two periods.

Table 11. The results of estimation of model parameters for robustness test: alternative measure of ARIL

Variable	*AF*	*KAM*	*AF*	*AF*
ILtimes	0.179***	0.045**		0.176***
	(11.39)	(1.99)		(11.24)
KAM			0.065***	0.064***
			(9.40)	(9.23)
Controls	Yes	Yes	Yes	Yes
_cons	−3.930***	−0.016	−3.827***	−3.931***
	(−38.32)	(−0.11)	(−37.39)	(−38.50)
Year/Industry	Yes	Yes	Yes	Yes
F-statistic	430.15***	26.62***	427.06***	422.92***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
N	9903	9942	9903	9903
Adj. R²	0.573	0.074	0.572	0.577

Table 12. The results of estimation of model parameters for robustness test: quantile regression

Variable	*Q10*	*Q25*	*Q50*	*Q75*	*Q90*
KAM	0.049***	0.064***	0.0730***	0.067***	0.064***
	(4.20)	(6.57)	(8.85)	(6.31)	(5.75)
ARIL	0.181***	0.183***	0.184***	0.181***	0.234***
	(6.36)	(7.73)	(9.21)	(7.06)	(8.66)
Controls	Yes	Yes	Yes	Yes	Yes
_cons	−2.765***	−3.037***	−3.596***	−4.397***	−4.525***
	(−15.87)	(−20.97)	(−29.45)	(−28.14)	(−27.46)
Year/Industry	Yes	Yes	Yes	Yes	Yes
N	9903	9903	9903	9903	9903
Pseudo. R²	0.230	0.284	0.349	0.398	0.451