Disclaimer effect of key audit matters in China: negative press coverage and boilerplate

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Abstract

Purpose – Using China's key audit matters (KAMs) data, this study aims to examine whether negative press coverage alleviates boilerplate KAMs.

Design/methodology/approach – This study uses Levenshtein edit distance (LVD) to calculate the horizontal boilerplate of KAMs and investigates how boilerplate changes under different levels of the perceived legal risk.

Findings – The findings indicate that auditors of firms exposed to substantial negative press coverage will reduce the boilerplate of KAMs. This association is more significant for auditing firms with lower market share and client firms with higher financial distress. Additionally, the authors find that negative press coverage is more likely to alleviate the boilerplate disclosure of KAMs related to managers' subjective estimation and material transactions and events. Furthermore, the association between negative press coverage and boilerplate KAMs varies with the source of negative news.

Originality/value – The findings suggest that upon exposure to negative press coverage, reducing the boilerplate of KAMs has a disclaimer effect for auditors.

Keywords Key audit matters, Negative press coverage, Legal risk, Boilerplate, Auditing reports

Paper type Research paper

1. Introduction

Acknowledging the deficiencies of traditional audit reports, the International Audit and Assurance Standard Board (IAASB) introduced an expanded auditing report model. China Accounting Standard Board (CASB) adopted the expanded auditing report model and issued CSACPA 1504 in 2016, which became fully effective on January 1, 2018. The most

significant feature of the expanded auditing report model is that it requires external auditors to disclose key audit matters (KAMs) in audit reports to communicate the matters that auditors focus on the most. To motivate auditors to convey private information, they are encouraged to disclose KAMs using personalized wordings (CASB, 2016). However, KAMs are still disclosed using innocuous and standardized language, which impedes the communicative value of audit reports (Brasel *et al.*, 2016; Kachelmeier *et al.*, 2020). While the literature expresses concern with the boilerplate of KAMs, it finds that KAMs are not always boilerplate, as they sometimes provide risk-related information (Zeng *et al.*, 2021; Seebeck and Kaya, 2022). Current studies have begun to explore the internal reasons behind boilerplate KAMs disclosure (Yau, 2019; Minutti-Meza, 2021). Nevertheless, few studies examined the external factors that motivate auditors to disclose differentiated KAMs. This study investigates whether auditors regard the differentiated disclosure of KAMs as a disclaimer when clients are exposed to extensive negative press coverage.

The unique institutional background of China provides an opportunity to investigate the motivation behind differentiated KAMs disclosure. The legal environment of China's stock market is weak, albeit ever-improving. The news media compensates for the weak legal environment and plays a significant disciplining role in triggering regulatory action in China (Gong *et al.*, 2018; Kim *et al.*, 2019). Therefore, if the misstatement risk of clients is high, increased negative press coverage may heighten auditors' legal risk and impact their KAMs disclosure strategy. However, China has a strong uncertainty-avoidance culture that regard the difference as dangerous (Hofstede *et al.*, 2010). Therefore, Chinese auditors may be more inclined to use standardized wordings when disclosing KAMs. Nonetheless, Zeng *et al.* (2021) find that auditors in China do not always disclose boilerplate KAMs. Therefore, the motivation behind Chinese auditors' mitigation of the boilerplate of KAMs disclosure and the significance (or otherwise) of the role of negative press coverage in auditors' decision-making regarding KAMs disclosure is worth investigating. Moreover, the definition of KAMs and the guidelines of CSACPA No.1504 are similar to those of ISA No.701 issued by the IAASB. Therefore, the investigation of how KAMs are disclosed in China also provides evidence for standard setters on the effectiveness of ISA No.701.

Accordingly, this study uses behavioral decision theory and culpable control theory to investigate whether a differentiated disclosure of KAMs works as a disclaimer for auditors by examining the association between negative press coverage and boilerplate KAMs using China's data. We first use the Levenshtein edit distance (LVD) to calculate the horizontal boilerplate of KAMs in China from 2017 to 2020 and investigate how the boilerplate of KAMs changes under different levels of negative press coverage. The Chinese and English languages vary in their syntactic structure and idiomatic expression. Furthermore, the disclosure of KAMs is affected by culture (Kitiwong and Srijunpetch, 2019). Therefore, we analyze only Chinese auditors' reports.

According to the culpable control model, reporters' intent to avoid harmful outcomes decreases their blame attribution. Specific risk-based disclosure validates auditors' intention to conduct a quality risk-based audit to avoid harmful outcomes (Backof, 2015). Therefore, when legal risk is higher, auditors would disclose fewer boilerplate KAMs to decrease the assessment of auditors' liability over misstatements. As negative press coverage increases auditors' risk assessment (Gong *et al.*, 2018), we examine whether it reduces boilerplate KAMs. Moreover, based on behavioral decision theory, auditors should consider the legal risk (probability) and cost of losing customers (payoffs). As clients' negative press coverage and bankruptcy probability jointly increase auditors' perceived legal risk, and auditors' market shares affect the cost of losing customers, we also consider how clients' financial distress affects auditors' KAMs disclosure strategies.

Pinto and Morais (2019) explore the effect of clients' financial distress on auditors' KAMs disclosure but find that it did not significantly increase the volume of KAMs. We conjecture that clients' financial distress and extensive negative press coverage are mutually corroborated, further amplifying the salience of perceived legal risk to auditors. It is because negative press coverage will attract more attention to the financial distress of clients, thereby increasing the likelihood of auditors being litigated. Therefore, extensive negative press coverage coupled with the higher financial distress of clients will further encourage auditors to mitigate the boilerplate text to declare that they have been conscientious. Moreover, we examine the moderating effect of auditors' market share. Studies establish that clients' pressure will not magnify the disclaimer effect of KAMs (Asbahr and Ruhnke, 2019; Pinto and Morais, 2019). However, the impact of clients' pressure on auditors' KAMs disclosure may depend on market share. Auditing firms with lower market shares have more intensive motivation to maintain an amiable relationship with their clients than those with larger market shares, as the quasi-rent of an individual client is costly (DeAngelo, 1981). Although negative news increases auditors' perceived legal risk, instead of reducing the use of standardized wordings in KAMs disclosures, auditors could also choose to modify their auditing opinion or "vote by feet" by resigning from the auditing process to avoid liability. Notably, KAMs provide auditors with an avenue to legitimate their judgment of clients' accounting behaviors and communicate their diligence to investors with an unqualified auditing opinion. Therefore, auditors with lower market shares are more likely to mitigate the standardized languages in KAMs when their clients are exposed to negative press coverage. Additionally, we investigate whether the association between negative press coverage and the boilerplate of KAMs varies with the type of KAMs and whether the source of the negative press influences boilerplate KAMs.

This study makes several contributions. First, our investigation adds to the literature on the association between negative press coverage and auditors' behaviors, especially in the post-KAMs period. Studies demonstrate that the likelihood of auditors modifying audit opinion increases when clients are exposed to negative press coverage (Joe, 2003), either resulting from an increase in bankruptcy probability or perceived litigation risk (Mutchler *et al.*, 1997). Our findings suggest that besides modifying auditing opinion or resigning from an auditing task, auditors will mitigate the boilerplate of KAMs when clients are exposed to negative press coverage. Moreover, in response to the debate on whether the media in China could assume a disciplining role in the capital market (Djankov *et al.*, 2003; Gong *et al.*, 2018; Kim *et al.*, 2019), our findings provide evidence that negative press coverage changes auditors' decision on the disclosure of KAMs by increasing the perceived legal risk. Our study is based on the setting of China, a country with strong "avoidance uncertainty" culture (Hofstede *et al.*, 2010) and weak legal enforcement (Simunic and Wu, 2009). Our findings that negative news coverage compels auditors to reduce the boilerplate of KAMs in China provide useful insights into the role of media as compensation for the weak legal enforcement in the emerging market. We believe that our findings could also be generalized to countries with similar settings to China.

Second, our findings expand the literature on the influence of KAMs on auditors' liability. The current literature mainly studies the influence of KAMs on auditors' liability. For example, several studies have found that the KAMs disclosure related to the misstatement detected will subsequently diminish the perception of auditors' liability, resulting in boilerplate KAMs disclosure (Brasel *et al.*, 2016; Kachelmeier *et al.*, 2020). This study provides direct evidence on whether the perceived liability motivates auditors to mitigate boilerplate KAMs. Inconsistent with the boilerplate concern, Zeng *et al.* (2021) evaluate the textual similarity of the KAMs of Chinese companies and find that the

wordings of KAMs are not overwhelmingly standardized in China. To extend the study of Zeng *et al.* (2021) and in response to the boilerplate disclosure concern, we explore the motivation behind auditors' use of different wordings to present KAMs paragraphs.

Third, the literature holds that clients' pressure does not vary the "disclaimer effect" of KAMs (Asbahr and Ruhnke, 2019; Pinto and Morais, 2019). However, how it affects auditors' behavior depends on the market share of auditors. We contribute to the literature by considering the effect of different market shares of audit firms on auditors' KAMs disclosure.

Finally, this study is useful for standard-setters. It enhances the evidence of the "disclaimer effect" of KAMs. Additionally, our findings provide users of auditing reports with a better understanding of the factors that affect auditors' boilerplate KAMs disclosures.

2. Literature review

2.1 Negative press coverage and auditors' legal liability

The research on auditors' liability in developed capital markets validates that negative press coverage increases auditors' perceived litigation risk, which compels auditors to issue modified auditing opinions (Frost, 1991; Mutchler *et al.*, 1997). However, the restriction (or otherwise) of negative press coverage on auditors' liability in China remains controversial. Simunic and Wu (2009) claim that auditors' legal liability to investors is limited in China, where the legal environment is weak. Moreover, as the media is less independent in China, negative press coverage can hardly affect auditors' liability (Djankov *et al.*, 2003). Nevertheless, the institutional environment of China is ever-developing, and the administrative sanctions on auditors have been increasing since 2016 (Zeng *et al.*, 2021). News reports on finance and economics are increasingly independent in China (Chen, 2003). The negative news compensates for the weaker legal environment in China and will affect auditors' behaviors through reputation sanctions and regulatory actions (Zeng *et al.*, 2021). Gong *et al.* (2018) believe that the negative press coverage of clients will result in greater public and regulators' attention, which increases auditors' risk assessment. Therefore, how auditors respond to clients' negative press coverage in China remains an interesting issue, especially based on the expanded auditing report model.

2.2 Key audit matters disclosure and auditors' liability

There are mixed findings related to the influence of KAMs on auditors' liability. Some studies validate the disclaimer effect of KAMs; that is, the disclosure of KAMs decreases auditors' perceived liability for misstatements (Kachelmeier *et al.*, 2017). Using the US sample, Brasel *et al.* (2016) demonstrate that auditors' perceived liability decreases irrespective of whether the disclosed KAMs are related or unrelated to the subsequently detected misstatement. Kachelmeier *et al.* (2020) report a similar result for the sample regardless of whether the resolution paragraph is disclosed, reasoning that KAMs alert investors to the misstatement risk in areas with high uncertainty. According to the prior literature, the disclaimer effect of KAMs will affect auditors' behaviors. Asbahr and Ruhnke (2019) find that auditors regard KAMs as a vital means to legitimate their judgment when they are inclined to comfort clients' pressure. Pinto and Morais (2019) examine whether the volume of KAMs disclosed varies with different litigation risks and assert that auditors will increase the quantity of KAMs disclosed if they perceive higher litigation risks. Using an experimental study, Vinson *et al.* (2019) indicate that auditors' will disclose consistent KAMs through the years to decrease litigation risk. Chan and Liu (2022) argue that auditors will conduct more efforts and provide more accurate KAMs when they are subject to higher legal liability to avoid paying investors the damage arising from audit failure.

Conversely, using culpable control theory, Gimbar *et al.* (2016) argue that KAMs would increase jurors' perceived auditors' liability under precise accounting standards, regardless of whether KAMs are related to subsequent misstatement. As related KAMs indicate that auditors can foresee the negative outcome but fail to exert adequate effort to control the risk, unrelated KAMs would lead investors to question auditors' levels of professionalism as they miss significant accounting issues.

2.3 The communicative value of key audit matters

Supporters of audit reporting reform argue that KAMs change investors' behavior (Christensen *et al.*, 2014). KAMs guide investors' attention to matters that auditors focus on most in financial reports (Sirois *et al.*, 2018). Chan and Liu (2022) further prove that KAMs disclosure improves investment efficiency if auditors' legal liabilities are high. Seebeck and Kaya (2022) examined the communicative value of KAMs and established that KAMs' disclosures provide risk-related information. Kend and Nguyen (2022) find that KAMs provide valuable risk-related information on the COVID-19 pandemic. Hategan *et al.* (2022) further investigated the factors that influence the number of COVID-19-related KAMs, finding that the number of COVID-19-related KAMs increases with the auditors' size, the frequency of the event and going concern uncertainty. Moreover, KAMs enhance investors' perceived quality of financial reports (Elliott *et al.*, 2020; Hoang and Phang, 2020) and increase the credibility of audit work (Moroney *et al.*, 2021). Rautiainen *et al.* (2021) found that, for young professional auditors in Finland, KAMs enhance the credibility of audit work and provide valuable information to investors by increasing audit quality and efficiency. Upon conducting interviews with auditors, regulators and standard setters in Australia, Nguyen and Kend (2021) found that KAMs disclosure narrows but does not fully address the expectations gap.

However, empirical studies on the UK (Gutierrez *et al.*, 2018) and French (Bedard *et al.*, 2019) capital markets find that the behavior of investors does not significantly change after companies apply the KAMs audit reporting model. Lennox and Pittman (2011) argue that KAMs can hardly provide incremental information, as the information contained in KAMs disclosures in audit reports is also available from other resources. Brasel *et al.* (2016) opine that auditors will only disclose innocuous KAMs in auditing reports to avoid perceived liability, which hinders the communicative value of KAMs.

Fewer studies have been conducted on the communicative value of KAMs in China. Simunic *et al.* (2017) argue that China's weak legal environment makes the adoption of international audit standards to achieve the expected outcome. Liao *et al.* (2019) find that KAMs provide little company-specific information to investors in Hong Kong or mainland China. Conversely, Zeng *et al.* (2021) found that China's KAMs are not overwhelmed by boilerplate text. Liu *et al.* (2022) find that KAMs disclosures in China decrease the interest rate and increase the proportion of long-term debt by improving the information environment.

Most studies on the communicative value of KAMs are based on developed capital markets. Moreover, the mixed findings of the prior literature provide a murky picture of whether KAMs have communicative value in China. Therefore, determining the communicative value (or otherwise) of KAMs in China's unique institutional background remains noteworthy.

2.4 Key audit matters' boilerplate

The current literature has begun to explore the reasons behind boilerplate KAMs disclosures. Yau (2019) finds that auditors will set up a reporting template inside the

auditing firms and learn from experts' wordings, which leads to textual similarities in KAMs disclosures. Furthermore, Johnston and Zhang (2021) ascertain that larger-scale auditing firms with more standard auditing processes have more similar KAMs disclosures. Minutti-Meza (2021) analyzed the definition, content and sources of KAMs among different jurisdictions and conjectured that the auditing standards provided a little window for auditors to convey incremental information in KAMs. Therefore, auditors will likely disclose more boilerplate KAMs to meet the requirement instead of providing sensitive information. Moreover, because it is costly for auditors to disagree with clients' management, auditors are unwilling to disclose new information in audit reports (Minutti-Meza, 2021). Chen *et al.* (2020) examine the pricing of audit services in Hong Kong companies under the KAMs reporting model and find that auditing fees decrease if the KAMs are similar to those of their industrial peers. Zeng *et al.* (2021) investigate the characteristics of KAMs disclosures in China and observe that firms with more boilerplate KAMs disclosures are less likely to inflate earnings in financial reports.

Although the research based on the developed capital market validates that negative press coverage will affect auditors' behaviors, how auditors in China respond to negative press coverage, especially under the KAMs reporting model, remains an open question. Moreover, the literature reveals that legal risk will change auditors' disclosure of KAMs, and KAMs are not always boilerplate but still risk-related. However, current studies focus on the motivation behind boilerplate KAMs, and a few research works investigate the incentive of differentiated KAMs disclosure. Consequently, by examining whether the boilerplate of KAMs varies with negative press coverage in China's audit report reform, this study investigates the motivation of auditors to use more distinguished wordings in KAMs disclosure.

3. Theory and hypothesis development

3.1 Theoretical framework

3.1.1 Culpable control theory. According to counterfactual theory, individuals are inclined to view a negative event as predictable after it has occurred and blame others for the negative effects. Extending counterfactual theory, Alicke (2000) sets up the culpable control model, which states that evaluators will increase the assessment of actors' liability if actors can control the harmful outcome.

Furthermore, perceived control is driven by the actors' intention to minimize the potential negative outcome, the foreseeability of the event and the role in the causation of the event (Alicke *et al.*, 2008). Causation refers to actors' ability to avoid negative effects. Higher perceived causation leads to a higher perception of actors' liability. Foreseeability refers to whether actors can anticipate harmful outcomes. A higher level of foreseeability increases the evaluation of actors' liability. Investors will decrease the blame attribution to the individual in question if the actors intend to exercise appropriate and sufficient effort to avoid loss.

The risk-based reports validate auditors' intention to conduct a quality risk-based audit to avoid harmful outcomes (Backof, 2015). Additionally, Nelson and Pritchard (2016) find that whether or not firms provide boilerplate risk factor disclosures depend on the perceived legal risk. Similarly, KAMs disclosure amounts to risk-based disclosure (CASB, 2016). Therefore, we appraise whether auditors will differentiate KAMs disclosure to mitigate audit risk.

3.1.2 Behavioral decision theory. Hogarth's (1980) theory on judgment and choice conjectures that the environment affects decision-making. On account of the complex nature of the environment, actual decision-making is based on multiple conflicting goals

(Einhorn and Hogarth, 1981). Individuals must execute the trade-off using avoidance or compensatory strategies to resolve the conflicts.

If auditors assess the clients as high risk, they must execute the trade-offs between losing customers and being exposed to reputational damage (Pinto and Morais, 2019). Using the avoidance strategy, auditors could "vote by feet" to resign from the auditing process or issue a modified opinion (Frost, 1991; Mutchler *et al.*, 1997). By using the compensatory strategy, auditors should consider the risk of litigation (the probability) and the cost of losing customers (the payoffs), which will affect auditors' decisions on disclosing KAMs.

Above all, clients' negative press coverage and bankruptcy probability jointly increase auditors' perceived legal risk, and the auditors' market shares affect the cost of losing customers. Thus, our study considers the effect of negative press coverage on auditors' KAMs disclosure decisions and the moderating effect of clients' bankruptcy probability and auditors' market share.

3.2 Legal risk and differentiated key audit matters disclosure

Behavioral decision theory implies that auditors change their behavior to alleviate legal liability with the least cost of losing customers. Therefore, clients' negative press coverage could vary auditors' behaviors by increasing their perceived legal risk. According to the culpable control model, auditors' intent to perform a high-quality risk-based audit decreases their liability (Alicke *et al.*, 2008). KAMs disclose risk-based information. Specific risk-based disclosure validates auditors' intention to conduct a quality risk-based audit to avoid harmful outcomes (Backof, 2015). Therefore, disclosing fewer boilerplate KAMs when the legal risk is higher would be a rational compensatory strategy to decrease the assessment of auditors' legal liability over misstatements.

Negative press coverage would prompt auditors to decrease the perception of legal liability. Negative press coverage is a crucial external governance mechanism of the capital market, especially in emerging capital markets, such as China, where the stock market is inefficient and the information environment is inferior (Dyck and Zingales, 2004; Miller, 2006). First, negative news initially hinted at a mass of financial fraud cases following a legislative investigation of punitive bodies and investors' lawsuits (Kurtz, 2001; Miller, 2006). In China, the media plays a critical "whistle-blowing" role in corporate frauds, such as the financial accounting fraud of LeEco (Stock ID: 300104) [1]. Therefore, extensive negative press coverage of clients increases auditors' perceived legal risk. Second, when auditors fail to alert investors about matters that the mass media considers critical, regulators may question auditors' diligence and view the loss as evitable (Joe, 2003). Hence, negative press coverage increases the perceived foreseeability of auditors, making auditors more sensitive to legal risk. Subject to bad news, information providers are motivated to provide early warning to decision-makers to reduce the violation cost (Skinner, 1994).

The risk-based content in working papers will alleviate the perceived liability of auditors (Backof, 2015). Based on the culpable control model, the risk-based contents in working papers validate auditors' intention to conduct a quality risk-based audit to avoid harmful outcomes. Notably, KAMs disclosures could be considered as public risk-related audit working papers. CSACPA No.1504 requires auditors to disclose KAMs-related issues and how auditors resolve them. Therefore, KAMs directly link the risk and related audit procedure in auditing reports, which express auditors' intention to conduct a quality risk-based audit and decrease the perceived liability of auditors (Backof, 2015). The China Securities Regulatory Commission (CSRC) considers whether specific risk-based procedures are conducted to determine the negligence of auditors' work [2]. While modified audit opinion leads to a cost of losing customers, personalized KAMs provide auditors with an

avenue to legitimatize their judgment of clients' accounting behaviors and communicate their diligence to investors with an unqualified auditing opinion (Asbahr and Ruhnke, 2019). Hence, based on behavioral decision theory, auditors are likely to disclose more detailed KAMs to decrease the perception of legal liability with the least cost of losing customers. Moreover, owing to loss aversion (Kahneman and Tversky, 1979), auditors will exert more effort if clients are subject to extensive negative press coverage (Gong *et al.*, 2018), which will be disclosed in KAMs (Pinto and Morais, 2019) and decrease boilerplate KAMs. Accordingly, our primary hypothesis is as follows:

H1. Negative press coverage will decrease the boilerplate of KAMs.

Based on behavioral decision theory, auditors' behavior is driven by the probability of being sued and the cost of litigation. A higher probability of being sued will prompt auditors to decrease their perceived litigation risk. The higher financial distress of clients will increase auditors' probability of being sued (Lev, 1995), which will further compel auditors to search for a method of decreasing audit risk at the least cost of losing customers. Auditors are required to issue a going concern opinion if audited firms have substantial doubt in this regard. Camacho-Miñano *et al.* (2021) argue that KAMs provide auditors with a mechanism to alert investors to clients' financial distress and avoid the negative results of issuing a going-concern opinion. Therefore, clients' bankruptcy probability could enhance the association between negative press coverage and the boilerplate of KAMs.

A high risk of bankruptcy and extensive negative press coverage make the perceived legal risk more salient to auditors. According to Tversky and Kahneman (1973), decision-makers have an availability heuristic when estimating the probability: decision-makers overvalue the information that can be recalled but ignore other essential considerations. Therefore, upon exposure to extensive negative press coverage, auditors believe that clients with financial distress are more likely to file for bankruptcy. Moreover, auditors are likely to be sued when they fail to report the financial distress of clients, but the latter are confronted with bankruptcy (Lev, 1995). Therefore, auditors' perceived legal risk increases if clients with higher negative press coverage are mutually subject to financial distress, which compels auditors to expend more effort to review firms more thoroughly (Nelson *et al.*, 1988). Enhanced audit efforts increase specific audit procedures, which will be disclosed in KAMs (Pinto and Morais, 2019). Thus, we present the following hypothesis:

H2. The influence of negative press coverage on the boilerplate of KAMs is larger if clients are subject to higher bankruptcy probability.

3.3 Cost of losing customers
The implication of behavioral decision theory on auditors' behaviors is that auditors weigh between losing customers and legal liability. According to behavioral decision theory, avoidance and compensation are two strategies auditors could take to resolve conflicts. Taking the avoidance strategy, auditors directly choose to resign from audit work or modify audit opinions to avoid legal liability. Taking the compensatory strategy, auditors search for an avenue to mitigate audit risk with the least cost of losing customers. As discussed in *H1*, reducing the boilerplate of KAMs provides an avenue for auditors to decrease legal liability by avoiding the cost of a modified opinion, which accounts for a compensatory strategy. Auditors make behavioral decisions based on the cost of losing customers and legal risks. Therefore, we expect negative press coverage's effect on auditors' KAMs disclosures depends on auditors' market shares.

As auditing firms with more significant market shares have more reputational capital at stake and more quasi-rents to lose, they care more about legal risk than losing customers (DeAngelo, 1981). Therefore, if clients are exposed to extensive negative press coverage, auditing firms with more significant market shares can adopt an avoidance strategy by issuing a modified opinion or terminating the auditing to avoid legal liability (Frost, 1991; Mutchler *et al.*, 1997).

However, auditors with lower market share have minimal quasi-rents to lose. Thus, they are more intent on maintaining client relationships (Czerney *et al.*, 2015). A modified audit opinion is costly under client pressure. As the CSRC precludes firms with modified audit opinions from being listed in the A-stock market, to avoid being delisted, firms may dismiss auditors that are likely to issue a modified opinion, which mitigates the contract stability between auditing firms and clients (Liu *et al.*, 2013). Thus, when clients are subject to extensive negative press coverage, auditors need a method to rationalize their judgment to mitigate perceived legal risk (Asbahr and Ruhnke, 2019). Nelson and Pritchard (2016) find that firms reduce boilerplate of risk factor disclosures if the perceived legal risk increases. Similarly, the KAMs auditing report model enables auditing firms with lower market shares to personalize KAMs paragraphs rather than modifying audit opinions at the expense of losing customers. As the market share of auditing firms decreases, negative press coverage will increasingly mitigate the boilerplate text in KAMs. Accordingly, we state our hypothesis as follows:

H3. The influence of negative press coverage on the boilerplate of KAMs is larger if the auditing firm has lower market shares.

4. Research design

4.1 Sample selection

According to CSACPA 1504, only entities listed on the A and H stock markets were required to disclose KAMs in their audit reports covering the financial year ended December 31, 2016, and 2017. Other A-stock entities have been required to implement CSACPA 1504 since January 1, 2018. As the sample size of 2016 is smaller (only 91 auditing reports disclosed KAMs in 2016) and the first year of the policy implemented is not representative, our main tests include only the sample from 2017 to 2020, whereby 11,940 auditing reports disclose KAMs. Owing to the substantial differences in governance and performance systems compared with nonfinancial companies in China, 439 firm-year observations for financial companies are eliminated. We also exclude 4,234 firm-year observations with missing data. The remaining sample contains 7,267 firm-year observations. Table 1 shows the composition of our sample and the sample selection process. We obtain the textual data of KAMs, negative press coverage data from Chinese Research Data Services (CNRDS), and other financial statistics from the China Stock Market and Accounting Research database. To mitigate outliers, the continuous variables are winsorized at the top and bottom 1%.

Sample selection process	
Firm-year observations with KAMs (exclude the samples that are special treated) from 2017 to 2020	11,940
Less observations for financial enterprises	(439)
Less observations missing data	(4,234)
Final sample	7,267

Table 1.
Sample selection

4.2 Boilerplate measures
A frequently used boilerplate measurement approach is the vector space model (VSM) (Johnston and Zhang, 2021; Zeng *et al.*, 2021). However, a significant disadvantage of this method is that it only compares the similarity of keywords independently and fails to consider the sequential order and relation among the keywords in the passage. Koonce and Mercer (2005) indicate that variations in information content placement signal different levels of significance to investors. For example, "we find no abnormality" is more positive and certain than "no abnormality is found." Nevertheless, both presentations are the same under VSM, especially in Chinese, where "find" and "found" are the same.

We measure the boilerplate ($Sim\_lvd_{i,t}$) using LVD (see Appendix 2). LVD is a simple distance metric widely used to compare the similarity between two linguistic strings, such as by developing spelling checkers (Kukich, 1992) and examining the distance of immigrants' mother tongue in the labor market (Bousmah *et al.*, 2021). LVD is the number of minimum operations needed to change one string to another by deleting, inserting or substituting a character. Therefore, compared to VSM, LVD also considers the sequential order of keywords. Precisely, the boilerplate of KAMs is calculated using the following model:

$$LVD_{i,j} = 1 - \frac{Dist}{max(lenth1, lenth2)} \tag{1}$$

In equation (1), the max (lenth1, lenth2) is the length of the longer character string of KAMs [3]. *Dist* is the edit distance (number of minimum operations needed to change one text to another by deleting, inserting, or substituting a character) between the two texts. We first calculate the $LVD_{i,j}$ between KAMs of firm i and that of each firm j in our sample in year t. $Sim\_lvd_{i,t}$ is the average $LVD_{i,j}$ of firm i. The value of $Sim\_lvd_{i,t}$ ranges from 0 to 1, and a higher value indicates a higher boilerplate of KAMs.

4.3 Negative press coverage
Press is the proxy for negative press coverage, measured as the natural logarithm of one plus the number of negative press coverage the clients are subject to each year. We focus on general media coverage, including web and paper media. The negative press coverage data are obtained from CNRDS [4], which uses supervised learning models and takes the following steps to determine the news coverage tone of a given firm.

First, 23,970 randomly selected news articles are manually classified into three tones to construct the training data: negative, positive and neutral. The training data comprised 10,370 positive, 4,500 negative and 9,100 neutral news articles. Second, the test data are the texts of news articles in which a company's full name, abbreviation or stock code is mentioned for each firm-year. Third, the support vector machine obtains the classification model by learning the training data. Finally, the classification model is used to predict the tone of the test data. To test the precision of the news classification by CNRDS, we manually analyze the news content for randomly selected observations (see Appendix 3).

4.4 Multivariate model
To test *H1*, whether and how boilerplate KAMs vary with negative press coverage, we establish the regression model, where *Sim_lvd* is the dependent variable and *Press* is the independent variable of interest:

$$Sim\_lvd_{i,t} = \beta_0 + \beta_1 Press_{i,t} + \beta_2 Switch_{i,t} + \beta_3 Opin_{i,t} + \beta_4 MS_{i,t} + \beta_5 Loss_{i,t}$$
$$+ \beta_6 Size_{i,t} + \beta_7 Lev_{i,t} + \beta_8 DA_{i,t} + \beta_9 Mrr_{i,t} + \varepsilon_{i,t} \qquad (2)$$

We also control for company financial characteristics and auditing firm factors associated with the boilerplate of KAMs. Following Yau (2019), we control for various firms' characteristics that may influence the boilerplate of KAMs, such as firm size (*Size*), leverage (*Lev*) and profitability (*Loss*). Zeng *et al.* (2021) find that accounting quality increases with the boilerplate of KAMs, and auditors are more likely to issue an unqualified opinion given a higher boilerplate. Therefore, we also control for accounting quality (*DA*, the absolute value of discretionary accruals measured using the modified Jones model) and whether a qualified opinion is issued (*Opin*). Compared to low-scale auditing firms, large-scale auditing firms have more standard auditing processes; thus, auditing reports issued by larger auditing firms have a higher boilerplate of KAMs (Johnston and Zhang, 2021). As auditing firms with larger market shares are always big-scale in China, we control the market share of audit firms (*MS*). Yau (2019) holds that boilerplate KAMs result from the internal template of auditing firms, and KAMs are more boilerplates for a stable client-auditor relationship. Therefore, we control for auditors' change by including an indicator variable equal to 1 if the audit firm has changed from the prior year and 0 otherwise (*Switch*). Pinto and Morais (2019) argue that client pressure influences auditors' KAMs disclosures. Managerial opportunism motivates companies to exert pressure on audit firms' decisions (Davidson *et al.*, 2006). A high level of executives' shareholdings increases managerial opportunism, as managers holding shares are motivated to manipulate earnings to influence share prices (Nelson *et al.*, 2002). Therefore, *Mrr*, a proxy for executive shareholding, is also controlled. Appendix 1 contains variable definitions.

To test *H2*, we investigate whether the bankruptcy probability of clients will enhance the influence of negative press coverage on boilerplate KAMs. Referring to Altman *et al.* (2017), we calculate the *Z_score* using equation (3) to measure financial distress:

$$Z\_score = 1.21 \times \frac{WC}{Asset} + 1.4 \times \frac{RE}{Asset} + 3.3 \times \frac{EBIT}{Asset} + 0.6 \times \frac{Equity}{Liability} + \frac{REV}{Asset} \qquad (3)$$

In equation (3), *WC* is the working capital, which measures the net liquid asset of a firm. *RE* is the proxy for the financial leverage of a firm, measured as the retained earnings. *EBIT* is the earnings before interest and taxes. *Equity* divided by *Liability* measures the portion of firms' assets that could decline before the liability exceeds the assets. *REV* is the operating revenue of the firm.

We interact the *Z_score* with *Press* to develop equation (4). The item of interest is *Z_score* × *Press*. As a higher *Z_score* indicates a lower bankruptcy probability, a significantly positive coefficient of the interaction item indicates that the auditors of firms with higher bankruptcy probability and negative press coverage are more likely to mitigate the standardized languages in KAMs disclosure:

$$Sim\_lvd_{i,t} = \beta_0 + \beta_1 Press_{i,t} + \beta_2 Z\_score_{i,t} + \beta_3 Z\_score_{i,t} \times Press_{i,t} + \beta_4 Switch_{i,t}$$
$$+ \beta_5 Opin_{i,t} + \beta_6 MS_{i,t} + \beta_7 Loss_{i,t} + \beta_8 Size_{i,t} + \beta_9 Lev_{i,t}$$
$$+ \beta_{10} DA_{i,t} + \beta_{11} Mrr_{i,t} + \varepsilon_{i,t} \qquad (4)$$

To test *H3*, we interact *MS* with *Press* to develop equation (5) to investigate whether the association between negative press coverage and boilerplate KAMs is affected by the market

share of auditing firms. Referring to Defond *et al.* (1999), the market share of auditing firms (*MS*) is measured as the number of clients of the respective auditing firms divided by the total number of the listed companies. The percentage of clients' number captures the preferences of clients in auditor choice. It also captures the impact of a change in clients' number on auditors, giving the same weight to all the clients. Additionally, changes in clients' assets and revenue will lead to auditor switches (Johnson and Lys, 1990), which adds to the noise in our analysis. Moreover, in China, the audit market is concentrated on clients' assets and revenue but is relatively decentralized regarding the number of clients. As we mainly consider how auditors' KAMs disclosures are affected by the cost of losing customers, the percentage of clients is a direct measure suitable for our analysis. We also use the percentage of total assets, the percentage of clients' revenue and audit fees as the proxy for auditors' market share for the robustness test. The result is qualitatively the same. We mainly focus on the coefficient of the interaction item $MS \times Press$. This significantly positive coefficient indicates that auditing firms with lower market shares are more likely to differentiate the wordings in KAMs, given that clients are subjected to extensive negative press coverage. Introducing the interaction item into the regression model would lead to multicollinearity (Aiken and West, 1991). Following Aiken and West (1991), we centralize *Z_score*, *Press* and *MS* to avoid multicollinearity among *Z_score*, *Press*, *MS* and their interaction items $Z\_score \times Press$ and $MS \times Press$:

$$
\begin{aligned}
Sim\_lvd_{i,t} = \beta_0 &+ \beta_1 Press_{i,t} + \beta_2 MS_{i,t} + \beta_3 MS_{i,t} \times Press_{i,t} + \beta_4 Switch_{i,t} \\
&+ \beta_5 Opin_{i,t} + \beta_6 Loss_{i,t} + \beta_7 Size_{i,t} + \beta_8 Lev_{i,t} \\
&+ \beta_9 DA_{i,t} + \beta_{10} Mrr_{i,t} + \varepsilon_{i,t}
\end{aligned}
\tag{5}
$$

5. Empirical results

5.1 Descriptive statistics

Table 2, Panel A presents the distribution of negative press coverage by year. From 2017 to 2020, 6,914 firm-year observations are exposed to negative press coverage. The maximum number of negative news is 7,463 in 2017. A firm is exposed to 67.03 negative news annually between 2017 and 2020. Panel B of Table 2 describes all the continuous characteristic variables in our study. The mean of *sim_lvd* is 0.256, which suggests that, on average, the textual similarity of KAMs is as high as 25.6%. The maximum of *sim_lvd* is 0.324, meaning that there is a firm, whereof the KAMs wordings are 32.4% similar to those of other firms. Altman (2017) categorized firms with a *Z_score* above 2.617 as being free of financial distress (i.e., low financial risk) and severe financial distress with a *Z_score* below 1.81. According to panel B of Table 2, the median of *Z_score* is 2.651, thus indicating that at least 50% of our sample firms have low financial risk. However, the median of *MS* is 0.051, while the maximum is 0.159, which indicates that auditing firms have somewhat different market shares.

According to CSACPA 1504, auditors should consider whether the matters are with a high risk of misstatement, subjected to the high level of managers' estimation and related to material transactions and events before identifying the KAMs. Panel C of Table 2 displays the descriptive statistics for the textual similarity of different categories of KAMs. From 2017 to 2020, the auditors of 4,548 firm-year observations disclosed KAMs related to managers' subjective estimation, 882 about the high risk of misstatement and 2,738 related to material transactions and events. The KAMs related to the high risk of misstatement have the highest mean textual similarity, and the maximum value is approximately 0.57. Thus, we replace the dependent variable, overall boilerplate, with the boilerplate of the three

Table 2.
Descriptive statistic

Year	Observation	Average negative press coverage	Maximum negative press coverage
Panel A: Annual distribution of negative press coverage			
2017	1,303	114	7,463
2018	1,391	95	7,175
2019	1,626	51	2,693
2020	2,947	12	689
total	7,267	67.03	7,463

Panel B: Descriptive statistics of the continuous variables						
	Observation	Mean	Min	Max	Median	SD
Sim_lvd	7,267	0.256	0.118	0.324	0.262	0.036
Press	7,267	2.785	0	10.037	2.708	1.487
Z_Score	7,267	4.043	0.178	31.74	2.651	4.300
MS	7,267	0.061	0.003	0.159	0.051	0.047
DA	7,267	0.048	0	0.376	0.033	0.049
Mrr	7,267	0.042	0	0.643	0	0.097
Size	7,267	22.754	18.47	28.636	22.563	1.449
Lev	7,267	0.578	0.015	3.033	0.498	0.465

Panel C: Descriptive statistics for different types of KAMs						
			Textual similarity			
Type of KAMs	Observation	Mean	Min	Max	Median	SD
Manager's estimation	4,548	0.240	0.041	0.319	0.250	0.025
Misstatement risk	882	0.310	0.170	0.571	0.313	0.055
Material transactions and events	2,738 [7]	0.279	0.11	0.357	0.285	0.035

Notes: This table presents the descriptive statistics of dependent and independent variables. The dependent variable *Sim_lvd* is the proxy for the textual similarity, measured using the average *LVD* between the KAMs of the firm and that of any other firm. Panel A reports the distribution of negative press coverage by year. Panel B presents the number of observations, means and standard deviations of our sample's continuous variables. Panel C shows the descriptive statistics of textual similarity for different types of KAMs. All the variables are identified in Appendix 1

categories of KAMs, according to the above reasons, to reestimate equation (2) in the additional analysis and investigate whether the influence of negative press coverage on boilerplate varies with different types of KAMs.

Table 3 presents the Pearson correlation coefficients of the variables. The matrix shows that the highest coefficient is between *Size* and *Press* (54.25%), below 0.8. We calculate the variance inflation factors for each regression. The results are all lower than 10, thus indicating that the effect of multicollinearity is excluded. The matrix, as shown, also indicates some crucial relations between our primary hypotheses. The dependent variable *Sim_lvd* is negative and significantly correlated with *Press*, suggesting that our proxy for negative press coverage is related to the decline in boilerplate KAMs. *Sim_lvd* is also statistically positively related to both *MS* and *Z_score*, which indicates that auditing firms with larger market shares are more likely to standardize the KAMs. Moreover, auditors of firms with higher distress are more likely to mitigate the boilerplate of KAMs. It can be interpreted that auditors with larger market shares tend to standardize their KAMs. Suppose the perceived legal risk of auditors is increased either by negative press coverage or clients' financial distress. In that case, auditors opt to differentiate the wordings of KAMs disclosure to reduce their potential perceived liability. Additionally, the dependent variable *Sim_lvd* exhibits a pronounced correlation with several other control variables, including *Opin, Mrr* and *Size*.

Variables	Sim_lvd	Press	Z_Score	MS	DA	Opin	Switch	Mrr	Size	Lev
Sim_lvd	1									
Press	−0.3434***	1								
Z_score	0.0802***	−0.0944***	1							
MS	0.2278***	−0.1314***	0.0429***	1						
DA	0.0113	−0.0498***	0.0322***	−0.0147	1					
Opin	−0.0386***	0.0573***	−0.0203***	0.007	0.0852***	1				
Switch	−0.0023	0.0188	−0.0045	0.0013	0.0139	0.0169	1			
Mrr	0.1456***	−0.1705***	0.1469***	0.0963***	0.0597***	−0.0143	−0.013	1		
Size	−0.2311***	0.5425***	−0.2721***	−0.1235***	−0.1511***	−0.0291***	0.0077	−0.2774***	1	
Lev	−0.0039	−0.0148	−0.0093	−0.005	−0.005	−0.0018	0.0084	−0.0066	0.0007	1

Note: *** denote 1% significance level

Table 3.
Correlation matrix

5.2 Multivariate analysis

Table 4 presents the empirical results of our primary test. Clients' financial distress increases auditors' perceived legal risk, compelling auditors to expend more effort to review firms more thoroughly (Nelson *et al.*, 1988). Additional audit efforts and procedures would be reflected in KAMs and consequently reduce the boilerplate of KAMs. Moreover, large-scale auditing firms have more standard auditing processes than lower-scale auditing firms. Thus, reports issued by larger auditing firms have a higher KAMs boilerplate (Johnston and Zhang, 2021). Larger-scale auditing firms have larger market shares in China and, consequently, disclose higher boilerplate KAMs. As Z_score and MS may directly influence sim_lvd, we take three steps to measure the moderating effect of Z_Score, and MS. Table 4, Column (1), shows the results of equation (2) without Z_score. Table 4, Column (2) presents the regression results added Z_score. Table 4, Columns (3) and (4) present the regression results with the interaction items.

The coefficients of *Press* are all negative and statistically significant across Columns (1)–(4). The result suggests that auditors of firms exposed to extensive negative press coverage are more likely to differentiate the wordings in KAMs than those with less negative press coverage, which is consistent with *H1*. The coefficient of *MS* is also positive and significant in Column (1), suggesting that the KAMs reported by auditing firms with larger market shares are more standardized. The coefficient of *Z_Score* is significantly positive in Column (2), meaning that the KAMs of firms with a higher bankruptcy probability are less boilerplate. These results are consistent with our predictions and those of previous studies (Johnston and Zhang, 2021).

In Column (3), the coefficient of the interaction item $Z\_score \times Press$ is significantly positive (0.0001, *t-values* = 2.79). Since a higher Z_score indicates a lower bankruptcy

Variables	(1)	(2)	(3)	(4)
Press	−0.0020*** (−5.34)	−0.0021*** (−5.65)	−0.0025*** (−5.93)	−0.0031*** (−6.44)
Z_score		0.001** (2.31)	0.0002** (2.04)	
Z_score × Press			0.0001*** (2.79)	
MS × Press				0.0201*** (3.64)
MS	0.1228*** (5.32)	0.1263*** (6.25)	0.1239*** (5.46)	0.0697*** (4.18)
DA	−0.0201** (−2.53)	−0.0190** (−2.39)	−0.0212*** (−2.67)	−0.0204** (−2.58)
Opin	−0.0053 (−1.47)	−0.0026 (−0.72)	−0.0042 (−1.14)	−0.0054 (−1.50)
Switch	0.0017** (2.22)	0.0016** (2.06)	0.0017** (2.21)	0.0016** (2.14)
Mrr	0.0073* (1.82)	0.0099** (2.45)	0.0072* (1.79)	0.0075* (1.86)
Loss	−0.0006 (−0.43)	−0.0018 (−1.34)	−0.0003 (−0.23)	−0.0007 (−0.55)
Size	−0.0003 (−0.94)	−0.0008** (−2.34)	−0.0002 (−0.65)	−0.0003 (−0.80)
Lev	0.0000 (−1.42)	0.0000 (−1.52)	−0.0000 (−1.42)	−0.0000 (−1.45)
Industry fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Observations	7,267	7,267	7,267	7,267
R_square	0.305	0.297	0.306	0.307

Notes: This table presents the empirical results of our primary test. *Press* is the proxy for negative press coverage, measured as the natural log of one plus the number of negative press coverage of the firm in the fiscal year. *Z_score* is the proxy for financial distress, which refers to Altman (2017). *MS* is measured as the number of clients of the respective auditing firms divided by the number of listed firms. Other control variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. *, ** and *** denote 10, 5 and 1% significance levels, respectively

Table 4.
Effect of negative press coverage on boilerplate KAMs

probability, the result in Column (3) suggests that bankruptcy probability positively moderates the association between negative press coverage and boilerplate KAMs, supporting *H2*. The results indicate that the association between negative press coverage and boilerplate KAMs strongly depends on clients' financial distress. Compared to firms with a lower bankruptcy probability, the association between extensive negative press coverage and the KAM boilerplate is stronger for firms with a higher bankruptcy probability.

In Column (4), the coefficient of the interaction item $MS \times Press$ is positive and significant (0.0201, *t-values* = 3.64), meaning that the market share of auditing firms negatively moderates the association between negative press coverage and the KAM boilerplate. This result is in line with *H3*. The results indicate that the association between negative press coverage and boilerplate KAMs is affected by the market share of auditing firms. The influence of negative press coverage on KAMs' boilerplate is larger if the market share of auditing firms is smaller.

Regarding the control variables, the coefficients of *DA* are all significantly negative in Columns (1)–(4), meaning that clients' accrual earning management behaviors prompt auditors to mitigate the boilerplate of KAMs. It is possible because the accrual management behavior indicates a higher misstatement risk for clients and higher legal liability for auditors. Therefore, auditors will differentiate the wordings in KAMs to decrease the liability arising from clients' accounting misstatements detected, confirming our prediction that auditors will opt to mitigate boilerplate KAMs to decrease their legal risk. The coefficients of *Switch* are all positive and pronounced in Columns (1)–(4), meaning that if the signed auditors are changed in a specific year, more standardized language would be used to disclose KAMs. Additionally, the coefficient of *Mrr* is significantly positive, thus suggesting that auditors of firms with higher executives' shareholdings are more likely to standardize KAMs disclosure.

6. Robust test
6.1 The alternative measure for the boilerplate of key audit matters
6.1.1 Vector space model measure for the boilerplate of key audit matters. In this section, we recalculate the boilerplate of KAMs disclosure using the modified VSM referring to Brown and Tucker (2011). We use "Sklearn," a Python topic modeling tool, to calculate *Sim_vsm*. Precisely, the boilerplate of KAMs is calculated as follows:

- We use "Jieba," the Python Chinese words segmentation utilities, to separate all the KAMs documents. A professional accounting dictionary is imported to "Jieba" to enable it to discern the professional accounting vocabulary.
- We use the VSM model to transfer the segmentation into vectors and calculate the term frequency (*TF*) of term i in document j. $n_{i,j}$ is the number of terms i in document j. $n_{k,j}$ is the number of nonrepetitive terms k in document j. $\Sigma_k n_{k,j}$ is the total number of terms in documents:

$$TF_{i,j} = \frac{n_{i,j}}{\sum_k n_{k,j}} \tag{6}$$

- We use the term frequency-inverse document frequency (*TF_IDF*) model to assign weights to vectors, where M is the total number of KAMs documents and m is the number of documents, including term i. *IDF* is used to further down-weight the

Variables	(1)	(2)	(3)
Press	−0.0009** (−2.51)	−0.0006* (−1.69)	−0.0007* (−1.77)
Z_score		0.0002* (1.78)	
Z_score × Press		0.0001** (2.51)	
MS	0.0656*** (8.37)	0.1363*** (8.35)	0.0659*** (8.40)
MS × Press			0.0267*** (4.93)
DA	−0.0084 (−1.08)	−0.0079 (−1.02)	−0.0079 (−1.02)
Opin	−0.0021 (−0.60)	−0.0020 (−0.57)	−0.0013 (−0.36)
Switch	−0.0012 (−1.57)	−0.0011 (−1.45)	−0.0011 (−1.56)
Mrr	0.0241*** (6.10)	0.0239*** (6.05)	0.0247*** (6.24)
Loss	0.0039*** (3.04)	0.0041*** (3.22)	0.0035*** (2.65)
Size	0.0001 (0.21)	0.0000 (0.01)	−0.0001 (−0.42)
Lev	0.0000 (−0.38)	0.0000 (−0.35)	0.0000 (−0.41)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Observations	7,267	7,267	7,267
R_square	0.692	0.693	0.692

Notes: This table presents the results of equations (2), (4) and (5) using VSM to measure the textual similarity of KAMs. The dependent variables from Columns (1)–(3) are the textual similarity measured by the average textual similarity between the KAMs of the firm and that of other firms in our sample. All variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. *, ** and *** denote 10, 5 and 1% significance levels, respectively

Table 5.
Robust test (VSM measure for textual similarity)

common but insignificant words in the documents. If a word exists in every document, its *TF_IDF* equals 0:

$$TF\_IDF_{i,j} = TF_{i,j} \times log\frac{M}{m} \tag{7}$$

- We calculate the cosine distance for every two vectors in our sample and use the average value as the final textual similarity score for the KAMs disclosures. In equation (8), θ is the angle between v_i and v_j. "$\| \|$" is the sign of norm, which calculates the distance between two points in space. $\|v_i\|$ and $\|v_j\|$ are the lengths of the vectors v_i and v_j, respectively. "." is the dot product operation. *Sim_vsm* ranges from 0 to 1, with a higher value indicating a higher boilerplate of the KAMs:

$$Sim\_vsm_{i,j} = cos\theta = \left(\frac{v_i}{\|v_i\|}\right) \cdot \left(\frac{v_j}{\|v_j\|}\right) \tag{8}$$

After that, we replace *Sim_lvd* with *Sim_vsm* to reestimate equations (2), (4) and (5). The results are shown in Table 5. According to Table 5, the coefficient of *Press* is significant and negative in Column (1). The coefficients of the interaction items *Z_score × Press* and *MS × Press* are both significantly positive, qualitatively the same as the results in Table 4. Therefore, our findings do not vary with the measurement of the boilerplate.

6.1.2 Industrial-level boilerplate of key audit matters. Yau (2019) finds that auditors will follow industry audit experts' wordings in KAMs disclosures to improve audit quality. Moreover, Kitiwong and Srijunpetch (2019) conjecture that auditors from countries with uncertainty-avoidance cultures are more likely to disclose common industry KAMs because they believe that "what is different is dangerous." As China also has a strong uncertainty-avoidance culture (Hofstede *et al.*, 2010), auditors may also prefer to disclose common industry KAMs. Zeng *et al.* (2021) also find that the KAMs of firms in the same industry are highly boilerplate. Therefore, we recalculate the boilerplate by measuring the average LVD between the KAMs of one firm and another firm in the same industry and reestimate equations (2), (4) and (5).

The results are presented in Table 6. According to Column (1), the coefficient of *Press* is significant and negative (−0.0017, *t-values* = −3.98), and the coefficients of the interaction items *MS* × *Press* and *Z_score* × *Press* are both significantly positive (0.0243, *t-values* = 4.00; 0.0001, *t-values* = 2.41), which is consistent with the results in Table 4. Therefore, our findings do not vary with the boilerplate measurement.

6.2 The alternative measure for negative press coverage
We use the natural logarithm of one plus the number of negative news articles to measure *Press* in our main hypothesis. However, the impact of negative news on KAMs' similarity is hardly a monotonic one-for-one relation. To examine the validity of our results, we divide our sample into subgroups with higher and lower negative press coverage. *Pressdum* is an indicator variable equals to 1 if the firms' negative press coverage falls in the top tercile and 0 otherwise. Then, we replace *Press* by *Pressdum* to reestimate equations (2), (4) and (5). The results, which are consistent with our hypothesis, are presented in Table 7.

Variables	(1)	(2)	(3)
Press	−0.0017*** (−3.98)	−0.0030*** (−5.62)	−0.0021*** (−4.61)
Z_score		0.0001* (1.71)	
Z_score × *Press*		0.0001** (2.41)	
MS	0.1432*** (6.28)	0.0788*** (4.30)	0.1442*** (6.40)
MS × *Press*			0.0243*** (4.00)
DA	−0.0270*** (−3.09)	−0.0275*** (−3.15)	−0.0282*** (−3.22)
Opin	−0.0027 (−0.68)	−0.0028 (−0.71)	−0.0013 (−0.32)
Switch	0.0012 (1.46)	0.0011 (1.36)	0.0012 (1.46)
Mrr	0.0085* (1.92)	0.0087** (1.97)	0.0082* (1.86)
Loss	−0.0020 (−1.41)	−0.0022 (−1.55)	−0.0016 (−1.12)
Size	0.0004 (0.94)	0.0004 (1.10)	0.0005 (1.30)
Lev	−0.0023** (−2.36)	−0.0021** (−1.99)	−0.0024** (−2.52)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Observations	7,267	7,267	7,267
R_square	0.304	0.306	0.305

Notes: This table presents the results of equations (2), (4) and (5) using the alternative measure of textual similarity of KAMs. The dependent variables from Columns (1)–(3) are the textual similarity measured by average *LVD* between the KAMs of the firm and that of other firms in the given industry. All variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. *, ** and *** denote 10, 5 and 1% significance levels, respectively

Table 6.
Robust test (industrial level textual similarity)

Variables	(1)	(2)	(3)
Pressdum	−0.0128*** (−8.32)	−0.0142*** (−8.02)	−0.0150*** (−6.69)
Z_score		0.0001** (1.98)	
Z_score × Press		0.0009*** (3.90)	
MS	0.1517*** (7.14)	0.1525*** (7.22)	0.1484*** (6.16)
MS × Press			0.0153** (2.16)
DA	−0.0174** (−2.00)	−0.0183** (−2.10)	−0.0177** (−2.03)
Opin	−0.0175*** (−4.36)	−0.0161*** (−3.97)	−0.0176*** (−4.40)
Switch	0.0005 (0.54)	0.0004 (0.52)	0.0004 (0.51)
Mrr	0.0286*** (6.59)	0.0277*** (6.36)	0.0287*** (6.61)
Loss	0.0029** (2.02)	0.0035** (2.37)	0.0029** (2.01)
Size	−0.0037*** (−11.19)	−0.0035*** (−10.16)	−0.0037*** (−11.09)
Lev	−0.0001 (−0.43)	0.0000 (−0.42)	0.0000 (−0.27)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Observations	7,267	7,267	7,267
R_square	0.115	0.116	0.115

Table 7. Robust test (alternative measure for negative press coverage)

Notes: This table presents the results of equations (2), (4) and (5). *Pressdum* is an indicator variable equal to 1 if the number of negative press coverage of clients falls in the top tercile and zero otherwise. The dependent variables from Columns (1)–(3) are the textual similarity measured by average *LVD* between the KAMs of the firm and that of other firms. All variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. ** and *** denote 5 and 1% significance levels, respectively

6.3 The alternative measure for auditors' market share

Other frequently used measures for auditors' market share are the percentage of clients' assets, the percentage of clients' revenue and audit fees. Using audit fees to measure market share could capture the cost of losing customers to auditors (Defond *et al.*, 1999), and audit fees are correlated with clients' size (Simunic, 1980), which is usually measured using total assets or revenue. Therefore, we also use the percentage of clients' assets, the percentage of clients' revenue and audit fees to measure auditors' market share and replace the percentage of clients' number in equation (5). The results are shown in Table 8.

The percentage of clients' assets is the total assets of the clients of the audit firm divided by the total assets of all listed firms. The percentage of clients' revenue is the total revenue of the clients of the audit firm divided by the total revenue of all listed firms. The percentage of audit fees is the total revenue of the audit firm in a specific year divided by the total revenue of all audit firms. According to Table 8, the coefficients of the interaction items *MS × Press* are all significantly positive across Columns (1) to (3), which is consistent with our hypothesis. Therefore, our findings do not vary with auditors' market share measurement.

6.4 Drop the sample with the modified auditing opinion

As discussed above, we argue that when clients are exposed to negative press coverage, auditors' perceived legal risk will be increased, which compels auditors to mitigate the boilerplate of KAMs to declare that the risk of clients has been sufficiently heightened to investors and a sufficient resolution has been exerted to control the risk. However, besides differentiating the wordings of KAMs, auditors can also directly modify auditing opinion, especially when the reputation is given higher weight to the relationship with clients or the

Variables	(1) Percentage of clients' assets	(2) Percentage of clients' revenue	(3) Percentage of audit fees
Press	−0.0017*** (−2.95)	−0.0076*** (−3.57)	−0.0054*** (−8.51)
MS	0.0198 (1.48)	0.0407** (2.45)	4.1753*** (3.97)
MS × Press	*0.1066** (2.28)*	*0.0076** (2.36)*	*0.5469*** (3.21)*
DA	−0.0192** (−2.26)	−0.0139 (−1.62)	−0.0168 (−1.18)
Opin	−0.0075* (−1.91)	−0.0075* (−1.89)	−0.0042 (−0.85)
Switch	0.0007 (0.89)	0.0007 (0.83)	0.0022 (1.62)
Mrr	0.0278*** (6.55)	0.0300*** (7.01)	0.0063 (0.72)
Loss	0.0014 (0.98)	0.0019 (1.35)	0.0015 (0.60)
Size	−0.0002 (−0.49)	−0.0011*** (−3.03)	0.0007 (0.99)
Lev	0.0000 (−1.05)	0.0000 (−0.81)	−0.0001 (−0.04)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Observations	7,267	7,267	6,039 [8]
R_square	0.168	0.131	0.037

Notes: This table presents the results of equation (5) and Columns (1)–(3), respectively, using the percentage of clients' assets, the percentage of clients' revenue and audit fees to measure the market share of auditors. The dependent variables from Columns (1)–(3) are the textual similarity measured by average *LVD* between the KAMs of the firm and that of other firms. All variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. *, ** and *** denote 10, 5 and 1% significance levels, respectively

Table 8.
Robust test
(alternative measures
for auditors' market
share)

misstatement is certain. Therefore, the sample with modified auditing opinions may distort our empirical results.

Thus, we drop 78 firm-year observations with a modified auditing opinion and reestimate equations (2), (4) and (5). The results are reported in Table 9. According to Table 9, the

Variables	(1)	(2)	(3)
Press	*−0.0020*** (−5.18)*	*−0.0024*** (−5.81)*	*−0.0031*** (−6.43)*
Z_score		0.0002** (2.17)	
Z_score × Press		*0.0001*** (2.86)*	
MS	0.1247*** (5.43)	0.1254*** (5.52)	0.0687*** (4.10)
MS × Press			*0.0213*** (3.82)*
DA	−0.0217*** (−2.70)	−0.0230*** (−2.85)	−0.0222*** (−2.75)
Switch	0.0018** (2.44)	0.0018** (2.42)	0.0018** (2.35)
Mrr	0.0070* (1.73)	0.0069* (1.72)	0.0072* (1.80)
Loss	−0.0005 (−0.37)	−0.0004 (−0.27)	−0.0007 (−0.51)
Size	−0.0004 (−1.18)	−0.0003 (−0.92)	−0.0004 (−1.03)
Lev	−0.0002 (−0.44)	−0.0002 (−0.33)	−0.0002 (−0.33)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Observations	7,189	7,189	7,189
R_square	0.289	0.289	0.308

Notes: This table shows the results of equations (2), (4) and (5) for the sample, excluding firm-year observations with modified opinions. All variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. *, ** and *** denote 10, 5 and 1% significance levels, respectively

Table 9.
Robust test (drop the
sample with modified
opinion)

coefficients of *Press* across all columns are negative and pronounced. The coefficients of the interaction item *Z_score × Press* and *MS × Press* are significantly positive, consistent with our hypotheses.

6.5 Drop the sample of 2020

On December 28, 2019, the new revised Securities Law was deliberated and approved by China National People's Congress. The revised Securities Law came into effect in March 2020. A critical revision to the Securities Law is to manifest further the joint liability of intermediary organizations, including auditors and their function as the "watchdog" for the securities market. Moreover, according to the revised Securities Law, the penalties for auditors' negligence have been significantly increased. After 2020, the potential legal risk arising from negative press coverage is more likely to be realized, and auditors will be more sensitive to the perceived legal risk. Given that the implementation of the revised Securities Law improves the legal environment of China's securities market, the sample of 2020 may not be representative. Therefore, we drop the sample of 2020 and reestimate equations (2), (4) and (5). The results are shown in Table 10 and do not significantly vary from those in Table 4.

6.6 Instrumental variable estimation

An alternative explanation for the results in Table 4 is that the events that raise the attention of mass media will simultaneously raise auditors' concerns and compel them to mitigate the standardized wordings in KAMs. Therefore, a decrease in boilerplate KAMs may not ensue from negative press coverage, which will make our results spurious.

To solve the endogenous problem, instrumental variable estimation is used. We identify the proportion of nontraded shares (*Nontrade*) and the average industrial number of negative press coverage (*Average*) as the instrumental variables to undertake the two-state

Variables	(1)	(2)	(3)
Press	−0.0030*** (−5.64)	−0.0036*** (−6.19)	−0.0023*** (−3.61)
Z_score		0.0005 (1.58)	
Z_score × Press		0.0002*** (2.76)	
MS			0.0210 (0.66)
MS × Press			0.0180** (2.12)
DA	−0.0325*** (−2.82)	−0.0340*** (−2.95)	−0.0240** (−2.32)
Opin	−0.0023 (−0.58)	−0.0015 (−0.39)	−0.0014 (−0.41)
Switch	0.0029*** (2.77)	0.0029*** (2.75)	0.0022** (2.32)
Mrr	0.0177** (2.17)	0.0168** (2.06)	0.0026 (0.36)
Loss	−0.0042** (−2.00)	−0.0041* (−1.91)	−0.0023 (−1.23)
Size	−0.0009* (−1.74)	−0.0009* (−1.74)	−0.0001 (−0.17)
Lev	0.0073** (1.97)	0.0084* (1.90)	0.0051 (1.55)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Observations	4191	4191	4191
R_square	0.197	0.199	0.077

Table 10.
Robust test (drop the sample of 2020)

Notes: This table presents the results of equations (2), (4) and (5) for the sample excluding 2020. All variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. *, ** and ***denote 10, 50 and 1% significance levels, respectively

regression. *Nontrade* and *Average* are related to firms' negative press coverage (Dyck *et al.,* 2008) but are not associated with the boilerplate KAMs in auditing reports.

As the firms in industries with high negative press coverage are more likely to draw the media's attention, the average industrial number of negative news will affect the likelihood of the firms being covered by the media. However, the industrial negative press coverage may not change the KAMs' similarity to individual firms. Moreover, a larger proportion of traded shares will draw more public attention to the firms, increasing the likelihood of media coverage. Furthermore, in China, a large proportion of nontraded shares are state-owned due to the split-share structure reform. Although the mass media is increasingly independent, news censorship in China remains strict. China's Government will block negative news dissemination related to state-owned firms to counter the damage to its reputation (Hope *et al.,* 2020). Therefore, the proportion of nontraded shares will affect firms' negative press coverage. Accordingly, we introduce *Nontrade* and *Average* as instrumental variables. The results are shown in Table 11.

Column (1) of Table 11 shows the results of equation (2) using the ordinary least squares for comparability reasons. Column (2) presents the results of the first stage regression, where the dependent variable is *Press*. According to Columns (2) and (3), both *Average* and *Nontrade* are significantly related to *Press* but insignificantly associated with *Sim_lvd*. Therefore, *Average* and *Nontrade* are exogenous. The *p*-value of the over-identifying restriction test is 0.9378, indicating that *Average* and *Nontrade* are suitable instrumental variables. Moreover, the *F*-statistics of first-stage regression exceed 10, meaning that *Average* and *Nontrade* are not weak instrumental variables. Column (4) shows the results of the second-stage regression, where the dependent variable is *Sim_lvd*. The coefficient of *Press* in Column (4) is still significantly negative, which does not alter our previous conclusions.

7. Additional analysis

7.1 The boilerplate of different types of key audit matters

The analysis above is based on the boilerplate of KAMs regardless of their detailed content. According to CSACPA 1504, auditors should consider three matters when determining KAMs:

(1) matters with a high risk of misstatement;

(2) those subjected to a high level of managers' estimation; and

(3) those related to material transactions and events, which are also three reasons why auditors are mainly considered to identify KAMs (Zeng *et al.,* 2021).

Therefore, we classify the KAMs into three types based on these three reasons. We screen the keywords in the KAMs description paragraph to determine why auditors disclose certain matters as KAMs. The keywords we search for matters subjected to managers' estimation are "estimation," "uncertain," "judgement" and "assumption." In 4,548 KAMs reports, auditors claim that the KAMs are subjected to high levels of managers' estimation. In 2,738 KAMs reports, they mention matters related to material transactions and events, with keywords such as "qualitatively important," "key index" and "essential component." To identify the matters with a high risk of misstatement, we searched specific keywords, such as "misstatement," "fraud," "incorrect" and "earnings management", and only 883 KAMs mentioned them. We then recalculate the boilerplate within the groups disclosing the same category of KAMs to examine what types of KAMs auditors will opt to reduce the boilerplate to mitigate the legal risk when clients are exposed to negative press coverage.

Variables	OLS (1) Sim_lvd	(2) Press	IV (3) Sim_lvd	(4) Sim_lvd
Press	−0.0020*** (−5.34)		−0.0037 (−1.20)	−0.0036** (−2.12)
Average		0.8819*** (6.89)	0.0012 (0.46)	
Nontrade		−0.6116*** (−7.31)		
DA	−0.0201** (−2.53)	0.2269 (0.91)	−0.0204** (−2.56)	−0.0204** (−2.48)
Opin	−0.0053 (−1.47)	0.4777*** (4.25)	0.0063* (1.75)	−0.0035 (−0.97)
Switch	0.0017** (2.22)	0.0117 (0.50)	0.0016** (2.18)	0.0016** (2.15)
Mrr	0.0073* (1.82)	1.1951*** (8.00)	0.0050 (1.04)	0.0077** (1.99)
Loss	−0.0006 (−0.43)	0.2024*** (4.95)	−0.0009 (−0.71)	0.0000 (0.00)
Size	−0.0003 (−0.94)	0.4052*** (40.11)	−0.0011*** (−3.51)	0.0004 (0.44)
Lev	−0.0000 (−1.42)	−0.0002 (−0.36)	−0.0000 (−1.42)	0.0000*** (−5.92)
MS	0.1228*** (15.32)	0.6118** (2.46)	0.1238*** (5.42)	0.1223*** (4.74)
Industry fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
R_square	0.289	0.602	0.286	0.288
First-stage regression summary statistics		F-value = 123.94		
Test of overidentifying restriction		p-value = 0.9378		

Notes: This table reports the results of the analyses using two different instrumental variables. Column (1) shows the results of equation (2) using ordinary least squares (OLS). Columns (2)–(4) present the results of instrumental variable estimation. The dependent variable of Column (2) is $Press$, which is the proxy for negative press coverage. All variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. *, ** and ***denote 10, 5 and 1% significance levels, respectively

Table 11.
Robust test
(instrumental
variable)

The results are presented in Table 12. The dependent variables in Columns (1)–(3) are the boilerplate of KAMs related to managers' estimation and judgment (*Sim_est*), material transactions and events (*Sim_influ*) and high risk of misstatement (*Sim_misst*), respectively. The coefficients of *Press* are significantly negative in Columns (1) and (2) but not pronounced in Column (3), suggesting that when firms are exposed to negative press coverage, auditors will only mitigate the boilerplate KAMs related to managers' estimation and material transactions. The possible explanation is that auditors are required to issue a modified opinion if there is a known misstatement. However, there is always a situation where the misstatement is uncertain and hard to be detected, where auditors could heighten the risk in KAMs by mitigating the boilerplate. As for the KAMs related to the high risk of misstatement, auditors are more likely to issue a modified opinion rather than differentiating the boilerplate of KAMs. The accounting measurement of areas subjected to managers' estimation and judgment is more flexible, thereby increasing the difficulty for auditors to make an accurate judgment. Therefore, auditors are more likely to differentiate the wordings of KAMs related to managers' subjective estimation and judgment when perceiving higher legal risk from negative press coverage. The material transactions and events are quantitatively or qualitatively material for the financial statement. Therefore, to mitigate the perceived liability, auditors may opt to emphasize material transactions and events to the user of financial reports by mitigating the boilerplate of KAMs, hence declaring that they have exerted reasonable professional skepticism.

Variables	(1) *Sim_est*	(2) *Sim_influ*	(3) *Sim_misst*
Press	*−0.0020*** (−4.51)*	*−0.0025*** (−3.41)*	*0.0002 (0.07)*
DA	−0.0173* (−1.83)	−0.0075 (−0.49)	−0.0018 (−0.02)
Opin	−0.0025 (−0.77)	0.0059 (1.12)	0.0041 (0.13)
Switch	−0.0005 (−0.55)	0.0030** (2.07)	0.0134** (2.16)
Mrr	−0.0020 (−0.30)	−0.0042 (−0.41)	−0.1230 (−1.44)
Loss	−0.0035** (−2.15)	0.0019 (0.59)	−0.0074 (−0.64)
Size	−0.0021*** (−4.79)	−0.0000 (−0.02)	0.0004 (0.12)
Lev	−0.0068** (−2.22)	−0.0184*** (−3.76)	0.0060 (0.27)
MS	0.0402*** (4.40)	0.0818*** (5.11)	0.1701** (2.19)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Observations	4,548	2,738	882
R_square	0.153	0.176	0.531
Seemingly unrelated regression test	Observed difference = 0.005 *p*-value = 0.4989		

Notes: This table presents the empirical results of equation (1), which substitutes the dependent variable with the textual similarity of different types of KAMs. The dependent variables for Columns (1)–(3) are the textual similarity of KAMs related to managers' subjective estimation (*Sim_est*), material transaction and events (*Sim_influ*) and high risk of misstatement (*Sim_misst*), respectively. *Press* is the proxy for negative press coverage, measured as the natural log of one plus the number of negative press coverage of the firm in the fiscal year. Other control variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. The coefficients of *Press* in Columns (1) versus (2) are tested using SUR estimation, with the *p*-value reported in the last row. *, ** and ***denote 10, 5 and 1% significance levels, respectively, SUR = Seemingly unrelated regressions

Table 12.
Effects of negative press coverage on boilerplate for different types of KAMs

7.2 The source of negative press coverage
The analysis above treats the source of negative press coverage equally. However, the information from mass media is redundant. According to source credibility theory, recipients' acceptance of information varies based on the expertise of the communicators (Hovland and Weiss, 1951; Hovland *et al.*, 1953). The news reported by authoritative financial journals, such as the Top8 financial and economic journal and the Top20 financial web media, are explored by journalists with professional backgrounds based on careful investigation and are consequently of higher credibility to attract auditors' attention. Therefore, we predict that the negative news reported by more authoritative papers and web media will have a more pronounced influence on auditors' perceived legal risk. Consequently, we classify negative press coverage into three categories according to the source of news, which is Top8 financial and economic journals (*Top8_paper*) [5], Top20 financial web media (*Top20_web*) [6] and *Others*. We then reestimate equation (2).

The results are presented in Table 13. Among the 626,537 negative news in our sample, 18,243 are from the Top8 financial and economic journals, 386,332 are from the Top20 web media and 221,962 are from other mass media. According to Table 10, the coefficients of *Press* for the *Top8_paper* and *Top20_web* subgroups are negative and significant. However, in Column (3), the coefficient of *Press* is insignificant. Additionally, we use the seemingly unrelated regression model (SUR) to test the difference between the estimates of *Press* for the *Top8_paper* subgroup compared to the *Top20_web* subgroup and find that they are pronounced distinguished at the 1% level. The findings indicate that the news source influences the association between negative press coverage and the boilerplate of KAMs. Only the news reported by authoritative media, such as the Top8 financial and economic

Variables	(1) *Top8_paper*	(2) *Top20_web*	(3) *other*
Press	−0.0025*** (−4.62)	−0.0010*** (−4.72)	−0.0004 (−1.40)
DA	−0.0198** (−2.49)	−0.0198** (−2.49)	−0.0204** (−2.56)
Opin	−0.0054 (−1.50)	−0.0053 (−1.47)	−0.0061* (−1.69)
Switch	0.0017** (2.24)	0.0017** (2.20)	0.0017** (2.20)
Mrr	0.0061 (1.52)	0.0061 (1.52)	0.0062 (1.55)
Loss	−0.0008 (−0.64)	−0.0008 (−0.61)	−0.0010 (−0.73)
Size	−0.0005 (−1.30)	−0.0005 (−1.53)	−0.0011*** (−3.47)
Lev	−0.0000 (−1.41)	−0.0000 (−1.43)	−0.0000 (−1.38)
MS	0.1224*** (15.25)	0.1229*** (15.32)	0.1243*** (15.48)
Industry fixed effect	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Observations	7,267	7,267	7,267
R_square	0.305	0.305	0.303
Seemingly unrelated regression test	Observed difference = 0.015 *p*-value = 0.0000		

Notes: This table presents the empirical results focused on different sources of negative press coverage. The dependent variable for Columns (1)–(3) is *Sim_lvd*, which is the proxy for the overall textual similarity of KAMs. In Columns (1)–(3), *Press* is the proxy for negative press coverage reported by different sources: the top eight financial and economic journals, the top 20 financial web media and others. Other control variables are defined in Appendix 1. The industry fixed effect and year fixed effect are included. The variables of our interests are presented in italics. The coefficients of *Press* associated with top eight financial and economic journals and 20 financial web media in Columns (1) versus (2) are tested using SUR estimation, with the *p*-value reported in the last row. *, ** and *** denote 10, 5 and 1% significance levels, respectively

Table 13.
Effect of news sources on boilerplate KAMs

journal and Top20 financial web media, will compel auditors to mitigate the boilerplate of Negative press
KAMs. Moreover, the negative press coverage reported by the Top8 financial and economic coverage and
journal is more likely to raise auditors' concerns about audit risk. boilerplate

8. Conclusion

This study investigates what motivates auditors to differentiate the KAMs. We also try to investigate, in the unique background of China, how they respond to negative press coverage under the KAMs audit report model. We find that auditors regard differentiated KAMs disclosures as a disclaimer. When clients are subject to extensive negative press coverage, auditors will mitigate the boilerplate of KAMs to declare that they are diligent. The findings of this study also support that negative press coverage corroborates the financial distress of clients, which further compels auditors to mitigate the boilerplate of the disclosure of KAMs. We also find that how negative press coverage affects the wording in KAMs depends on the market share of the audit firm. While negative press coverage increases perceived audit risk, auditors from small auditing firms are more likely to mitigate the boilerplate of KAMs disclosure. This result implies that when auditors are more likely to compromise on clients, differentiated KAMs disclosure provides auditors with a means to legitimatize their judgment. Moreover, only authoritative mass media will affect auditors' KAMs disclosure. When auditors perceive an increased legal risk arising from negative news, they are more likely to mitigate the boilerplate of KAMs disclosures related to managers' estimation and material transactions. This result implies that, upon perceiving higher legal risk, auditors are more likely to differentiate the disclosure of KAMs related to the issues challenging for auditors to make accurate judgments or are quantitatively or qualitatively material for the financial statement.

The contributions of this study are as follows. First, our findings indicate that besides modifying auditing opinion or resigning from auditing work, auditors will mitigate the boilerplate of KAMs when clients are exposed to negative press coverage under the post-KAMs auditing model. Second, while current research mainly investigates the consequence of KAMs on auditors' liability and expresses concerns about the boilerplate of KAMs (Brasel *et al.*, 2016; Kachelmeier *et al.*, 2020), our study explores the motivation of auditors to use personalized wordings to present KAMs paragraphs. Unlike Vinson *et al.* (2019), who hold that the vertical similarity of KAMs disclosures decreases auditors' liability, we focus on the horizontal boilerplate of KAMs, finding that auditors will decrease the boilerplate of KAMs to mitigate legal liability. Furthermore, our findings extend the study of Chan and Liu (2022), which proves that higher auditors' legal liability will prompt auditors to provide more accurate audit reports. Our findings indicate that auditors will provide more tailored KAMs disclosure if auditors' legal liability is increased by negative press coverage. Inconsistent with the assertion of Gimbar *et al.* (2016), our findings prove that auditors differentiate the wordings of KAMs to express the intention to conduct a qualified risk-based audit. Third, Pinto and Morais (2019) see no evidence that clients' financial distress affects KAMs disclosures. Nevertheless, our findings show that negative news coverage coupled with the financial distress of clients will mitigate the boilerplate disclosure of KAMs. Moreover, the prior literature finds that clients' pressure does not vary the "disclaimer effect" of KAMs (Asbahr and Ruhnke, 2019; Pinto and Morais, 2019). We contribute to the literature by considering the different market shares of audit firms, thus establishing that auditors with smaller market shares are more likely to differentiate KAMs disclosures to avoid liability.

Our study is subject to several limitations. First, it does not consider whether the differentiated KAMs disclosure indicates more audit effort or just a method to legitimate

auditors' judgment. Second, we did not consider our hypothesis under different institutional backgrounds. Although negative press coverage increases auditors' perceived legal risk, the institutional background will affect auditors' likelihood of being sued. Simunic and Wu (2009) find that, in a weaker regulatory background where auditors are unlikely to be sued, audit reform hardly affects auditors' behaviors.

Accordingly, several future research directions have been identified. First, the revised Securities Law, which became effective after 2020 in China, further manifests the joint liability of auditors. Therefore, after 2020, the regulatory environment in China improved. A future study that can compare the association between negative press coverage and differentiated KAMs before and after 2020 would be valuable. Second, further research is needed to survey whether differentiated KAMs indicate more audit efforts. Additionally, our study focuses only on the motivation of auditors to differentiate KAMs. Further investigations on whether the differentiated KAMs are informative to investors will be significant in understanding the effectiveness of the expanded audit report model.

Notes

1. In 2016, LeEco reported severe financial distress, and several financial and economic media, such as Sina Net Finance, Tencent Finance and NetEase Finance, queried that LeEco had exaggerated its revenue. In 2017, several banks sued LeEco, requiring the freezing of its assets. In 2022, the CSRC published the form of decision for administrative sanction on ShineWing for its auditing in LeEco.

2. According to the CSRC sanction decision, Shinewing was found negligent, as it failed to conduct specific auditing procedures based on the risk assessment. See www.csrc.gov.cn/csrc/c101928/c2379115/content.shtml

3. In our study, the "character string" is the text of firms' current year KAMs. To calculate *Levenshtein edit distance* using Python, we first use "Jieba" to conduct the word segmentation and delete punctuation from the segmentation result. Therefore, after the word segmentation, each text of the firms' current year KAMs paragraph is a character string. The steps to calculate *Sim_lvd* are shown in Appendix 1 and Appendix 2.

4. CNRDS is an authorized database in China. It uses artificial intelligence to collect and process the news from about 400 web financial media and 600 paper media in China. The news coverage data from CNRDS are also classified into negative, positive and neutral using supervised learning models.

5. According to the classification by CNRDS, the top eight financial and economic journals in China are Shanghai Securities News, Daily Securities News, China Securities News, The Securities Times, 21st Century Business Herald, China Business News Daily, The Economic Observer and China Economic News.

6. The top 20 major financial web media are Hexun Net, Sina Finance, Tencent, East Money, Net ease, Phoenix Finance, China Economic Net, Sohu Finance, Huaxun net, FT China, China Securities net, CNFOL, P5W, Stockstar, The Paper, Caixin.com, Finance Net, VICAI and Finance 21CN.

7. Since auditors determine KAMs considering more than one reason, there is overlap among the three types of KAMs. Therefore, the total number of observations in Panel C is more than 7,267.

8. Because of the missing data for audit fees, we drop 1,228 firm-year observations in Column (3).

9. To help the reader better understand the measure of textual similarity using LVD, we translate the Chinese KAMs into English. Python enables us to calculate textual similarity using Chinese

texts directly. The results in Appendix 2 are based on Chinese texts. Because of the difference in syntactic structure between Chinese and English, the final result will vary.

10. The sentiment words are selected from Chinese financial sentiment dictionary (CFSD).

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Further reading

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Appendix 1

Variable	Description
Sim_lvd	The textual similarity of KAMs, measured by the average Levenshtein edit distance between the KAMs of the firm and that of other listed firms. We use "Jieba," the Python Chinese words segmentation utilities, to separate all the documents of KAM. A professional accounting dictionary is imported to "Jietba" to enable it to discern professional accounting Vocabulary. We delete punctuation and stop-words from the segmentation result. The stop-words are from the Chinese Stop-word List and Baidu Stop-word List. We use "Levenshtein," a Python topic modeling tool, to calculate *Levenshtein edit distance* ($LVD_{i,j}$) and use equation (2) to calculate the textual similarity of KAMs for firms i and j. We use the "Numpy" tool of Python to calculate the average $LVD_{i,j,}$ and the average value as the final *Sim_lvd*. *Sim_lvd* ranges from 0 to 1. The higher the *Sim_lvd*, the more similar of KAMs disclosure
Sim_est	The textual similarity of KAMs related to significant managers' judgment
Sim_influ	The textual similarity of KAMs related to significant transactions and events
Sim_misst	The textual similarity of KAMs related to the high assessment risk of material misstatement
Press	The negative press coverage, measured as the natural log of one plus the number of negative press coverage for the firm in the fiscal year
Top8_paper	Natural log of one plus the number of negative press coverage reported in the top eight financial and economic journal
Top20_web	Natural log of one plus the number of negative press coverage reported in the top 20 financial web media
Other	Natural log of one plus the number of negative press coverage reported in the mass media other than top eight financial and economic journals and the top 20 financial web media
MS	Market share of auditing firms, measured by the number of clients of respective auditing firms divided by the total number of listed companies
Z_score	The bankruptcy probability measured referring to Altman (2017)
DA	The absolute value of discretionary accruals using the modified Jones model
Opin	An indicator variable equals to 1 for a modified audit opinion and 0 otherwise
Switch	Change in audit firm from the prior year (1 if audit firm has changed, 0 otherwise)
Mrr	The proportion of executives shareholding
Loss	Indicator variable equals to 1 if the client firm's net income is negative and 0 otherwise
Size	The natural logarithm of total asset
Lev	Total liabilities divided by total equity
RE	The retained earnings
WC	The liquid asset of the firm
EBIT	Earning before interest and tax
REV	Operating revenue

Table A1.
Variable definitions

Appendix 2. The example of Levenshtein edit distance

(1) Sample KAMs disclosure.

Stock code: 600054

KAMs: Revenue

Description paragraph: The revenue of HSTD is mainly composed of garden development, cable car, hotel catering and accommodation and travel agency. The revenue for 2020 is ¥740,843.2. Since revenue is one of the key performance indicators, and there is the inherent risk of inaccurate amount and error period, we define revenue as a key audit matter.

Resolution paragraph: Execute a walk-through test on internal control of sales and receivables cycle and determination of control point; based on types of revenue and data, execute analytical procedures on revenue and gross profit rates to judge whether the amount of revenue for this period

is abnormal. Review whether the policies and detailed method of revenue reorganization are executed consistently. Compare whether financial and business statistics are consistent. Using sample inspection, check the support document of revenue to examine the occurrence identification. Check the revenue recognized before and after the balance sheet date, check the support document and examine the cutoff and existence identification. Through the above procedure, we do not find an abnormality in revenue.

Stock code: 600749

KAMs: Revenue

Description paragraph: The firm's revenue is mainly composed of travel service, gate receipts, tourism transportation, group meals and commercial operation. Since revenue is one of the key performance indicators, and there is an inherent risk, we define revenue as a key audit matter. Please refer to footnote 4 (20) and 6 (33) for financial reports: the accounting policies and amount of revenue.

Resolution paragraph: Check the effectiveness of the design and operation of internal control on different types of revenue. Review the policies, detailed method and the point of revenue reorganization. Get the detailed statement and gross profit analysis table, analyzing the rationality of the increase and decrease of revenue based on revenue types and financial reports. Get the evidence of revenue reorganization and execute a test of detail on different types of revenue. Focus on the new customers with material transactions and investigate whether there are related parties. Execute a cutoff test to investigate whether there is an interperiod recognition.

    (2)   The model of Levenshtein edit distance:

- We use "Jieba," the Python Chinese words segmentation utilities, to separate all the documents of KAMs. The professional accounting dictionary is imported to "Jietba" to enable it to discern 426 accounting and auditing professional words, such as goodwill impairment, revenue, account receivable, key audit matters, financial reports, accounting estimation and audit reports.
- We delete punctuation and the stop-words, such as "besides," "above all," "you," "we," "me," "she," "he" and "I", from segmentation result. The stop-words are from the Chinese Stop-word List and Baidu Stop-word List. The final results of word segmentation of the above KAMs samples are as follow:

600054
Revenue HSTD garden development cable car hotel catering accommodation travel agency revenue 2020 ¥740,843.2 revenue key performance indicator inherent risk inaccurate amount error period define revenue key audit matters

Execute walk-through test internal control sales and receivables cycle determination control point types revenue data execute analytical procedures revenue gross profit rates judge the amount revenue period abnormal. Review policies detailed method revenue reorganization executed consistently. Compare financial business statistics consistent sample inspection check support document revenue examine occurrence identification. Check revenue recognized before and after the balance sheet date check support document examine cutoff existence identification procedure do not find abnormality revenue

600749
Revenue firm are mainly composed with travel service gate receipts tourism transportation group meals commercial operation revenue, the key performance indicator inherent risk define revenue key audit matters foot-note 4 (20) 6 (33) financial reports. The accounting policies amount revenue
Check effectiveness design and operation of internal control on different types of revenue. Review policies detailed method the point of revenue reorganization. Get detailed statement gross profit analysis table analyzing rationality increase decrease revenue types financial reports evidence revenue reorganization execute test detail different types revenue. Focus on new customers material transactions investigate related party transaction cutoff test investigate interperiod reorganization

- We use "Levenshtein," a Python topic modeling tool, to calculate Levenshtein edit distance. We use the "Distance" method in the modeling tool to calculate the Levenshtein edit distance of the two texts. The edit distance is the least operations to transform the test of company A to that of company B by deleting, inserting or substituting. Using "Distance," the Levenshtein edit distance of the two texts is 285.
- We use equation (2) to calculate the textual similarity of KAMs. The maximum length of the two texts is 472 Chinese words [9]. Therefore, the computation of KAMs' LVD between the two firms (with stock codes 600054 and 600749) is as follows:

$$LVD_{i,j} = 1 - \frac{Dist}{max(lenth1\ lenth2)} = 1 - \frac{285}{max(472\ 316)} = 0.396$$

Appendix 3. The tone of press coverage

To verify whether the classification of news by CNRDS is accurate, we randomly selected the sample of firm-year observations and manually analyzed the content of news articles. First, we download all the news articles for five firms with the least news coverage from 2017 to 2020 using the link CNRDS provides. Therefore, there are 20 firm-year observations with 844 news articles. Four research assistants are trained to read the shuffled news and are required to classify the news reports into one of three tones that is positive, negative and neutral. We use Kappa-test to check the consistency between the results of manual analysis and the classification of CNRDS. The Kappa value is 0.810, above 0.75, meaning that the results of manual content analysis are substantially consistent with those from CNRDS.

Although the manual judgment of the tone of news is inevitably subjective, some negatively colored words indicate bad words (Table A2 shows a short list of negative and positive words). We also take the following measures to improve the accuracy of judgment. First, all research assistants are postgraduate students from business schools and are trained advanced to read financial news reports. Second, research assistants are told to classify the news as neutral unless relatively strong evidence validates the contrary. Third, the assistants also seek the advice of authors to determine the tone of news in case of doubt, which can also improve the consistency of our results.

To test the consistency of assistants' judgment, each assistant is given an extra 50 randomly selected and the same news articles. We require the assistants to classify these 50 news articles independently. We calculate the *Kendalls'w* to test the consistency of the classification results of the four assistants. *Kendalls'w* is 0.846 (p-value < 0.001), suggesting that the four assistants' judgments are highly consistent.

Sample of negative words

Terminate	Hard to	Abnormal	Abandon	Bitter	Arrogant	Bubble	Closed
Blindly	Cancel	Complain	Ashamed	Bad	Bear	Bias	Accident
Cannot	Burden	Backlog	Calamity	Blend	Accuse	Bulky	Betray

Sample of positive words

Boom	Clean	Contribute	Correct	Able	Brilliant	Authority	Charter
Top	Keep	Consistent	Be chosen	Adapt	Achieve	Accepted	Accurate
Ascend	Rank	Certainty	Convenient	Core	Considerable	Conquer	Active

Table A2
List of sentiment words [10]

Sample news reports

Positive news coverage

Company: Baosheng Group, Stock code: 600973

Headline: Baosheng Group ascended into the top ten cable industry for six years

Body: China Cable Industry Forum was convened in Shanghai. The topic of this forum is "hug the reform and plan the future" and unveiled the list of "top 10 firms of the cable industry." Baosheng ascended on the list and ranked second. It is the sixth year of Baosheng being on the list.
(Sohu Finance, 05/09/2019)

Negative news coverage

Company: Yinfei Storage, Stock code: 603066

Headline: Yinfei Storage terminated the material assets reorganization

Body: With the economic environment and capital market changes, the transacting parties believe it is hard to carry out the transaction based on the current scheme. After prudent discussion and negotiation, the transacting parties decide to terminate to purchase of the assets by issuing shares and paying cash. The company promises to hold an investor illustration meeting and will not plan any material assets reorganization within one month after the announcement. Previously, the company announced its plan to pay ¥0.45bn to acquire 100% equity of Huade storage.
(China Security, 09/01/2019)

Neutral news coverage

Company: Hebang Biology, Stock code: 603077

Headline: Hebang Biology plan to establish a second ESOP with less than 0.4 billion in funding

Body: Hebang Biology announced that the company plan to establish a second ESOP. The ESOP will finance less than 0.4 billion, including funds raised by employees of less than ¥0.2bn. The duration is 36 months and the lockup period is 12 months.
(China Security, 20/05/2019)

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