Do auditor changes affect the disclosure of critical audit matters? Evidence from China

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ABSTRACT

The Public Company Accounting Oversight Board (PCAOB) encourages companies to enhance investor value by fully disclosing all their critical audit matters (CAMs). Auditor changes are also important capital market contractual acts, but few have analyzed the effect of auditor changes on disclosures of CAMs. Using data from 2016 to 2020 on Chinese listed companies, we find that companies disclose more CAMs when they change the audit firm and all signing auditors together, with auditor independence, fresh perspectives, and audit effort as potential channels. We also find that changes in disclosing CAMs due to auditor changes positively affect audit quality, financial reporting quality, and stock market pricing efficiency. These findings highlight the vital impact of changing the audit firm and all signing auditors in improving audit and financial reporting quality and stock market pricing efficiency through adequate disclosure of CAMs.

1. Introduction

Auditor changes are necessary contractual acts undertaken in the capital market. However, no consensus has been reached in academic circles regarding their economic consequences. Myers et al. (2003), Chen et al. (2008), Litt et al. (2014), Chi et al. (2017), and Laurion et al. (2017) have found that longer auditor tenure is associated with lower frequency of restatement announcements and higher earnings responses, in addition to an increase in audit failure and a decrease in audit quality following an auditor change. By contrast, other researchers suggest that auditor changes can increase auditor independence and financial reporting quality (Deis and Giroux, 1996; Davis et al., 2009; Jiang et al., 2019). For example, if a new auditor can provide fresh perspectives, leading to greater audit adjustments, the quality of financial reporting might not decrease and may even increase (Lennox et al., 2014). Another section of researchers argues that auditor changes are not significantly related to the audit or financial reporting quality (Chi et al., 2009; Kuang et al., 2020; Gipper et al., 2021). However, these researchers examine the economic consequences of changing audit firms or signing auditors separately, while ignoring their interrelationships.

In China, it is common for companies to change audit firms but retain at least one former signing auditor or change all signing auditors within the audit firm (Chen et al., 2009). This study attempts to enrich the

literature on auditor changes by categorizing auditor changes into four scenarios: the audit firm and all signing auditors change together, only the audit firm changes, only the signing auditors change, and no auditors change. Specifically, "the audit firm and all signing auditors change together" refers to a change in audit firms wherein all the signing auditors differ from the prior year. "Only the audit firm changes" means that at least one signing auditor from the prior year also moves with the client to the new audit firm. "Only the signing auditors change" means that companies change all signing auditors within the same audit firm. Finally, "no auditors change" means that companies do not change the audit firm while retaining at least one of the former signing auditors.

This study was conducted in China for two reasons. First, in the US, the identities of signing auditors are not publicly disclosed. Until 2017, the US Public Company Accounting Oversight Board (PCAOB) required audit firms to disclose the name of their lead engagement partner only. When a partners name changes, the signing auditor undoubtedly also changes. In contrast, Chinese audit reports disclose at least two auditors' names, allowing us to track various types of auditor changes. Chinese companies might change their signing auditors in form; that is, they may change only one of their signing auditors and retain at least one of their former signing auditors. In addition, companies may retain one of their signing auditors when they are employed by a new audit firm (Chen et al., 2009); that is, only the audit firm changes. China has a

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relationship-based economy wherein the social ties (i.e., *guanxi*) between auditors and clients are likely to be more than just a simple instrumental relationship. Therefore, *guanxi* provides a unique perspective on the economic consequences of different types of auditor change.

Second, China plays an essential role in the global economy, given that it is the world's largest developing country. China's auditing standards converge to match the International Standards on Auditing (ISA). The Ministry of Finance of the People's Republic of China issued the China Registered Accountants Auditing Standards (CRAAS) in 2006. Since then, Chinese practitioners and researchers have been working to improve international auditing theory and practice. Economic and institutional improvements in Chinese accounting practices have attracted growing scholarly attention to issues related to audit quality in China. The Chinese government publicly expresses its views on auditor changes. In 2021, the General Office of the State Council of the People's Republic of China issued the "Opinions of the General Office of the State Council on Further Regulating Financial Audit Order to Promote the Healthy Development of the Certified Public Accountant Industry." Shanghai and Shenzhen Stock Exchanges have also issued guidelines to regulate auditor changes. Therefore, in an attempt to assist the Chinese Certified Public Accountant (CPA) profession to overcome its tendency to passively follow auditing standards and instead become more interactive in supporting the international convergence of these standards, which will in turn improve the quality of international auditing theory and practice, this study investigates auditor changes within China's unique institutional features.

The homogenization of audit reports with respect to form and content has been questioned previously, considering their use as the primary communication channel between CPAs and information users (Church et al., 2008; IAASB, 2011). In 2013, the UK Financial Reporting Council (FRC) addressed this issue by implementing an expanded audit reporting model, which was adopted by the International Auditing and Assurance Standards Board (IAASB), the Public Company Accounting Oversight Board (PCAOB), and the China Auditing Standards Board (CASB) in 2015, 2016, and 2017, respectively. This new audit-reporting framework requires auditors to disclose critical audit matters (CAMs) in audit reports, which increases their communication value. CAMs tend to direct the attention of their intended users to matters that are most important in the audit process and have a higher degree of source credibility (Christensen et al., 2014; Elliott et al., 2020), which can improve users' understanding of financial statements and help them to make better investment decisions (Orquin and Loose, 2013). The existing literature has examined the economic consequences of disclosing CAMs in detail, but no uniform conclusions have been reached (Bentley et al., 2021; Burke et al., 2022; Lennox et al., 2022). The new audit reporting reform does not seem to have achieved its intended goals. On the one hand, this suggests that CAM disclosures may only be the first step in advancing audit reporting reform (Minutti-Meza, 2021) and that the full benefits of enhanced auditor communications may take more time and a greater number of settings to materialize (PCAOB, 2020; Lennox et al., 2022). On the other hand, it may be that the current disclosures of CAMs are not fully adequate, and the homogenization effect is too severe. For example, the PCAOB (2020) shows that disclosing only one or two CAMs provides investors with limited value. Lennox et al. (2022) found that 73% of CAMs disclosed in the second year were also reported in audit reports from the previous year; therefore, CAM disclosures do not provide incremental information to investors, as expected. It is important to examine how to improve the completeness and adequacy of CAM disclosures and reduce their homogenization. Auditor changes provide a special scenario wherein the homogenizing effect of CAM disclosures can be alleviated to enable them to play their intended roles. Accordingly, several researchers have used data from multiple countries to examine three factors that influence CAMs: audit clients, signing auditors, and audit firms (Pinto and Morais, 2019; Chen et al., 2021; Luo, 2021; Lennox et al., 2022).

However, there is little empirical evidence of the effect of auditor changes on new audit reports. The impact of changing the audit firm and signing auditors together on the disclosure of CAMs is rarely examined in the literature. Therefore, this study examines the association between auditor changes, CAMs, audit and financial reporting quality, and stock market pricing efficiency, based on China's unique cultural and institutional background. Our findings have great practical significance and policy implications as they will work towards promoting substantial improvements in the quality of audit reports and the competitiveness of the CPA profession.

The literature suggests that auditor changes disrupt the auditor–client relationship. Laurion et al. (2017) found that the enhancement of new auditors' independence and prudence enables them to proactively identify and reveal management errors and aggressive accounting treatments. Additionally, new auditors bring fresh perspectives to companies' audit reports (Lin and Yen, 2022) and maintain professional care during the audit process to efficiently identify and respond to the material risks of misstatements (Lennox et al., 2014; Singer and Zhang, 2018). To protect their reputation, new auditors will invest extra effort and carefully audit the current and prior period's financial statements and disclose as many detailed CAMs as possible (Dopuch et al., 2001; Pinto and Morais, 2019). Comparing a change in all signing auditors together with a change in the audit firm, changing the audit firm *without* changing all signing auditors prolongs the signing auditors' audit tenure and compromises their independence (Chi and Huang, 2005; Ball et al., 2015; Tepalagul and Lin, 2015). This behavior is not conducive to the adequate disclosure of CAMs. Changing all signing auditors within the same audit firm encourages clients' opportunistic behavior even more strongly. In this situation, the signing auditors may cooperate with their clients to hide bad news, which leads to a significant decrease in the quality of audits (Fargher et al., 2008; Chen et al., 2016) and the disclosure of CAMs. Thus, companies will fully disclose CAMs only when they change the audit firm and all signing auditors together.

Using 12,160 observations of Chinese listed companies from 2016 to 2020, we examine the relationship between different types of auditor changes and the related disclosure of CAMs. First, we find that changes in the audit firm, together with all signing auditors, improve the disclosure of CAMs through a higher number of disclosed CAMs, longer text length, and a greater tendency to provide conclusive evaluations. Second, we present evidence on the economic mechanisms behind our main findings that new auditors are more independent, have fresher insights, and work harder to improve the quality of CAM disclosures. Third, we also provide an analysis of the economic consequences and find that companies that change audit firms and all signing auditors together, and thus adequately disclose CAMs, have higher audit quality, financial reporting quality, and stock market pricing efficiency. Fourth, in the cross-sectional analyses, we classify audit firm changes into upgrade, level, and downgrade changes. We find that audit firm upgrades lead to more CAM disclosures. Fifth, we examine additional textual features of CAMs and find that change audit firms tend to disclose CAMs with explicit conclusive evaluations, clear attributions, and low textual similarity, regardless of whether they change all signing auditors.

This study contributes to the literature in several ways. First, it contributes to our understanding of auditor changes and their economic consequences. A large body of literature studies auditor changes and their economic consequences from a single perspective, with insufficient attention paid to different types of auditor changes and their impact on new audit reports (Hagigi et al., 1993; DeFond and Subramanyam, 1998; Lennox, 2000; Chi et al., 2009; Lennox et al., 2014; Ferguson et al., 2018; Liu and Lin, 2019; Hou et al., 2020; Kuang et al., 2020; Xiong et al., 2020; Gipper et al., 2021). This study combines two dimensions, namely changes in signing auditors and changes in audit firms, and distinguishes three types of audit changes to examine their impact on new audit reports. Second, our study explores the factors affecting CAM disclosure from the dynamic perspective of auditor changes, in contrast to existing research on these factors using the static characteristics of

clients, audit firms, and signing auditors (Pinto and Morais, 2019; Chen et al., 2021; Luo, 2021; Lennox et al., 2022). Third, our findings have important policy implications. The PCAOB (2020) suggests that poorly disclosed CAMs provide limited value to investors and calls for increased completeness and adequacy of CAM disclosures. We find that changing the audit firm and all signing auditors together helps companies improve their disclosure of CAMs, which enhances audit quality, financial reporting quality, and stock market pricing efficiency. This study not only responds to the PCAOB's call to encourage the improvement of CAM disclosures, but it will also help regulators and standard-setters regulate auditor changes, improve auditor rotation policies, and further promote audit reporting reform. Fourth, our conclusions call for countries to revisit their auditor change activities. If auditor changes are measured solely by determining whether there is a change in the audit firm or a change in the signing auditor's name, there may be measurement errors, which may be one of the reasons for the contradictory economic consequences of auditor changes. The existing literature tends to assume that auditors change when the audit firm changes, but there may be situations wherein clients will follow departing auditors to new audit firms (Chen et al., 2009; Chang et al., 2019); or that changing signing auditors within the same audit firm will increase auditor independence, but in practice, it is prone to audit opinion purchases that compromise earnings quality (Fargher et al., 2008; Chen et al., 2016). Thus, our findings also confirm that the economic consequences of different auditor changes vary and that companies that change the audit firm and all signing auditors together have higher report quality and less financial misreporting, helping academics and practitioners to revisit auditor changes and their economic consequences.

The remainder of this paper is organized as follows. Section 2 outlines the related literature and develops our hypotheses. Section 3 describes the study's data, variable measurements, and research design. Section 4 presents our main empirical results and potential mechanisms tests, while Sections 5 and 6 report the results of further analysis and robustness tests, respectively. Section 7 concludes.

2. Literature review and hypothesis development

Each audit firm has its own unique culture and internal working rules, which lead to systematic differences in guiding and standardizing their auditors' application of auditing and accounting standards (Kothari et al., 2010). Francis et al. (2014) found that these different auditing styles leave a deep "imprint" on audit reports. Consequently, changes in audit firms may directly affect audit report disclosures, including CAMs. New audit reporting standards require signing auditors to disclose the "most important matters" as CAMs during the audit process. The signing auditors' characteristics inevitably deeply influence their reports. Therefore, changes in signing auditors lead to differences between former and new signing auditors in companies' disclosure of CAMs because of the differences in audit independence, professional care, professional competence, and audit experience (Chen et al., 2016; Laurion et al., 2017; Hou et al., 2020; Xiong et al., 2020). Therefore, we argue that the disclosure of CAMs is affected whenever auditor changes occur.

First, the long-term relationship between clients and auditors leads to actual or perceived threats to auditor independence because of auditors' potential to earn economic rent (Lennox et al., 2014; Lennox and Wu, 2018). Carey and Simnett (2006) found that the longer the auditors' tenure, the lower their likelihood of issuing a going-concern opinion and the higher their clients' propensity to beat the earnings benchmark. Auditors with long tenure are more trusting and tolerant of their clients, acquiesce to substandard reporting, and are less likely to confront their clients about disagreements (Lennox et al., 2014; Singer and Zhang, 2018). By contrast, auditor changes disrupt the relationship between the former auditor and the client because the new auditor has no time to establish a close personal relationship with their clients' management, which increases their independence and prudence (Laurion et al., 2017).

Auditors with increased independence also have a higher joint probability of detecting and reporting irregularities in financial reporting (DeAngelo, 1981), and are more likely to proactively reveal management errors or aggressive accounting treatments as CAMs for full disclosure in their audit reports, which ultimately improves the quality of their audit reports.

Second, auditor changes can result in beneficial fresh-eyes effects. Auditors with long tenure are prone to becoming complacent and relaxed in their vigilance. Therefore, it is challenging for them to discover emerging problems and maintain due professional care. As a result, these auditors' routine audit procedures usually become stale, and they are unable to address their clients' possible material misstatements promptly, let alone disclose them as CAMs (Carey and Simnett, 2006; Lennox and Wu, 2018; Singer and Zhang, 2018). By contrast, incoming auditors bring a fresh perspective, which improves the quality of their audits (Lin and Yen, 2022). Lennox et al. (2014) suggest that replacement auditors examine the work undertaken by former auditors in the previous year to identify financial reporting problems through their fresh approach, which leads to more frequent audit adjustments. Singer and Zhang (2018) argue that auditors with shorter tenures discover financial misstatements quicker, which improves the quality of financial reporting. When auditors change, new auditors will therefore be able to identify new problems that are different from the previous year on time, and select the most critical problems for full disclosure as CAMs.

Third, auditors have an incentive to avoid litigation risk and reputational damage (Litt et al., 2014), and auditor change exacerbates the new auditor's future litigation risk (Palmrose, 1991; Myers et al., 2003) because auditor change may lead to a loss of client-specific knowledge, deteriorating the new auditor's ability to identify problems in financial reporting, thus posing an increased audit failure risk (Chi et al., 2009). According to culpable control theory, an actor can avoid blame by taking reasonable and necessary steps to respond to a possible negative event (Alicke, 2000; Alicke et al., 2008). Therefore, CAMs reflect auditors' risk warnings for investors and regulators (Christensen et al., 2014). Auditors also describe their audit procedures in detail in the CAM resolution section. According to decision affect theory, even if a client later makes a material misstatement, investors and regulators are less likely to find auditors to be negligent if they disclose a CAM related to the material misstatement, which reduces auditors' litigation risk to some extent (Brasel et al., 2016; Kachelmeier et al., 2020). Therefore, new auditors will invest extra effort to gain client knowledge and carefully audit the current and prior period's financial statements to maintain their reputation and reduce potential legal liability (Bedard and Johnstone, 2010). Auditors are also motivated to continuously improve their audit procedures, as this improves their identification and disclosure of CAMs, in addition to enabling the disclaimer effect (Dopuch et al., 2001; Pinto and Morais, 2019). Auditor changes should, therefore, lead to adequate disclosure of CAMs.

However, the impact of auditor changes on disclosing CAMs may vary depending on whether the audit firm and all signing auditors change together. Specifically, companies that change only the audit firm while retaining at least one former signing auditor effectively disguise their extension of auditor tenure. Longer auditor-client relationships decrease audit quality (Carey and Simnett, 2006; Tepalagul and Lin, 2015). Particularly in China, social ties (i.e., *guanxi*) among different economic actors are prevalent (Tsang, 1998). In this situation, signing auditors from the old audit firm are employed by the new audit firm and continue to audit their clients, implying a hypernormal instrumental relationship. Xie and Yan (2013) found that these signing auditors are formally but not substantively independent. Auditors who lack independence may have greater trust in their clients' management, may underestimate risks, and consequently may adopt more lenient audit strategies and perform inadequate or inappropriate audit procedures (Chi and Huang, 2005; Ball et al., 2015). This behavior makes it difficult for non-independent auditors to fully detect and disclose CAMs.
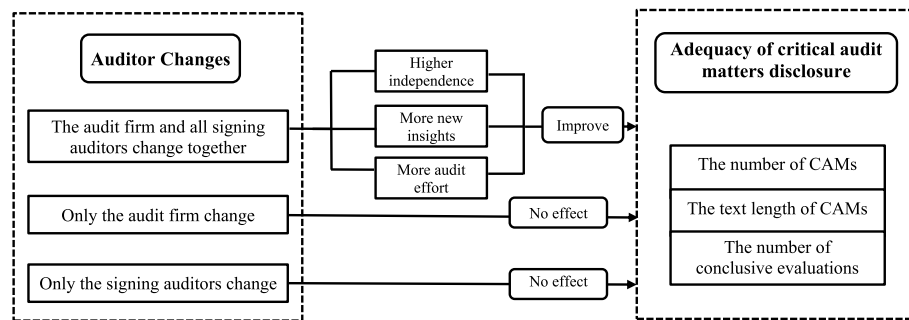
Fig. 1. Logic diagram of theoretical analysis.

Considering the unique interpersonal relationship between long-tenured auditors and their clients, these auditors may be more likely to help their clients conceal bad news and avoid disclosing CAMs.

Furthermore, signing auditors at the same firm tend to have similar audit styles. If companies change signing auditors within the same firm, implying that there are no significant changes in the clients' environment, financial reporting systems, and risks, new signing auditors are more likely to rely on former signing auditors' judgments and decisions, using similar audit methods and procedures and personnel. Therefore, they will not develop new audit strategies and procedures (Bamber and Bamber, 2009; Chi et al., 2009; Bedard and Johnstone, 2010; Francis et al., 2014; Ege et al., 2020), leading to inadequate exploration of CAMs. Fargher et al. (2008) found a significant increase in the absolute value of discretionary accruals for companies that change signing auditors without changing audit firms, but show a significant decrease in the absolute value of discretionary accruals if both audit firms and signing auditors are changed. The European Commission (2011) also argued that rotating signing auditors within an audit firm is insufficient; in contrast, rotating audit firms helps to reduce excessive familiarity between auditors and their clients. Hence, changing the audit firm and all signing auditors improves audit quality. In addition, Chen et al. (2016) found that clients can successfully engage in audit opinion shopping by changing signing auditors within the same audit firm. Specifically, clients may force audit firms to remove uncooperative signing auditors by threatening to change audit firms and engage in opportunistic behavior by using signing auditors who cooperate with and conceal their opportunistic behavior, which further impedes the adequate disclosure of CAMs.

However, it is possible that companies that change audit firms and all signing auditors together negatively affect the adequacy of their CAM disclosures. Auditor changes may result in the loss of client-specific knowledge, leading to lower earnings quality (Chi and Huang, 2005) and compromising audit effectiveness and quality (Cimini et al., 2022). Auditor changes that are too extreme may increase the difficulty of information transfer between two generations of auditors, thereby impairing the ability of new auditors to identify problems in financial reports. In addition, new auditors lack sufficient knowledge about firm-specific risks (Myers et al., 2003) and must spend more time and effort to obtain information about their new clients' internal control structure, operations, accounting systems, and procedures (Dao et al., 2008). As a result, new auditors may overlook changes in the client's operating business and financial reporting system and fail to perform complete audit procedures appropriately, which results in a reduced likelihood of detecting accounting errors or misstatements, reduced risk response efficiency, and difficulty in adequately uncovering, responding to, and disclosing CAMs. Therefore, companies that change audit firms and all signing auditors together may also inadequately disclose CAMs. Johnson et al. (2002) found that auditors' initial lack of client-specific knowledge may not be associated with lower audit quality if the auditor can put in extra audit work to overcome their knowledge deficit. Bedard and Johnstone (2010) also found that after auditor rotation, new

auditors put extra effort into acquiring client knowledge. Hence, the effect of auditor changes on CAM disclosures needs to be empirically tested. Therefore, we propose the following non-directional hypothesis (see Fig. 1).

H1. Changing the audit firm and signing auditors together is related to the disclosure of CAMs.

3. Research design

3.1. Sample selection

On 23 December 2016, the Chinese Ministry of Finance issued a new audit reporting standard that requires Chinese A + H share companies to disclose CAMs from 1 January 2017, while other A-share companies must disclose CAMs from 1 January 2018. Therefore, our sample includes all Chinese A-share listed firms that disclosed CAMs during 2016–2020. We then conduct the following sample selection process. First, we excluded the financial industry sample and companies that reported losses over two to three consecutive years. We also exclude companies with missing and unidentifiable signing auditors and missing financial data. In the end, we have 12,160 observations. The data for auditor changes and control variables come from the China Stock Market & Accounting Research Database. The data for CAMs and auditor personal characteristics are collected manually. Finally, all continuous variables are winsorized at the 1% level.

3.2. Variable measurement

3.2.1. Auditor changes

Following Huang et al. (2015), we define our indicator variables as follows: *C_both*, which takes the value of 1 when changing the audit firm and all signing auditors together, and 0 otherwise; *C_firm*, which takes the value of 1 when the audit firm changes but at least one former signing auditor is retained, and 0 otherwise; and *C_auditor*, which takes the value of 1 when all signing auditors change within the same audit firm, and 0 otherwise. We focus on the coefficient of *C_both*, which is expected to be significantly positive, indicating that companies that change the audit firm and all signing auditors together disclose CAMs adequately.

3.2.2. Adequate disclosure of CAMs

Following Chen et al. (2021), we measure the adequate disclosure of CAMs in terms of both their quantity and quality. Pinto and Morais (2019) and Chen et al. (2021) found that more CAMs and more detailed descriptions of audit procedures can be disclosed when auditors have fully assessed companies' material misstatement risk, implemented complete response procedures, and obtained reliable and sufficient audit evidence. Therefore, the number and text length of CAMs reflect the adequate disclosure of CAMs. The quantitative measurements are as follows: *lnN*, which is the natural logarithm of the total number of CAMs; and *lnWords*, which is the natural logarithm of the total number of words

Table 1
Variable definitions.

Variables	Definitions
lnN	Natural log of the total number of CAMs.
lnWords	Natural log of the total number of words in CAMs.
lnCon	Natural log of the total number of conclusive evaluations plus 1.
C_both	Dummy variable that equals 1 if the company changes its audit firm and all signing auditors together, and 0 otherwise.
C_firm	Dummy variable that equals 1 if the company changes its audit firm but retains at least one of the former signing auditors, and 0 otherwise.
C_auditor	Dummy variable that equals 1 if the company changes all signing auditors within the same audit firm, and 0 otherwise.
Size	Natural log of the total assets at the end of the year.
Seg	Number of business segments.
MB	Market-to-book-ratio.
Lev	Total liabilities divided by total assets at the end of the year.
Roa	Net income divided by total assets.
Cata	Current assets divided by total assets at the end of the year.
CFO	Cash flow from operations divided by total assets.
Top1	Percentage of ownership held by the largest shareholder.
Big4	Dummy variable that equals 1 if the company is audited by an international Big 4 audit firm, and 0 otherwise.
Big8	Dummy variable that equals 1 if the company is audited by a Chinese domestic Big 8 audit firm, and 0 otherwise.
Clean	Dummy variable that equals 1 if the company received a clean opinion, and 0 otherwise.

in CAMs. China's new audit reporting standards do not explicitly require auditors to include conclusive evaluations in CAMs. In practice, four types of conclusive evaluations have emerged: that is, no conclusive evaluation and evaluations that conclusively report "reasonable," "acceptable," and "no material problems" results. Zhang et al. (2019) argued that conclusive evaluations indicate that auditors provide a clear view to investors through their conclusive tone, which is more informative. Therefore, we use the number of conclusive evaluations of CAMs as our quality measure. Considering that the number of conclusive evaluations may be zero, we use this number plus one and took its natural logarithm, denoting the resulting measure as *lnCon*. Larger *lnN*, *lnWords*, and *lnCon* indicate an adequate disclosure of CAMs.

3.2.3. Control variables

Following Chen et al. (2021), Lennox et al. (2022), and Lin and Yen (2022), we controll for several variables associated with clients and auditors: That is, the log of the client's total assets (*Size*), number of business segments (*Seg*), market-to-book ratio (*MB*), debt-to-assets ratio (*Lev*), return on total assets (*Roa*), current assets ratio (*Cata*), cash flow from operations (*CFO*), the largest shareholder ownership ratio (*Top1*), international Big 4 audit firms (*Big4*), Chinese domestic Big 8 audit firms (*Big8*), and standard clean opinions (*Clean*). Table 1 presents the definitions of all variables.

3.3. Regression model

Following Huang et al. (2015), we employ a multivariate regression model to test the relationship between auditor changes and the adequate disclosure of CAMs:

$$CAMs_{it} = \alpha_0 + \alpha_1 C\_both_{it} + \alpha_2 C\_firm_{it} + \alpha_3 C\_auditor_{it} + \Sigma\alpha_i Controls_{it} + \Sigma Industry + \Sigma Year + \varepsilon \quad (1)$$

In this regression, the dependent variable *CAMs* includes *lnN*, *lnWords*, and *lnCon*, which measure the adequate disclosure of CAMs. The explanatory variables are *C_both*, *C_firm*, and *C_auditor*, which represent three types of auditor changes: that is, the audit firm and all signing auditors change together, only the audit firm changes, and all signing auditors change within the same audit firm. We also include industry and year fixed effects.

4. Empirical results

4.1. Descriptive statistics

Table 2 reports the descriptive statistics for the dependent variable (see Panel A), the auditor changes variables, the control variables, and the univariate tests for the main variables (see Panel B) based on *C_both*, *C_firm*, and *C_auditor*. For ease of interpretation, we provide the dependent variables without logarithmic treatment: that is, the total number of CAMs (*N*), the total number of words in CAMs (*Words*), and the total number of conclusive evaluations (*Conclusion*). As shown in Panel A, the minimum, mean, and maximum values of *N* are 1, 2.054, and 6, respectively, indicating that the number of CAMs disclosed by the observations ranges from 1 to 6, with an average of approximately 2. The mean and standard deviation of *Words* are 1266.920 and 524.634, respectively, indicating a large difference in the text length of CAMs disclosed by different companies. The minimum, median, and maximum values for *Conclusion* are 0, 0, and 5, respectively, indicating that some observations received conclusive evaluations. Regarding the independent variables, the mean value of *C_both* is 0.090, indicating that 9% of the observations involve changes in the audit firm and all signing auditors together. The mean value of *C_firm* is 0.020, indicating that 2% of the observations involve changes in the audit firm, but with at least one of the former signing auditors being retained. The mean value of *C_auditor* is 0.106, indicating that 10.6% of the observations involve changes of all signing auditors within the same audit firm.

Panel B of Table 2 reports the annual distribution of auditor changes. We classify the samples into four subsamples: companies that change the audit firm and all signing auditors together (*C_both*), companies that change the audit firm but retain at least one former signing auditor (*C_firm*), companies that change all signing auditors within the same audit firm (*C_auditor*), and the remaining companies (*Other*). In 2016, only A + H-share listed companies were required to disclose CAMs; therefore, the sample size in 2016 is small. Overall, the *C_auditor* sample is the largest with 1288 companies, followed by 1097 listed companies that change the audit firm and all signing auditors together, while changing the audit firm but not changing all signing auditors gives the smallest sample with 238 companies. In 2019, the *C_firm* sample suddenly increased because Kangmei Pharmaceutical Co. Ltd. and Kangde Xin Composite Material Co. Ltd. were investigated for financial fraud. Their auditors, Ruihua Certified Public Accountants and Guangdong Zhengzhong Zhujiang Certified Public Accountants, were collectively abandoned by the listed companies and their remaining clients followed their signing auditors to other audit firms, resulting in a significant increase in the sample of those companies that changed audit firms but did not change their signing auditors in 2019.

Panel C of Table 2 shows the results of our univariate tests. Panel C shows that the mean and median values of the number of CAMs (*N*) are significantly higher in the *C_both* subsample than in the *Other* subsample. Similarly, the *C_both* subsample has significantly higher numbers of words and conclusive evaluations than the *Other* subsample. The *C_firm* and *C_auditor* subsamples do not differ from the *Other* subsample, and even the *C_auditor* subsample has a smaller mean and median than the *Other* subsample but not statistically significant. These results suggest that the adequacy of disclosure of CAMs is significantly higher only when companies change the audit firm and all signing auditors together.

4.2. Pearson and Spearman correlation analyses

Table 3 shows the Pearson and Spearman correlations between the variables. The lower left corner of the table shows the Pearson coefficient, while the upper right corner shows the Spearman coefficient. Most of the correlation coefficients between the variables do not exceed 0.5, indicating that the regression model does not exhibit serious multicollinearity. The *C_both* subsample is positively associated with the adequate disclosure of CAMs (*lnN*, *lnWords*, and *lnCon*); however, the

Table 2
Descriptive statistics and univariate tests.

Variables	N	Mean	Std.	Min	Median	Max
Panel A: descriptive statistic						
N	12,160	2.054	0.654	1.000	2.000	6.000
Words	12,160	1266.920	524.634	9.000	1199.500	7493.000
Conclusion	12,160	0.292	0.741	0.000	0.000	5.000
C_both	12,160	0.090	0.286	0.000	0.000	1.000
C_firm	12,160	0.020	0.139	0.000	0.000	1.000
C_auditor	12,160	0.106	0.308	0.000	0.000	1.000
Size	12,160	22.354	1.340	19.654	22.164	27.162
Seg	12,160	5.546	4.235	2.000	4.000	24.000
MB	12,160	0.663	0.253	0.098	0.663	1.185
Lev	12,160	0.421	0.198	0.060	0.413	0.967
Roa	12,160	0.034	0.077	−0.445	0.037	0.203
Cata	12,160	0.568	0.197	0.088	0.582	0.960
CFO	12,160	0.052	0.066	−0.144	0.051	0.244
Top1	12,160	0.333	0.145	0.084	0.310	0.740
Big4	12,160	0.062	0.241	0.000	0.000	1.000
Big8	12,160	0.581	0.493	0.000	1.000	1.000
Clean	12,160	0.968	0.175	0.000	1.000	1.000

Year	C_both	C_firm	C_auditor	Other	Total
Panel B: sample distribution by auditor changes					
2016	4	0	2	53	59
2017	183	15	288	2106	2592
2018	231	14	340	2482	3067
2019	384	176	351	2178	3089
2020	295	33	307	2718	3353
Total	1097	238	1288	9537	12,160

Panel C: univariate tests

Variables	C_both Mean	C_firm Mean	C_auditor Mean	Other Mean	C_both vs. Other Diff	C_firm vs. Other Diff	C_auditor vs. Other Diff
N	2.126	2.067	2.043	2.047	0.079***	0.013	−0.013
Words	1313.040	1268.185	1247.824	1264.162	50.694***	1.291	−21.358
Conclusion	0.335	0.340	0.296	0.285	0.047**	0.050	0.005
Observations	1097	238	1288	9537	12,160		

Variables	C_both Median	C_firm Median	C_auditor Median	Other Median	C_both vs. Other Diff	C_firm vs. Other Diff	C_auditor vs. Other Diff
N	2.000	2.000	2.000	2.000	0.000***	0.000	0.000
Words	1231.000	1206.000	1184.000	1198.000	33.000**	8.000	−14.000
Conclusion	0.000	0.000	0.000	0.000	0.000*	0.000	0.000
Observations	1097	238	1288	9537	12,160		

Note: This table reports the descriptive statistics for the dependent variable, the auditor changes variables, the control variables, and the annual distribution of auditor changes, as well as the univariate tests for the main variables based on *C_both, C_firm,* and *C_auditor*. We classify the samples into four subsamples: companies that change the audit firm and all signing auditors together (*C_both*), companies that change the audit firm but retain at least one former signing auditor (*C_firm*), and companies that change all signing auditors within the same audit firm (*C_auditor*), and the remaining companies (*Other*). The detailed definitions of all variables are presented in Table 1. * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

correlation coefficients between *C_firm, C_auditor,* and the dependent variables are insignificant (Table 3). These results suggest that companies that change audit firms and all signing auditors together will disclose more CAMs, have longer text lengths, and have more conclusive evaluations, which initially supports our hypothesis.

4.3. Regression results

Table 4 shows the empirical results for the impact of auditor changes on the disclosure of CAMs. In all three columns, the coefficients of *C_both* are significantly positive, while those of *C_firm* and *C_auditor* are insignificant. These results indicate that only companies that change the audit firm and all signing auditors together adequately disclose CAMs, as shown by the higher number of CAMs, longer text length, and more conclusive evaluations. These results support our hypothesis. Holding other variables constant, companies that change the audit firm and all signing auditors together disclose 3.8% more CAMs, 4% more words of text length, and 2.3% more conclusive evaluations than other companies.

4.4. Potential mechanism

To test the theory that motivated our hypothesized effects of auditor changes on CAM disclosures, we follow Liang and Renneboog (2017) and tested possible mechanisms. These tests are based on the idea that after changing the audit firm and all signing auditors together, the new auditors will be more independent and bring fresher perspectives and extra effort to audit the current and prior period's financial statements and disclose as many detailed CAMs as possible. We conduct tests on these three economic mechanisms (auditor independence, fresh perspectives, and audit effort) in two stages: in the first stage, we regress each of the channel variables on the variables *C_both, C_firm,* and *C_auditor*; and in the second stage, we regress the variable CAMs on the channel variable "predicted" from the first stage, that is, on the variation in the channel variables explained by auditor changes.

4.4.1. Auditor independence

Most studies in the literature mostly used the economic importance of clients to measure auditor independence, including non-audit fees, audit fees as a proportion of total fees (Schmidt, 2012), and audit fees as

Table 3
Correlation test.

Variables		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
lnN	(1)	1.000	0.760***	0.032***	0.033***	0.003	−0.002	0.124***	0.073***	0.079***
lnWords	(2)	0.816***	1.000	0.135***	0.030***	0.003	−0.009	0.135***	0.061***	0.091***
lnCon	(3)	0.073***	0.164***	1.000	0.016*	0.012	0.001	0.025***	0.007	−0.014
C_both	(4)	0.032***	0.033***	0.017*	1.000	−0.044***	−0.108***	0.017*	0.017*	0.016*
C_firm	(5)	0.005	0.006	0.011	−0.044***	1.000	−0.049***	−0.011	−0.013	−0.005
C_auditor	(6)	−0.002	−0.008	0.002	−0.108***	−0.049***	1.000	−0.036***	−0.031***	−0.014
Size	(7)	0.114***	0.133***	0.034***	0.018**	−0.011	−0.036***	1.000	0.262***	0.556***
Seg	(8)	0.043***	0.056***	0.029***	0.006	−0.018**	−0.025***	0.305***	1.000	0.226***
MB	(9)	0.073***	0.087***	−0.011	0.017*	−0.004	−0.014	0.557***	0.241***	1.000
Lev	(10)	0.139***	0.139***	0.032***	0.032***	0.012	−0.023**	0.508***	0.204***	0.386***
Roa	(11)	−0.118***	−0.095***	−0.005	−0.067***	−0.004	0.026***	0.024***	−0.088***	−0.167***
Cata	(12)	0.018*	0.016*	0.024***	−0.029***	0.018**	0.007	−0.197***	−0.127***	−0.182***
CFO	(13)	−0.106***	−0.063***	−0.008	−0.029***	0.012	0.010	0.056***	−0.084***	−0.135***
Top1	(14)	−0.069***	−0.053***	−0.010	−0.006	0.011	0.017*	0.194***	0.036***	0.126***
Big4	(15)	−0.019**	0.059***	0.101***	0.029***	−0.024***	−0.012	0.343***	0.174***	0.118***
Big8	(16)	0.047***	0.084***	0.015*	−0.048***	−0.029***	0.034***	−0.040***	−0.063***	−0.023**
Clean	(17)	0.003	0.013	0.016*	−0.059***	0.002	0.004	0.039***	−0.022**	0.011

Variables		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
lnN	(1)	0.149***	−0.142***	0.000	−0.114***	−0.074***	−0.006	0.033***	−0.006
lnWords	(2)	0.149***	−0.100***	0.005	−0.062***	−0.053***	0.055***	0.088***	0.000
lnCon	(3)	0.025***	−0.016*	0.023**	−0.004	−0.006	0.111***	0.011	0.016*
C_both	(4)	0.034***	−0.071***	−0.028***	−0.027***	−0.015	0.029***	−0.048***	−0.059***
C_firm	(5)	0.011	−0.008	0.019**	0.013	0.012	−0.024***	−0.029***	0.002
C_auditor	(6)	−0.022**	0.030***	0.007	0.012	0.019**	−0.012	0.034***	0.004
Size	(7)	0.504***	−0.075***	−0.193***	0.057***	0.140***	0.268***	−0.036***	0.032***
Seg	(8)	0.198***	−0.177***	−0.136***	−0.118***	−0.012	0.100***	−0.063***	−0.036***
MB	(9)	0.396***	−0.312***	−0.162***	−0.124***	0.116***	0.120***	−0.026***	0.007
Lev	(10)	1.000	−0.400***	−0.050***	−0.165***	0.032***	0.109***	−0.040***	−0.100***
Roa	(11)	−0.296***	1.000	0.127***	0.448***	0.147***	0.026***	0.068***	0.176***
Cata	(12)	−0.049***	0.090***	1.000	−0.135***	0.021**	−0.064***	0.023**	0.013
CFO	(13)	−0.171***	0.364***	−0.133***	1.000	0.120***	0.068***	0.025***	0.083***
Top1	(14)	0.039***	0.164***	−0.005	0.112***	1.000	0.134***	0.036***	0.093***
Big4	(15)	0.106***	0.043***	−0.077***	0.064***	0.148***	1.000	−0.157***	0.029***
Big8	(16)	−0.040***	0.052***	0.024***	0.027***	0.031***	−0.157***	1.000	0.022**
Clean	(17)	−0.123***	0.276***	0.011	0.084***	0.090***	0.029***	0.022**	1.000

Note: This table presents the Pearson and Spearman correlation test results. The upper right corner of Table 3 shows the Spearman coefficient, and the lower left corner shows the Pearson coefficient. * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

Table 4
The effect of auditor changes on the CAM disclosures.

Variables	(1)	(2)	(3)
	lnN	lnWords	lnCon
C_both	0.038*** (3.630)	0.040*** (3.130)	0.023* (1.821)
C_firm	0.026 (1.242)	0.018 (0.730)	0.040 (1.481)
C_auditor	0.009 (0.907)	0.002 (0.180)	0.008 (0.666)
Size	0.040*** (7.553)	0.040*** (6.249)	0.002 (0.356)
Seg	0.001 (0.683)	0.002 (1.308)	0.002 (1.112)
MB	−0.028 (−1.171)	−0.013 (−0.476)	−0.051* (−1.811)
Lev	0.111*** (3.706)	0.149*** (3.976)	0.053 (1.421)
Roa	−0.382*** (−7.147)	−0.373*** (−5.557)	−0.039 (−0.660)
Cata	−0.016 (−0.551)	0.005 (0.137)	0.054 (1.484)
CFO	−0.279*** (−4.481)	−0.232*** (−3.031)	−0.052 (−0.726)
Top1	−0.132*** (−3.849)	−0.160*** (−3.791)	−0.069* (−1.667)
Big4	−0.066*** (−2.635)	0.072** (2.478)	0.169*** (5.145)
Big8	0.034*** (3.769)	0.092*** (8.336)	0.028** (2.456)
Clean	0.080*** (3.215)	0.102*** (3.320)	0.045* (1.860)
Constant	−0.200 (−1.572)	5.931*** (38.936)	0.057 (0.351)
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
Adj.R²	0.066	0.071	0.019
Observations	12,160	12,160	12,160

Note: This table presents the empirical results on the impact of auditor changes on the CAM disclosures. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column 1, the dependent variable is the natural log of the total number of CAMs (lnN). In Column 2, the dependent variable is the natural log of the total number of words in CAMs (lnWords). In Column 3, the dependent variable is the natural log of the total number of conclusive evaluations plus 1 (lnCon). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

a proportion of the total audit fees for all auditors' clients (Ghosh et al., 2009). However, Chinese listed companies do not disclose their non-audit fees, and several factors influence audit fees; therefore, audit fees are too noisy to be a good measure of auditor independence.

Table 5
Potential mechanism: auditor independence.

Variables	(1)	(2)	(3)	(4)
	Indp	lnN	lnWords	lnCon
C_both	−0.002* (−1.745)			
C_firm	−0.001 (−0.207)			
C_auditor	−0.000 (−0.419)			
Pre_Indp		−19.547*** (−3.571)	−19.925*** (−2.976)	−12.674* (−1.934)
Controls	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
year	Yes	Yes	Yes	Yes
Adj.R²	0.263	0.064	0.068	0.019
Observations	12,160	12,160	12,160	12,160

Note: This table presents the mechanism role of auditor independence. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column (1), the channel variable (Indp) is regressed on the auditor change variables C_both, C_firm, and C_auditor. In Columns (2)–(4), the CAMs disclosure variables (lnN, lnWords, and lnCon) are regressed separately on the channel variable (Pre_Indp) "predicted" from the first-stage regression. * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

Table 6
Potential mechanism: fresh perspective.

Variables	(1)	(2)	(3)	(4)
	NewCAMs	lnN	lnWords	lnCon
C_both	0.209***			
	(9.404)			
C_firm	0.094**			
	(2.551)			
C_auditor	0.018 (1.010)			
Pre_NewCAMs		0.173***	0.178***	0.114*
		(3.519)	(2.956)	(1.917)
Controls	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
year	Yes	Yes	Yes	Yes
Adj.R^2	0.219	0.065	0.069	0.019
Observations	12,160	12,160	12,160	12,160

Note: This table presents the mechanism role of the number of new CAMs. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column (1), the channel variable (*NewCAMs*) is regressed on the auditor change variables *C_both*, *C_firm*, and *C_auditor*. In Columns (2)–(4), the CAMs disclosure variables (*lnN, lnWords,* and *lnCon*) are regressed separately on the channel variable (*Pre_NewCAMs*) "predicted" from the first-stage regression. * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

Following Reynolds and Francis (2001), we use the ratio of client assets to the total assets of all auditors' clients to measure audit independence (*Indp*), which not only reflects the client's bargaining power, but is also significantly correlated with audit fees and provides a better indication of auditor independence. The higher the *Indp*, the higher the auditor's economic dependence on their client, and the lower the audit independence. Table 5 shows the regression results. The Column (1) shows the result of the first stage, *C_both* is significantly negatively related to *Indp*, indicating that the audit independence of the new auditor increases after companies change the audit firm and all signing auditors together. In Columns (2)–(4), the CAMs disclosure variables are regressed separately on the channel variable (*Pre_Indp*) "predicted" from the first-stage regression. The coefficients of *Pre_Indp* are all significantly negative, indicating that the poorer the audit independence, the less adequate the CAM disclosures. These results are consistent with the notion that after changing the audit firm and all signing auditors together, new auditors' independence increases and improves the adequacy of their CAM disclosures.

4.4.2. Fresh perspective

The second mechanism follows that of a fresh perspective. New auditors may bring a fresh perspective and identify more CAMs that differ from the previous year, resulting in more CAM disclosure. Therefore, we examine whether new auditors can identify and disclose more CAMs that differ from the previous year after changing the audit firm and all signing auditors. Referring to Lin and Yen (2022), we classify CAMs into 21 categories as follows: "Inventory recognition and valuation," "Revenue recognition," "Accounts receivable related," "Asset impairment," "Goodwill impairment," "Financial assets and liabilities," "Tax-related," "Long-term asset acquisitions and disposals," "Long-term investments," "Mergers and acquisitions," "Investment property," "Provisions," "Cash and cash equivalents," "Going concern uncertainty," "Related party transactions," "Litigation and arbitration," "Information systems and controls," "Projected liabilities," "Costs and expenses," "Restructuring matters" and "Other". We manually count the number of different types of CAMs in year t and year t-1 and plus 1, and took the natural logarithm to measure the auditors' fresh perspective (*NewCAMs*). Table 6 shows the regression results. The Column (1) shows the result of the first stage, *C_both* is significantly positively related to *NewCAMs*, indicating that new auditors disclose more new CAMs after companies change the audit

Table 7
Potential mechanism: audit effort.

Variables	(1)	(2)	(3)	(4)
	Effort	lnN	lnWords	lnCon
C_both	0.010*			
	(1.735)			
C_firm	0.011			
	(1.062)			
C_auditor	0.007			
	(1.350)			
Pre_Effort		2.708***	2.360**	2.005**
		(3.280)	(2.345)	(2.043)
Controls	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
year	Yes	Yes	Yes	Yes
Adj.R^2	0.087	0.065	0.069	0.019
Observations	12,160	12,160	12,160	12,160

Note: This table presents the mechanism role of the audit effort. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column (1), the channel variable (*Effort*) is regressed on the auditor change variables *C_both*, *C_firm*, and *C_auditor*. In Columns (2)–(4), the CAMs disclosure variables (*lnN, lnWords,* and *lnCon*) are regressed separately on the channel variable (*Effort*) "predicted" from the first-stage regression. * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

firm and all signing auditors together. In Columns (2)–(4), the CAMs disclosure variables are regressed separately on the channel variable (*Pre_NewCAMs*) "predicted" from the first-stage regression. The coefficients of *Pre_NewCAMs* are all significantly positive, indicating that more new CAM disclosures increase the adequacy of CAM disclosures. These results are consistent with the notion that after changing the audit firm and all signing auditors, the new auditor discloses more new CAMs and improves the adequacy of its CAM disclosures.

4.4.3. Audit effort

Auditor changes may exacerbate new auditors' future litigation risk; therefore, new auditors will invest extra effort to preserve their reputation and reduce potential legal liability (Bedard and Johnstone, 2010). Thus, they will carefully audit the current and prior period's financial statements and disclose as many detailed CAMs as possible to achieve the disclaimer effect. Drawing on Zhang (2018), we use the auditor report delay to measure the audit effort (*Effort*), which is the natural logarithm of the total number of days from the fiscal year-end to the signature date of the auditor's report plus one. The longer the auditor delays in issuing the report, the greater the audit effort that they must exert. Table 7 shows the regression results. The Column (1) shows the result of the first stage, *C_both* is significantly positively related to audit effort (*Effort*), indicating that new auditors put in more audit effort after companies changing the audit firm and all signing auditors together. In Columns (2)–(4), the CAMs disclosure variables are regressed separately on the channel variable (*Pre_Effort*) "predicted" from the first-stage regression. The coefficients of *Pre_Effort* are all significantly positive, indicating that the more effort the auditor puts in, the more adequately CAMs are disclosed. These results are consistent with the notion that after changing the audit firm and all signing auditors together, new auditors put more effort into auditing their current and previous financial statements, which improves the adequacy of their CAM disclosures in the current period.

5. Further analyses

5.1. Economic consequences

Following our verification of the impact of auditor changes on CAMs above, we next examine how changes in CAM disclosures affect audit

Table 8
Economic consequences: audit quality.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Abs_DA			Restate		
$\Delta lnN*C\_both$	−0.028* (−1.782)			−0.613** (−2.329)		
$\Delta lnN*C\_firm$	0.001 (0.036)			−0.786 (−1.058)		
$\Delta lnN*C\_auditor$	0.016** (2.456)			−0.348 (−1.429)		
$\Delta lnWords*C\_both$		−0.029* (−1.758)			−0.635*** (−2.854)	
$\Delta lnWords*C\_firm$		0.003 (0.299)			−0.804 (−1.386)	
$\Delta lnWords*C\_auditor$		0.018*** (2.706)			−0.288 (−1.141)	
$\Delta lnCon*C\_both$			−0.019* (−1.770)			−0.474* (−1.954)
$\Delta lnCon*C\_firm$			0.010 (1.157)			0.442 (0.719)
$\Delta lnCon*C\_auditor$			−0.010 (−0.829)			0.395 (0.905)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Adj.R^2	0.238	0.240	0.238			
Pseudo R^2				0.235	0.236	0.235
Observations	8356	8356	8356	8541	8541	8541

Note: This table presents results for the impact of auditor changes and changes in disclosing CAMs on the audit quality. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. Because of space consideration, this table does not report the coefficients of ΔCAM, C_both, C_firm, and C_auditor. In Columns 1–3, the dependent variable is the absolute value of discretionary accruals (Abs_DA). In Columns 4–6, the dependent variable is financial restatement (Restate). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

Table 9
Economic consequences: financial reporting quality.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Misreporting			ES		
$\Delta lnN*C\_both$	−0.835** (−2.571)			−1.476* (−1.793)		
$\Delta lnN*C\_firm$	−0.828 (−0.991)			2.458 (1.218)		
$\Delta lnN*C\_auditor$	−0.249 (−0.930)			−0.406 (−0.472)		
$\Delta lnWords*C\_both$		−0.495* (−1.929)			−2.904*** (−4.404)	
$\Delta lnWords*C\_firm$		−0.987 (−1.407)			3.499** (2.118)	
$\Delta lnWords*C\_auditor$		−0.297 (−1.076)			−0.867 (−0.985)	
$\Delta lnCon*C\_both$			−0.611** (−2.515)			−1.401** (−2.089)
$\Delta lnCon*C\_firm$			0.596 (1.159)			1.338 (0.982)
$\Delta lnCon*C\_auditor$			0.101 (0.234)			−1.662 (−1.242)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Adj.R^2				0.117	0.119	0.117
Pseudo R^2	0.174	0.174	0.175			
Observations	8543	8543	8543	7050	7050	7050

Note: This table presents results for the impact of auditor changes and changes in disclosing CAMs on the financial reporting quality. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. Because of space consideration, this table does not report the coefficients of ΔCAM, C_both, C_firm, and C_auditor. In Columns 1–3, the dependent variable is financial misreporting (Misreporting). In Columns 4–6, the dependent variable is earnings smoothing (ES). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

quality, financial reporting quality, and stock market pricing efficiency when auditors change. Drawing on Huang et al. (2015), we construct the following regression model to test the economic consequences.

$$EC_{it} = \alpha_0 + \alpha_1 \Delta CAM_{it}*C\_both_{it} + \alpha_2 \Delta CAM_{it}*C\_firm_{it}$$
$$+ \alpha_3 \Delta CAM_{it}*C\_auditor_{it} + \alpha_4 \Delta CAM_{it} + \alpha_5 C\_both_{it}$$
$$+ \alpha_6 C\_firm_{it} + \alpha_7 C\_auditor_{it} + \Sigma\alpha_i Controls_{it} + \Sigma Industry + \Sigma Year + \varepsilon \quad (4)$$

where EC_{it} represents different economic consequences, using discretionary accruals (Abs_DA) and financial restatements (Restate) to measure audit quality, financial misreporting (Misreporting) and accounting information transparency (ES) to measure financial reporting quality, and stock price synchronization (SYN) and stock price crash risk (NCSKEW) to measure stock market pricing efficiency, respectively. ΔCAM_{it} is the change in CAM disclosures after changing auditors using the differences between lnN, lnWords and lnCon in the current year and previous years. The control variables include clients' Size, Seg, MB, Lev,

the occurrence of a loss in the current year (Loss), Top1, state-owned enterprises (Soe), Big4, Chinese domestic Big 8 audit firms (Big8), and Clean. We also include industry and year fixed effects.

5.1.1. Audit quality

Audit quality is a popular topic of concern for communities. First, we examine the joint impact of auditor changes and changes in disclosing CAMs on audit quality. Referring to Xiong et al. (2020), we use the modified Jones model (Dechow et al., 1995) to calculate the absolute value of discretionary accruals (Abs_DA) and whether financial restatement occurs (Restate) to measure audit quality. Table 8 shows the results for the impact of auditor changes and changes in disclosing CAMs on the audit quality. The dependent variable in Columns (1)–(3) is Abs_DA. The coefficients of the interaction items $\Delta lnN*C\_both$, $\Delta lnWords*C\_both$ and$\Delta lnCon*C\_both$ are significantly negative, which indicate that as disclosing CAMs increases, the lower the Abs_DA and the higher the audit quality when companies change the audit firm and all signing

Table 10
Economic consequences: stock market pricing efficiency.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	SYN			NCSKEW		
ΔlnN*C_both	−0.273* (−1.704)			−0.221*** (−2.810)		
ΔlnN*C_firm	0.055 (0.163)			0.447*** (3.114)		
ΔlnN*C_auditor	−0.153 (−1.210)			0.059 (1.093)		
ΔlnWords*C_both		−0.305** (−2.352)			−0.247*** (−3.453)	
ΔlnWords*C_firm		−0.013 (−0.061)			0.226* (1.655)	
ΔlnWords*C_auditor		−0.206 (−1.589)			0.044 (0.780)	
ΔlnCon*C_both			−0.213* (−1.682)			−0.142** (−2.384)
ΔlnCon*C_firm			−0.320 (−1.539)			0.226*** (2.655)
ΔlnCon*C_auditor			0.153 (1.078)			0.148* (1.773)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Adj.R²	0.227	0.227	0.227	0.233	0.234	0.233
Observations	5194	5194	5194	8457	8457	8457

Note: This table presents results for the impact of auditor changes and changes in disclosing CAMs on the stock price synchronization and stock price crash risk. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. Because of space consideration, this table does not report the coefficients of ΔCAM, C_both, C_firm, and C_auditor. In Columns 1–3, the dependent variable is stock price synchronization (SYN). In Columns 4–6, the dependent variable is stock price crash risk (NCSKEW). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

auditors together. In Columns (4)–(6), the dependent variable is *Restate*. The coefficients of the interaction items *lnN*C_both*, *ΔlnWords*C_both* and *ΔlnCon*C_both* are significantly negative, indicating that as CAMs disclosure increases, the likelihood of financial restatement decreases and audit quality increases when companies change the audit firm and all signing auditors together.

Table 11
The effect of audit firm changes characteristics on the CAM disclosures.

C_both	N
Panel A: sample distribution by audit firm change	
Up	194
Level	524
Down	379
Total	1097

Variables	(1)	(2)	(3)
	lnN	lnWords	lnCon
Panel B: the effect of audit firm changes characteristics on the CAM disclosures			
Up	0.072*** (2.877)	0.150*** (5.315)	0.132*** (3.809)
Level	0.028* (1.916)	0.015 (0.855)	0.024 (1.350)
Down	0.025 (1.543)	0.004 (0.201)	−0.032* (−1.718)
C_firm	0.022 (1.075)	0.003 (0.124)	0.032 (1.196)
C_auditor	0.009 (0.967)	0.005 (0.432)	0.009 (0.799)
Controls	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Industry	Yes	Yes	Yes
year	Yes	Yes	Yes
Adj.R²	0.059	0.058	0.008
Observations	12,160	12,160	12,160

Note: This table presents the effect of audit firm changes characteristics on the disclosure of CAMs. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column 1, the dependent variable is the natural log of the total number of CAMs (lnN). In Column 2, the dependent variable is the natural log of the total number of words in CAMs (lnWords). In Column 3, the dependent variable is the natural log of the total number of conclusive evaluations plus 1 (lnCon). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

5.1.2. Financial reporting quality

Preventing collusion between clients and auditors and improving financial reporting quality are important issues. We further examine the joint impacts of auditor changes and changes in disclosing CAMs on financial misreporting and accounting information transparency. Following Ho and Mallick (2015) and Schantl and Wagenhofer (2020), we create a new dummy variable for financial misreporting (*Misreporting*), which takes the value of 1 when the company has a financial misreporting for the year, and 0 otherwise. Then, following Shuto and Iwasaki (2014), we use a firm's ES as a proxy variable for the accounting information transparency. We define ES as the ratio of a firm's standard deviation of CFO divided by its initial total assets to its standard deviation of net income divided by initial total assets from year t-3 to t, where larger ES values indicate lower accounting information transparency. Table 9 shows the results for the impact of auditor changes and changes in disclosing CAMs on the financial misreporting and

Table 12
Auditor changes and the textual features of CAMs.

Variables	(1)	(2)	(3)	(4)
	Exp_lnCon	Amb_lnCon	Clear	Vague
C_both	0.028** (2.412)	−0.002 (−0.420)	0.028*** (3.310)	−0.003 (−0.400)
C_firm	0.042* (1.708)	−0.004 (−0.342)	0.039*** (2.837)	−0.029** (−2.503)
C_auditor	0.005 (0.441)	0.005 (0.949)	0.006 (0.795)	0.002 (0.365)
Controls	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Adj.R²	0.021	0.012	0.062	0.026
Observations	12,160	12,160	12,160	12,160

Note: This table presents the impacts of auditor changes on the textual features of CAMs. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column 1, the dependent variable is the natural log of the total number of explicit conclusive evaluations plus 1 (Exp_lnCon). In Column 2, the dependent variable is the natural log of the total number of ambiguous conclusive evaluations plus 1 (Amb_lnCon). In Column 3, the dependent variable is the natural log of the total number of clearly attributed CAMs plus 1 (Clear_CAMs). In Column 4, the dependent variable is the natural log of clearly attributed CAMs plus 1 (Vauge_CAMs). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

Table 13
Auditor changes and text similarity of CAMs.

Variables	(1)	(2)	(3)
	SimilarityYear	*SimilarityEvent*	*SimilarityAudit*
C_both	−0.071***	−0.085***	−0.085***
	(−17.411)	(−19.388)	(−20.465)
C_firm	−0.025***	−0.033***	−0.031***
	(−3.660)	(−4.363)	(−4.337)
C_auditor	−0.001 (−0.356)	−0.001 (−0.341)	−0.005 (−1.363)
Controls	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
Adj.R^2	0.100	0.096	0.121
Observations	9409	9409	9409

Note: This table presents the impacts of auditor changes on the text similarity of CAMs. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column 1, the dependent variable is the text similarity of CAMs before and after the audit year (*SimilarityYear*). In Column 2, the dependent variable is the text similarity of the CAMs description paragraphs before and after the audit year (*SimilarityEvent*). In Column 3, the dependent variable is the text similarity of the CAMs resolution paragraphs before and after the audit year (*SimilarityAudit*). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

accounting information transparency. The dependent variable in Columns (1)–(3) is *Misreporting*. The coefficients of the interaction items *ΔlnN*C_both*, *ΔlnWords*C_both* and *ΔlnCon*C_both* are significantly negative, which indicate that the higher the disclosure of CAMs, the lower the financial misreporting when companies change the audit firm and all signing auditors together. In Columns (4)–(6), the dependent variable is *ES*. The coefficients of the interaction items *ΔlnN*C_both*, *ΔlnWords*C_both* and *ΔlnCon*C_both* are significantly negative, indicating that when companies change the audit firm and all signing auditors together, the disclosure of CAMs increases, the *ES* decreases, and the accounting information transparency is higher.

Table 14
The effect of mandatory auditor changes on the CAM disclosures.

	Mandatory	voluntary	Total
Panel A: mandatory auditor changes and voluntary auditor changes			
C_both	266	831	1097
C_firm	62	176	238
C_auditor	323	965	1288
Variables	(1)	(2)	(3)
	lnN	*lnWords*	*lnCon*
Panel B: the effect of mandatory auditor changes on the CAM disclosures			
C_both_M	0.105*** (8.659)	0.111*** (6.132)	0.050* (1.853)
C_firm_M	0.053 (1.438)	0.017 (0.444)	−0.054 (−1.430)
C_auditor_M	−0.025 (−1.378)	−0.039* (−1.687)	−0.004 (−0.209)
Controls	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
Adj.R^2	0.068	0.072	0.019
Observations	12,160	12,160	12,160

Note: This table presents the effect of mandatory auditor changes on the disclosure of CAMs. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column 1, the dependent variable is the natural log of the total number of CAMs (*lnN*). In Column 2, the dependent variable is the natural log of the total number of words in CAMs (*lnWords*). In Column 3, the dependent variable is the natural log of the total number of conclusive evaluations plus 1 (*lnCon*). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

Table 15
The effect of auditor resignations on the CAM disclosures.

Resignations	Dismissals		Total
	0	1	
Panel A: auditor resignations and company dismissals			
0	11,063	949	12,012
1	62	0	62
Total	11,125	949	12,074
Variables	(1)	(2)	(3)
	lnN	*lnWords*	*lnCon*
Panel B: the effect of auditor resignations on the CAM disclosures			
Resignation	0.165*** (3.528)	0.198*** (3.956)	0.111* (1.756)
Dismissal	0.051*** (4.677)	0.048*** (3.534)	0.030** (2.177)
C_firm	0.026 (1.264)	0.018 (0.747)	0.041 (1.507)
C_auditor	0.009 (0.909)	0.002 (0.186)	0.008 (0.677)
Controls	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
Adj.R^2	0.068	0.072	0.020
Observations	12,074	12,074	12,074

Note: This table presents the effect of auditor resignations on the disclosure of CAMs. All regressions use heteroskedasticity adjustment and company cluster adjustment to obtain robustness standard errors, and inside the brackets are the t values. In Column 1, the dependent variable is the natural log of the total number of CAMs (*lnN*). In Column 2, the dependent variable is the natural log of the total number of words in CAMs (*lnWords*). In Column 3, the dependent variable is the natural log of the total number of conclusive evaluations plus 1 (*lnCon*). * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

5.1.3. Stock market pricing efficiency

Finally, we explore how the increased CAM disclosures resulting from the auditor changes affect stock market pricing efficiency. Referring to Morck et al. (2000), Kim et al. (2011), and He et al. (2022), we use stock price synchronization (*SYN*) and stock price crash risk (*NCSKEW*) to measure stock market pricing efficiency. The higher the stock price synchronization and stock price crash risk, the less efficient the stock market pricing. Table 10 shows the results for the impact of auditor changes and changes in disclosing CAMs on the stock price synchronization (*SYN*) and stock price crash risk (*NCSKEW*). The dependent variable in Columns (1)–(3) is *SYN*. The coefficients of the interaction items *ΔlnN*C_both*, *ΔlnWords*C_both* and *ΔlnCon*C_both* are significantly negative, indicating that when companies change the audit firm and all signing auditors together, the disclosure of CAMs increases, the lower the *SYN* and the higher the stock market pricing efficiency. In Columns (4)–(6), the dependent variable is *NCSKEW*. The coefficients of the interaction items *ΔlnN*C_both*, *ΔlnWords*C_both* and *ΔlnCon*C_both* are significantly negative, indicating that when companies change the audit firm and all signing auditors together, the disclosure of CAMs increases, the stock price crash risk decreases, and the stock market pricing efficiency is higher.

5.2. Cross-sectional analysis based on Audit firm size

Larger audit firms with more clients have more incentives to maintain high audit quality (DeAngelo, 1981). In contrast, smaller audit firms have less incentive to maintain their brand reputation and therefore have lower audit quality (Dye, 1991). We expect that the adequate disclosure of CAMs will gradually increase when companies move from small audit firms to large audit firms and change all signing auditors together. Francis and Yu (2009) found that international Big 4 audit firms have higher audit quality and Chi et al. (2013) also found that domestic Chinese Top 10 audit firms have high audit quality. Therefore, we classify the sample of companies that change the audit firm and all signing auditors together as audit firm upgrade (*Up*), level (*Level*), and

downgrade (*Down*) changes. The *Up* takes the value of 1 when audit firm changes from Top 10 to Big 4 audit firms, or from non-Big 4 and non-Top 10 audit firms to Big 4 or Top 10 audit firms, and 0 otherwise. The *Level* takes the value of 1 when audit firm changes within Big 4, Top 10, non-Big 4, and non-Top 10 audit firms, and 0 otherwise. The *Down* takes the value of 1 when audit firm changes from Big 4 to Top 10 audit firms, from Big 4 to non-Big 4 or non-Top 10 audit firms, and from Top 10 to non-Big 4 and non-Top10 audit firms. Panel A of Table 11 shows the sample distribution. Among the companies that change their audit firm and all signing auditors together, 194 are audit firm upgrade changes, 524 are audit firm level changes, and the remaining 379 are audit firm downgrade changes. The regression results are shown in columns (1)–(3) of Panel B of Table 11. The coefficients of *Up* and *lnN*, *lnWords*, and *lnCon* are all significantly positive, indicating that companies will disclose adequate CAMs when they switch to larger audit firms and change all signing auditors together. The coefficient of *Level* and *lnN* is significantly positive but are smaller than the coefficients of *Up*, and the other coefficients are not statistically significant. The coefficient of *Down* and *lnCon* is significantly negative, but the coefficients of *lnN* and *lnWords* are not statistically significant. This result is consistent with the fact that upgrading changes can improve audit quality whereas downgrading changes harm audit quality. Several researchers have confirmed these results previously.

5.3. Textual analysis based on CAMs

In addition to analyzing the number of CAM disclosures, the number of words, and the number of conclusive evaluations, we also attempt to uncover additional CAMs textual features to help advance the new audit reporting reform and provide more information for investors.

5.3.1. Explicit/ambiguous attitudes of conclusive evaluations of CAMs

Slovic (2001) found that individuals prefer to focus on information that is clearly presented or with an explicit point of view, and make full use of this information in their subsequent decisions. Companies that change the audit firm and all signing auditors together are more likely to attract external attention. To dispel external doubts, new auditors may release positive signals to the outside world by disclosing explicit conclusive evaluations to increase investor confidence (Zhang et al., 2019). In addition, changing the audit firm and all signing auditors can enhance the independence of new auditors and improve their audit efforts, in addition to helping auditors to identify new issues and generate new insights. This promotes the auditors' level of understanding of the issues and grasp of the audit work, and helps them to obtain explicit conclusive evaluations that can help investors to make sound investment decisions. Following Zhang et al. (2019), we classify conclusive evaluations into explicit and ambiguous according to the auditors' textual expressions. Explicit conclusive evaluations include "The estimated amount of the CAM is reasonable," "The determination complies with the requirements of the Accounting Standards for Business Enterprises," and "Management's judgments and treatment are appropriate." Ambiguous conclusive evaluations include "The estimated amount of CAMs is acceptable," "No material inconsistencies were found in the determination," and "No material problems were found in the management's judgment and treatment." Considering that relatively few auditors provide conclusive evaluations, we measure explicit conclusive evaluations (*Exp_lnCon*) as the natural log of the total number of explicit conclusive evaluations plus 1, and ambiguous conclusive evaluations (*Amb_lnCon*) as the natural log of the total number of ambiguous conclusive evaluations plus 1. Columns (1)–(2) of Table 12 show that the coefficients of *C_both*, *C_firm*, and explicit conclusive evaluations are significantly positive, while the coefficient of ambiguous conclusive evaluations is negative but insignificant. This result indicates that companies that change audit firms are more likely to disclose explicit than ambiguous conclusive evaluations. The coefficient of *C_auditor* is not statistically significant, which implies no significant difference

between the explicit and ambiguous conclusive evaluations in the case of changing signing auditors only. Therefore, changing audit firms is more likely to attract investor attention than changing signing auditors within the same audit firm, which requires new auditors to demonstrate their explicit attitude and perspective.

5.3.2. Clear or vague attributions of CAM disclosures

The new Chinese audit reporting standards require that CAMs include the following three main areas: high risk of material misstatement or special risks identified; significant management judgments; and significant transactions or events in the period. They also require CPAs to disclose not only the reasons for the identified CAM (i.e., a paragraph describing the critical matter), but also the auditors' response in the audit process (i.e., a paragraph describing the audit resolution). In this paper, the disclosure of CAMs can be classified into CAMs with clear or vague attribution based on whether the auditors clearly stated their reasons for identifying CAMs. Specifically, CAMs are clearly attributed when auditors specify that they arise from one or more "material misstatement risks or special risks," "significant management judgment," or "significant transaction or event." Otherwise, it is a vaguely attributed CAM. To test the relationship between auditor changes and CAMs with clear or vague attributions, we create two new variables: *Clear*, which is the natural log of the total number of clearly attributed CAMs plus 1; and *Vague*, which is the natural log of the total number of vaguely attributed CAMs plus 1. Columns (3)–(4) of Table 12 present the outcomes of the resulting estimation. The coefficients of *C_both* with *Clear* are significantly positive at the 1% level and those with *Vague* are negative but not statistically significant. The coefficients of *C_firm* with *Clear* are also significantly positive at the 1% level and significantly negative with *Vague*, indicating that companies prefer to disclose CAMs with clear attribution when changing audit firms. The coefficients of *C_auditor* are not statistically significant, indicating no significant difference between the disclosure of clearly and vaguely attributed CAMs when only the signing auditors are changed.

5.3.3. Text similarity of CAMs

Brasel et al. (2016) found that CAM disclosures have a tendency to standardization, which significantly affects the communication value of audit reports. In consecutive annual audits, the CAMs may gradually become homogeneous because of the personal characteristics of audit firms and signing auditors. Auditor changes may help break the dilemma of the high similarity in the disclosure of CAMs. Following Fathollahi et al. (2022), we use the cosine similarity algorithm to calculate the text similarity of CAMs before and after the audit year (*SimilarityYear*) and generate the text similarity of CAM description (*SimilarityEvent*) and audit resolution (*SimilarityAudit*) paragraphs. The larger the *SimilarityYear*, *SimilarityEvent*, and *SimilarityAudit*, the higher the similarity of the text. Table 13 shows that the *C_both* and *C_firm* are significantly and negatively correlated with text similarity, indicating that companies changing audit firms tend to disclose CAMs with lower text similarity, which provides investors with more incremental information.

This textual analysis of CAMs reveals that changing audit firms will lead to higher-quality disclosure of CAMs compared with changing only the signing auditors.

6. Robustness checks

First, auditor changes can be divided into mandatory and voluntary changes. In general, voluntary changes have endogeneity problems that are difficult to resolve; therefore, we focus on the impact of mandatory auditor changes on the adequacy of CAM disclosures to provide more solid evidence for our main conclusion. The China Securities Regulatory Commission (CSRC), the Ministry of Finance, and the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) required that the signing auditor must rotate once every five years and central state-owned enterprises cannot employ the same audit

firm continuously for more than ten years. Therefore, scholars distinguish between mandatory and voluntary changes by determining whether the signing auditor happens to change in the fifth year (Myers et al., 2003; Lennox et al., 2014). We refer to the previous paper and identify companies whose signing auditor happened to change in the fifth year and central state-owned enterprises whose audit firm changed in the tenth year as the "mandatory auditor changes" sample, but omit some other mandatory change samples. We manually collect the companies' audit firm change announcements to find their reasons for changing auditors. We identify reasons for auditor changes that included the words "regular rotation," "SASAC arrangement," and "auditor firm merger" as mandatory changes and generate the new variables, *C_both_M, C_firm_M*, and *C_auditor_M.* Hence, *C_both_M,* which takes the value of 1 when the audit firm and all signing auditors are changed together and the change is mandatory, and 0 otherwise. *C_firm_M*, which takes the value of 1 when the audit firm changes but at least one former signing auditor is retained and the change is mandatory, and 0 otherwise. *C_auditor_M*, which takes the value of 1 in the mandatory change of all signing auditors within the same audit firm, and 0 otherwise. Panel A of Table 14 shows the sample sizes of mandatory and voluntary changes under different auditor changes: that is, 266 companies change the audit firm and all signing auditors together in mandatory auditor changes, while 831 companies change their auditors voluntarily. Among the companies that change only the audit firm, 62 are mandatory auditor changes and 176 are voluntary auditor changes. Among the companies that change all signing auditors within the same audit firm, 323 are mandatory auditor changes and the remaining 965 are voluntary auditor changes. Panel B of Table 14 shows the regression results. The coefficients of *C_both_M* are all significantly positive, while the coefficients of *C_firm_M* and *C_auditor_M* are significantly negative or insignificant. It indicates that after controlling for the endogeneity problem caused by voluntary auditor changes, the hypothesis still holds, that is, only companies that change the audit firm and all signing auditors together will fully disclose their CAMs.

Second, to exclude the possible influence of these reasons for auditor changes on the conclusions of this paper, we distinguish between auditor resignations and company dismissals for further analysis. The CSRC, Shanghai Stock Exchange, and Shenzhen Stock Exchange only required companies to make announcements when changing or renewing their audit firms. Changing signing auditors within the same audit firm is not required to be announced; therefore, it is difficult to identify the reason for the signing auditor changes. In addition, when companies move with their signing auditors to a new audit firm, there is no reason provided for the resignation of auditors. Hence, we distinguish between auditor resignations and company dismissals only for companies that change both their audit firm and all signing auditors together. Following Shu (2000), we manually collect the reasons for changing auditors from the companies' audit firm change announcements and identify reports containing phrases that might indicate auditor resignations (e.g., "audit firm resignation," "staffing constraints," "time conflicts," "no longer undertaking," "human resources," "unable to meet deadlines," "project scheduling," "staff scheduling," "heavy workload," "staff transfer," and "business volume") as auditor resignation samples and read each report manually. Finally, among the 1097 samples of *C_both*, we find 62 samples of auditor resignations and 949 samples of company dismissals. In addition, we exclude 86 samples with missing reasons for changes. Panel A of Table 15 shows the sample distribution. We generate two dummy variables: *Resignations* and *Dismissals*, where *Resignations* takes the value of 1 when the auditor changes reason is auditor resignation, and 0 otherwise, and *Dismissals* takes the value of 1 when the auditor changes reason is company dismissal, and 0 otherwise. Panel B of Table 15 shows the regression results. The coefficients of auditor resignations (*Resignations*) and company dismissals (*Dismissals*) are both significantly positive, indicating that the reasons for auditor changes do not affect our conclusion that companies that change the audit firm and all signing auditors together will adequately disclose their CAMs.

Third, changing the audit firm and all signing auditors together may lead to a loss of client-specific knowledge and hinder the new auditors' ability to identify problems in the financial reports. Thus, new auditors face more challenges and may disclose more CAMs, which reflects this unfamiliarity with their new clients. New auditors may disclose unimportant audit matters as CAMs, which may appear to increase the number and length of CAMs, but may not have the desired effect. Although this is possible, we believe that audit firms and auditors consider this potential risk early in the process of taking on new clients. Therefore, audit firms may assign auditors with industry expertise to serve these new clients to ensure the provision of high-quality audit services. Auditors with industry expertise have more experience, more knowledge, perform more efficient audits, and have lower knowledge learning costs relative to general auditors (Solomon et al., 1999). Therefore, they are less likely to be misled by management during the audit process because they are better able to detect misstatements and errors in their clients' financial statements (Gul et al., 2009), which results in adequate CAM disclosures (Chen et al., 2021) and higher-quality audit services (Mayhew and Wilkins, 2003). We generate a dummy variable for auditor industry expertise (*Specialist*), which takes the value of 1 as long as one of the signing auditors ranks in the top 25% of the ratio of audit fees to total audit fees in an industry, and 0 otherwise. We replace the dependent variable with *Specialist* and rerun the regression. The untabulated results show that the coefficient of *C_both* is significantly positive, indicating that companies that change the audit firm and all signing auditors together are more likely to hire new auditors with industry expertise. These auditors with industry expertise auditors are not only able to compensate for the loss of client-specific knowledge due to changes in auditors and provide high-quality audit services (Gul et al., 2009), but also have extensive experience in disclosing sufficient and appropriate CAMs (Chen et al., 2021). Therefore, we rule out the possibility that the auditor discloses more CAMs because of unfamiliarity with their clients' business, which enhances the credibility of the results of our theoretical analysis.

Fourth, we use a two-stage regression procedure to control for auditor change selection bias (Heckman, 1979). The untabulated results for auditor changes and disclosure of CAMs remain robust after controlling for auditor change selection bias.

Fifth, following Huang et al. (2015), we conduct a change analysis to overcome omitted variable problems and establish the causal relationship between auditor changes and disclosure of CAMs. Auditor changes accompanying a change in disclosing CAMs would suggest a causal relationship. The dependent variable and all control variables are taken as the difference in value between the current year and the previous year. The untabulated results suggest that the relationship between *C_both* and disclosing CAMs is likely to be causal.

Sixth, to further address the endogeneity problems arising from potential omitted variables, we additionally control for individual auditor characteristics, including the signing auditors' gender (*Gender*), which is measured as the proportion of female auditors to the total number of signing auditors; the signing auditors' degree level (*Degree*), which is measured as the proportion of auditors with a master's degree or higher to the total number of signing auditors; and whether the auditor is a partner (*Partner*), which is measured as the proportion of partners among the total number of signing auditors. The untabulated results show that the regression results remain consistent with the main regression after including the additional controls for these individual auditor characteristics.

Seventh, considering that the dependent variables are bounded by 0 and increase by steps, we use a negative binomial regression with the number of CAMs (i.e., *N*), the number of words in CAMs (i.e., *Words*), and the number of conclusive evaluations (i.e., *Conclusion*) as the

dependent variables. The untabulated regression results remain similar to the main findings.[1]

7. Conclusion

In contrast to previous research that studied signing auditor changes or audit firm changes from a single perspective, this study focuses on the impact of their interrelated changes. Using a sample of Chinese listed companies from 2016 to 2020, we distinguish three types of auditor changes to compare their impact on CAM disclosures with no auditor changes: the audit firm and all signing auditors change together, only the audit firm changes, and only the signing auditors change. Our findings show that only companies that change the audit firms and all signing auditors together tend to disclose more CAMs with longer texts and more conclusive evaluations. In identifying channels, we find that new auditors have greater independence, fresher insights, and work harder to improve the quality of CAM disclosures. The more adequate the CAM disclosures, the higher the audit and financial reporting quality and stock market pricing efficiency when companies change the audit firm and all signing auditors together. Moreover, companies that change audit firms and all signing auditors will have adequate CAM disclosures if they upgrade their audit firms. Finally, in the textual analysis, we find that companies are more inclined to disclose CAMs with explicit conclusive evaluations, clear attributions, and low text similarity when they change audit firms.

These findings reveal that when companies change their audit firm and all signing auditors together, auditor independence, professional competence, and perceived litigation risk increase, leading to more audit effort, adequate CAM disclosure, and higher audit and financial reporting quality, and stock market pricing efficiency. This study contributes to the literature on auditor changes and disclosing CAMs by providing the following essential policy implications. First, regulators and standard-setters could prescribe audit firm rotation based on strict enforcement of mandatory audit partner rotation to improve audit and financial reporting quality and stock market pricing efficiency. Second, because companies upgrading their audit firms tend to disclose CAMs adequately, audit firm size could play an essential role in disclosing CAMs and be an effective differentiation strategy. Thus, Auditing firms should be encouraged to become larger and stronger. Third, the format and content of disclosing CAMs are non-uniform; thus, auditors and clients should pay more attention to CAMs, and regulators should further standardize the disclosure requirements for CAMs. In specific implementations, auditors need to focus not only on the number and text length of CAMs but also on their conclusive evaluation, attribution classification, and text similarity, among other aspects, which would provide investors with more incremental information and further promote the reform of audit reporting practices. Fourth, although this study uses a Chinese sample, the findings can be extended to the global environment, especially as an increasing number of countries are beginning to disclose the partners' names, and it has become more feasible to measure auditor changes in terms of both audit firms and signing auditors. Thus, we call on countries to revisit auditor change activities and their potential economic consequences.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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[1] Due to space limitations, some tables in the robustness check are not reported. Please contact the authors if you need them.

Data availability

Data will be made available on request.

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