Detecting Informative Value in Key Audit Matters:

The Importance of Dissimilar KAM Risk Descriptions

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Abstract

Despite substantial efforts worldwide over the last decade to mandate the disclosure of Key Audit Matters (KAMs), the debate over their informative content continues, with most archival studies finding that KAMs have no or low informative value. We complement the literature by providing granular analyses of KAM content. We examine the informative value for capital markets of differences in the wording of KAMs for the same topic. Using a sample of listed firms in the United Kingdom, we hypothesize and find that auditors' KAM risk description disclosures are informative only if they simultaneously provide dissimilar information to both (a) the previous year and (b) industry peers. Our results are stronger when the firm is audited by an industry specialist, when investors face greater information asymmetries proxied by greater bid-ask spreads, and when there are more analysts following the firm. By providing evidence that temporal and cross-sectional dissimilarities in KAM communications provide useful information, this paper has practical implications for auditors and standard setters.

Keywords: key audit matters, investors' reactions, cumulative absolute abnormal returns, KAM dissimilarity, risk disclosure, auditor disclosure, textual analysis

1. Introduction

The obligation for auditors to identify and communicate Key Audit Matters (KAMs) is the most substantial shift in audit reporting over the last 70 years. Despite a decade of considerable efforts worldwide to mandate KAM disclosures, debate about the extent of their informativeness continues. Experimental studies show that KAMs have informative value for investors (e.g., Brasel, Doxey, Grenier, & Reffett, 2016; Christensen, Glover, & Wolfe, 2014; Pomeroy, Vitalis, & Young, 2024; Rapley, Robertson, & Smith, 2021), but most empirical research fails to find much information content in KAMs (e.g., Burke, Hoitash, Hoitash, & Xiao, 2023; Gutierrez, Minutti-Meza, Tatum, & Vulcheva, 2018; Lennox, Schmidt, & Thompson, 2022).[1] These mixed findings suggest there is a need to understand the conditions under which KAMs are informative.

Some researchers have assessed the informativeness of KAM features (such as number, length, and type) and content style (such as readability, tone, and specificity). However, their studies produce mixed results (e.g., Klevak, Livnat, Pei, & Suslava, 2023; Lennox et al., 2022; Seebeck & Kaya, 2022). We complement this literature by providing granular analyses of KAM content, to investigate whether and how differences in the wording of KAM disclosures are informative to investors.

Auditors are required to report Key Audit Matters (KAMs) in their audit reports to communicate the greatest risks of material misstatements encountered during an audit (FRC, 2013b). The purpose of this requirement is to enhance the communicative value of the audit report and help financial statement users to understand the firm and areas of significant management judgment (FRC, 2020). However, critics fear that KAMs are often boilerplate and

[1] There are a few exceptions that find that KAMs have some information content. Bens, Chang, and Huang (2019) document a reduction in bid-ask spreads and dispersion in earnings forecasts by security analysts, as well as improved financial reporting quality, after implementation of the expanded audit report in the United Kingdom, suggesting informative value in the expanded audit opinion. Similarly, Goh, Lee, Li, and Wang (2023) find higher abnormal trading volume and earnings response coefficients and lower stock price synchronicity after adoption of the expanded audit report in China.

lack incremental information content (Citi Research, 2014; Gray, Turner, Coram, & Mock, 2011; Mock et al., 2013).

Auditors use their professional judgment to identify KAMs, considering significant events, transactions, and/or internal control deficiencies specific to the audit concerned (FRC, 2013a). Each KAM consists of two parts: a description of the risk encountered, and details of the auditors' response and procedures performed to address that risk. We focus on the risk description rather than the auditors' response component of the KAM, since the risk description relates to client uncertainty and key risks and is more likely to satisfy the informational needs of market participants. Investors may not be familiar with audit procedures and are therefore more likely to ignore the auditors' response component of KAMs (Chang, Chi, & Stone, 2022).

Using textual analysis tools, we examine dissimilarity in the content of KAM risk descriptions. We argue that to be informative, these must be dissimilar in two dimensions, showing both temporal and cross-sectional variations. We define dissimilar KAM risk descriptions as those with wording differences for the same KAM topic compared to (a) the previous year and (b) all industry peers during the same fiscal year. We hypothesize and verify that to be informative, KAM risk descriptions must be dissimilar in both dimensions simultaneously. Figure 1 highlights the interplay between the two dimensions of dissimilar KAM risk descriptions.

[Insert Figure 1 here]

We hand-collect KAMs for a sample of premium non-financial firms listed on the London Stock Exchange (LSE) from 2014 to 2019. We use OLS regressions, with the four-day cumulative absolute abnormal returns around the annual report release date (from day -1 to day +2) as the dependent variable. KAMs are disclosed in the audit report, which is part of the annual report, and thus become publicly available on the annual report release date. We measure dissimilar KAM risk descriptions through two dissimilarity variables based on cosine similarity

scores (Brown & Knechel, 2016; Brown & Tucker, 2011). First, to capture temporal dissimilarity, we compare KAMs relating to the same topic and firm between years *t* and *t-1*. Second, to capture cross-sectional dissimilarity, we compare KAMs relating to the same topic and year between firms belonging to the same industry sector. Calculating dissimilarity for matched topics alleviates concerns about the influence of differences in underlying economic activities. We average the scores per firm and fiscal year for each dissimilarity variable, resulting in two measures at the firm-year level. Following prior literature, we control for factors likely to affect investors' reactions, such as firm profitability and risk, earnings news, financial information given in the annual report, and the number of days between the earnings announcement date and the annual report release date (Carcello & Li, 2013; Gutierrez et al., 2018; Lennox et al., 2022). We also include audit firm-related characteristics that could be associated with KAM dissimilarity, such as a change of auditor, the auditors' industry specialization, and their "busy season".

To ease the interpretation of our results, we use dummy variables equal to 1 if the dissimilarity scores are in the upper two terciles. We examine each dimension of dissimilar KAM risk descriptions first separately, then together, before considering their interaction effect. In line with prior literature failing to find informative value in KAM disclosures (e.g., Gutierrez et al., 2018; Lennox et al., 2022), we find that, taken separately, temporal, and cross-sectional dissimilarities in KAM risk descriptions are not incrementally informative for investors. However, when KAM risk descriptions are dissimilar in both dimensions simultaneously, i.e., compared to (a) the previous year and (b) industry peers in the same fiscal year, they are informative. Our results are consistent with prior literature finding that private information about the audit process (Arif, Kepler, Schroeder, & Taylor, 2022) and the expanded audit report, notably materiality disclosures (Gutierrez, Korczak, & Vulcheva, 2021), are valuable for

insiders. We complement these studies by showing that auditors' disclosures can also be valuable for external users.

To strengthen the validity of our results, we run several cross-sectional analyses. First, we divide our sample based on audit firm industry specialization. Audit firm industry specialists are supposed to have more knowledge about industry-specific risks (Lu, Wu, & Yu, 2017) and may thus use more specific words when describing the risk encountered as a KAM. We expect our findings to be stronger for firms audited by an industry specialist. We find results consistent with our expectations.

Second, we divide our sample based on the level of information asymmetry facing investors (high versus low). KAMs can be particularly useful for "audited entities where there are fewer sources of other information" (FRC, 2016). KAM disclosures can bring investors' attention to the matters identified and facilitate their analysis of the financial statements (PCAOB, 2016). We therefore expect dissimilar KAM risk descriptions to be of greater benefit to investors facing high information asymmetry. Our cross-section analysis, using bid-ask spreads as a proxy for information asymmetry (Corwin & Schultz, 2012; Peterson, Schmardebeck, & Wilks, 2015), produces results consistent with our expectations.

Third, we divide our sample based on the number of analysts following a firm. Our sample is composed of premium listed firms on the LSE, which are big firms followed by an average number of 11 analysts. Prior literature finds that KAM disclosures are useful for financial analysts by improving the quality of their forecasts (Bens et al., 2019; Dal Bem Venturini, Bianchi, Noguez Machado, & Paulo, 2022). We thus expect our results to be stronger for firms under higher coverage. We find results consistent with our expectations.

We perform several robustness checks to ensure that our results are not driven by design choices. First, we show that providing new KAMs over time or removing a KAM compared to the previous year is not sufficient to provide incremental information for market participants.

Second, we also use two continuous variables instead of the dummies for our dissimilarity metrics. Third, we compute the cumulative absolute abnormal returns over alternative event windows. Finally, we use another measure of dissimilarity based on the occurrence of words rather than their frequency.[2] Our results remain qualitatively unchanged.

This paper contributes to the accounting and auditing literature in several ways. First, it complements papers studying the informativeness of KAM disclosures for market participants. Although KAMs are supposed to enhance communication between auditors and users of the audit report (FRC, 2013b), prior literature studying various countries mostly finds that mandatory KAM disclosure is not informative (e.g., Burke et al., 2023; Gutierrez et al., 2018; Lennox et al., 2022; Liao, Minutti-Meza, Zhang, & Zou, 2022; Su & Li, 2020). We complement the existing literature by providing a granular analysis of the wording of KAM disclosures and by identifying the conditions under which they are informative. We find that KAM risk descriptions that are dissimilar in both dimensions simultaneously, i.e., compared to (a) the previous year and (b) industry peers in the same fiscal year, are informative.

Second, this paper contributes to the analyses of the informativeness of KAM features and content, such as length, number, topics, tone, and specificity, adding to the literature examining textual features of KAMs (e.g., Al-mulla & Bradbury, 2022; Rousseau & Zehms, 2023), and KAM similarity (Burke et al., 2023; Chen, Nelson, Wang, & Yu, 2023; Zeng, Zhang, Zhang, & Zhang, 2021). We contribute to this literature by examining the informativeness of dissimilar KAM risk descriptions, focusing on wording differences between KAMs concerning the same topic over time and across industry peers. Some researchers find that more extensive C/KAM disclosures, proxied by the number of C/KAMs, have informative value (Klevak et al., 2023; V. Li & Luo, 2023; X. Li, 2020), while others fail to find such evidence (Lennox et al., 2022; Seebeck & Kaya, 2022; Su & Li, 2020). In line with the latter, we find that providing a

[2] Occurrence means the appearance of the word, while frequency is the number of times a word appears divided by the total number of words in the text analyzed.

new KAM or removing a KAM from one year to the other is not sufficient to provide valuable information for market participants. Our research goes beyond this line of literature by showing that recurring KAMs have informative value and we emphasize that the wording of KAM disclosures matters. To be informative KAM disclosures must be sufficiently dissimilar over time and compared to the same disclosures of the firms in the same industry.

Third, this paper also contributes to the literature studying the informativeness of specific words in KAM disclosures (Anding, Blay, & Bozanic, 2022; Chang et al., 2022; Seebeck & Kaya, 2022). We examine the entire qualitative content of KAM risk descriptions, after removing some of these specific words that are purely functional. While Seebeck and Kaya (2022) fail to find qualitative components (such as organization, person, and location) in KAM disclosures to be informative, we provide a more granular analysis by focusing on all the other words and we identify the conditions under which they are informative. This paper is the first to examine the informativeness of KAM disclosures based on two dimensions: over time and across industry peers. We also complement the study by Chang et al. (2022) that examines the informativeness of client-specific KAMs based on the percentage of generic tetragrams of Chinese characters as well as the study by Anding et al. (2022) examining the lexical diversity of CAM disclosures in this sense.

Fourth, our findings extend the prior literature on risk disclosures (Beatty, Cheng, & Zhang, 2019; Elzahar & Hussainey, 2012; Hope, Hu, & Lu, 2016; Tan, Zeng, & Elshandidy, 2017) by focusing on disclosures made by auditors rather than managers. Risk disclosures are becoming less informative as managers disclose fewer material risks (Beatty et al., 2019). KAM disclosures provide a unique setting to examine risk-related information provided from the auditors' perspective, which should be less biased than the managers' perspective. A KAM communication requirement obliges auditors to disclose the matters representing the greatest risks of material misstatements, as identified during the audit process. Consistent with prior

literature examining the informativeness of the specificity of risk-factor disclosures (Hope et al., 2016), we find that dissimilar KAM risk descriptions are informative.

Fifth, this paper contributes to the literature on auditors' disclosures of additional information in their audit report (Czerney, Schmidt, & Thompson, 2019; Menon & Williams, 2010), and complements papers investigating investors' reactions to disclosures of internal control weaknesses (e.g., Hammersley, Myers, & Shakespeare, 2007; Ittonen, 2010). Although every industry has some inherent risks, to identify KAMs, auditors must consider significant events or transactions that have affected the audit specifically, such as internal control deficiencies (IAASB, 2015).

2. Prior Literature and Hypotheses Development

2.1. Institutional background to Key Audit Matters

Mandatory disclosure of Key Audit Matters (KAMs) was introduced to improve communication between auditors and audit report users (FRC, 2013b). The traditional audit report states a binary opinion (qualified or unqualified) on a firm's financial statements. It is highly standardized and has long been criticized for providing little client-specific information (e.g., Christensen, Neuman, & Rice, 2019; Church, Davis, & McCracken, 2008; Gray et al., 2011; Mock et al., 2013; Vanstraelen, Schelleman, Meuwissen, & Hofmann, 2012). The recent move towards required KAM disclosures results from a demand for more informative audit reports.

The addition of KAMs to auditors' reports has given rise to what is known as the "extended audit report". KAMs represent the greatest risks of material misstatements encountered during the audit process. Auditors identify them by professional judgment, considering significant events, transactions, and/or internal control deficiencies specific to their audit engagement. An extended audit report may include multiple KAMs, each one presented

in two parts: the first describes the risk encountered, and the second details the audit procedures performed in response.

The first disclosures of risks of material misstatements, the precursors of KAMs (FRC, 2013a), were made by the auditors of premium listed firms on the London Stock Exchange (LSE) in annual reports for years ending on or after September 30th 2013.[3] Other countries soon followed, and KAMs are now reported worldwide: in the European Union, Hong Kong, Singapore, New Zealand, and Australia since 2016 (AASB, 2015; HKICPA, 2016; IAASB, 2015; ISCA, 2016; NZ AASB, 2015), in China since 2017 (Chinese MoF, 2016), in Canada since 2018 (CPA, 2018), and in the United States (US) since 2019, under the name Critical Audit Matters (CAMs) (PCAOB, 2017).

2.2. Informativeness of C/KAM Disclosures

Before CAM reporting requirements were introduced in the US, several experimental studies examined investors' perceptions of CAM disclosures, with mixed results. Although CAMs have been found to decrease the readability of the audit report, CAM disclosures have not been shown to affect investor valuation judgments (Carver & Trinkle, 2017). On the contrary, most experimental research finds that CAM disclosures are informative to investors, who may adjust their investment decisions based on CAMs. The heightened risks of material misstatements reflected in CAM disclosures have been found to forewarn investors, especially when misstatements are difficult for them to foresee (Brasel et al., 2016; Christensen et al., 2014; Rapley et al., 2021). However, this effect is mitigated when auditors explain how they addressed the matters reported (Christensen et al., 2014). Similarly, KAM disclosures in

[3] Except in France, where auditors have had an obligation to disclose justifications of assessments in expanded audit reports since 2003 (Bédard et al., 2019).

Australia improved perceived value and credibility, but only when the auditor is a non-Big 4 firm (Moroney, Phang, & Xiao, 2021).

After the implementation of KAM disclosures, several researchers examined the consequences of this regulatory change on the market. Their results were mixed. In France, the mandatory "justifications of assessments" (JOAs) disclosed by auditors were not informative for investors, to judge by abnormal returns and abnormal trading volume (Bédard, Gonthier-Besacier, & Schatt, 2019).[4] Most researchers failed to detect any impact of mandatory KAM disclosures on investors' decisions through the study of cumulative absolute abnormal returns and trading volume in the United Kingdom (UK) (Gutierrez et al., 2018; Lennox et al., 2022) and the US (Burke et al., 2023). Examining signed cumulative abnormal returns in the UK similarly fails to bring out any KAM impact on investors' decisions (Lennox et al., 2022). Other studies have found similar results in Asia: KAM regulations impact neither cumulative absolute abnormal returns in China (Gu & Ncuti, 2020), nor cumulative absolute abnormal returns, trading volume, or bid-ask spreads in Hong Kong (Liao et al., 2022).

Some papers, however, report that KAMs are informative to market participants. The introduction of KAM disclosures in the UK has been shown to lower bid-ask spreads and dispersion in security analysts' earnings forecasts (Bens et al., 2019), as well as to reduce stock price crash risk (D. Li, Xing, & Zhao, 2022). In mainland China and Hong Kong, KAM disclosures increase abnormal trading volume and earnings response coefficients and decrease stock price synchronicity (Goh et al., 2023). Additionally, in China, KAM disclosures increase listed companies' cost of capital, a proxy for investors' risk perception (Zhou, 2019). Comparing CAM and KAM disclosures, a recent study shows that KAMs are incrementally informative compared to CAMs (Nylen, Wangerin, & Zehms, 2023).

[4] JOAs were introduced in France in 2003, to enhance the informative value of audit reports. They are part of French expanded audit reports and present matters that were important in the audit, but JOAs differ from KAMs in that auditors are not required to explain why these matters are important (Bédard et al., 2019).

These mixed results suggest that there is a need to understand the conditions under which KAMs are informative. Some researchers have begun to address this question by focusing on certain features of KAM disclosures such as their number, length, topic, tone, and specificity. In the US, firms with more extensive CAM disclosures (longer and more CAMs, and more audit procedure descriptions) have lower market returns around the Form 10-K filing date (Klevak et al., 2023). The presence of a CAM also provides incremental information to equity investors (V. Li & Luo, 2023). In China, a higher number of KAMs and the proportion of quantitative information disclosed in KAMs leads to more institutional investors withdrawing from the firm (X. Li, 2020). However, in Taiwan, the number of KAMs does not provide informative content to investors (Su & Li, 2020), while client-specific information in KAMs, captured through the percentage of generic tetragrams, is associated with lower reporting quality (Chang et al., 2022). In the UK, an unexpected number of KAMs, negative tone and uncertainty words in KAMs, new KAMs, KAM readability, length, and number are not incrementally informative to the market (Lennox et al., 2022; Seebeck & Kaya, 2022), but specificity, as reflected in specific words used in KAMs (such as locations, names, currency, percentages, date, etc.) are informative (Seebeck & Kaya, 2022).[5] In the US, distinct and more diverse CAMs are also found to be informative to sophisticated market participants (Anding et al., 2022). Focusing on business combination CAMs in the US, Abbott and Buslepp (2022) find that investors react more negatively to merger and acquisition announcements when a business combination CAM is disclosed before the announcement, suggesting that this type of CAM is informative.

[5] Our measure of dissimilar information is different from the one used by Chang et al. (2022) and by Seebeck and Kaya (2022). We focus on the content of the risk disclosures after removing the generic words (stop words) for the same type of risk (same KAM topic) to capture differences in KAM risk descriptions provided by auditors. Finally, this paper is the first to examine the informativeness of dissimilarities in KAM risk descriptions over time and between industry peers.

2.3. Hypotheses Development

The mixed results regarding the informativeness of KAMs could be driven by several factors. First, researchers use different research designs (Chang et al., 2022) and proxies to capture the informativeness of KAM disclosures. Second, although KAM regulations are broadly similar worldwide, differences in the specific disclosure requirements, and socio-economic differences between the countries studied, could explain the mixed results found in the KAM literature (Chang et al., 2022; Velte & Issa, 2019). Third, cultural differences can affect aspects of auditors' work such as objectivity (Svanberg & Öhman, 2016) and involvement (Bik & Hooghiemstra, 2017), and this may explain differences in KAM disclosures and their informativeness.

Although auditors are encouraged to write KAMs in their own words, critics fear that KAM disclosures use boilerplate language that lacks incremental information content (Citi Research, 2014; Gray et al., 2011; Mock et al., 2013). Moreover, audits are credence goods (Causholli & Knechel, 2012), so auditors could strategically engage in herding behavior and write boilerplate KAMs. One recent study based on interviews with audit partners in the US finds that auditors do indeed engage in herding behavior when writing CAMs, and deliberately avoid "sticking out" for fear of attracting the regulators' attention (Dannemiller, Doxey, Hoang, & Houston, 2022).

Prior literature finds that KAM disclosures are informative when they use certain specific words (Chang et al., 2022; Seebeck & Kaya, 2022). We complement these papers by examining differences in the wording of KAM risk descriptions, focusing on the entire KAM content after removing the "specific words" (i.e., numbers, currencies, dates, locations, names, etc.). In this paper, we examine whether dissimilarity in the wording of KAMs is informative.

Examining temporal dissimilarity in KAMs produces a measure that is a change measure by design, reflecting new information disclosed (Brown & Tucker, 2011). Prior

literature finds that dissimilarity between the Management Discussion and Analysis (MD&A) sections of a firm's annual report in two successive years is positively associated with the magnitude of stock price responses to 10-K filings (Brown & Tucker, 2011). This result suggests that new information in the MD&A compared to the previous year is informative to investors. This temporal dissimilarity metric can be used for other types of disclosures that are narrative, repetitive, and contain discretionary content, such as KAMs. Moreover, since auditors have access to a wide set of private information and are bound by a duty of independence, disclosures made by auditors may be seen as more credible than management's risk disclosures (Lennox et al., 2022). Temporal dissimilarities in KAM risk descriptions may thus be informative to investors.

However, KAMs are purely qualitative disclosures and may consist of boilerplate content devoid of informational value (Citi Research, 2014; Gray et al., 2011; Mock et al., 2013). Prior literature finds that financial statement footnotes referenced by a CAM in the US were more similar to the CAMs in 2019 than 2018 (Burke et al., 2023). This supports the explanation that auditors avoid providing original information, or that managers and auditors wish to disclose the same information. Moreover, prior literature finds that quarter-over-quarter similarity in earnings press releases is associated with lower financial analyst uncertainty (Bozanic & Thevenot, 2015). This finding suggests that similarity in disclosures over time reinforces previously disclosed news and helps reduce uncertainty. Dissimilarity in risk disclosures could thus increase investors' confusion about the firm's underlying risks.

Given these conflicting arguments, the question of whether temporal dissimilarities in KAM risk descriptions are informative to investors remains open. We state our first hypothesis as follows:

H1: Temporal dissimilarities in KAM risk descriptions are not incrementally informative to investors.

Focusing on cross-sectional dissimilarity in KAM risk descriptions, prior literature shows that non-standard audit reports, such as going concern opinions in the US, are informative when they are unexpected (Menon & Williams, 2010). In their KAM disclosures, auditors should explain the greatest risks of material misstatements encountered during the audit process that required them to exercise the most professional judgment (FRC, 2013b). Through KAMs, auditors can disclose unexpected risks and/or update investors' beliefs about the firm's financial reporting quality (Gutierrez et al., 2018). Although every industry has some inherent risks, when identifying KAMs, auditors should consider significant events or transactions that have affected the audit specifically. Prior literature finds that client-specific language in CAM risk descriptions that differs from CAM disclosures by industry peers reflects heightened risks of material misstatements (Chen et al., 2023). Cross-sectional dissimilarity in KAM risk descriptions is thus likely to be informative to investors.

However, dissimilarity in disclosures reduces comparability with peers, and comparability has been shown to improve the informativeness of stock prices (Choi, Choi, Myers, & Ziebart, 2019). Additionally, prior literature shows that client firms with similar financial disclosures are drawn to similar audit firms (Brown & Knechel, 2016). As mentioned previously, auditors are likely to make similar disclosures to managers, especially when a KAM refers to financial statement footnotes (Burke et al., 2023). If auditors use similar wordings to management disclosures in the financial statements, KAM disclosures are likely to be boilerplate for industry peers and thus lack incremental information content. Moreover, auditors may refrain from disclosing client-specific information that is too different from disclosures published for the client's peers, to protect themselves against litigation risks or for fear of being inspected (Dannemiller et al., 2022). Finally, if auditors lack the expertise to provide accurate disclosures with a proper context, their KAM communication may confuse financial statement users (Carver & Trinkle, 2017). If this is the case, cross-sectional dissimilarities in KAM risk

descriptions are unlikely to be informative to investors. Given these conflicting arguments, we state our second hypothesis as follows:

H2: Cross-sectional dissimilarities in KAM risk descriptions are not incrementally informative to investors.

Examining the two dimensions of dissimilarity in KAM risk descriptions separately may not be informative to market participants but examining them jointly is more likely to provide valuable information. KAMs for a given firm may be dissimilar in consecutive years while being like disclosures made in peers' reports. In such cases, they are unlikely to provide unexpected information about idiosyncratic industry-specific risks that address investors' needs for risk-related information. Conversely, if KAM disclosures by a firm are similar in consecutive years but dissimilar to those of industry peers, they are unlikely to provide valuable information to investors. KAM disclosures that are dissimilar in both dimensions simultaneously are thus most likely to address investors' needs for risk-related information and provide valuable content. However, as detailed previously, if KAM risk descriptions are boilerplate, or do not reflect the firm's underlying economic risk, they are unlikely to be informative. We state our third hypothesis as follows.

H3: KAM risk descriptions showing both temporal and cross-sectional dissimilarities are incrementally informative to investors.

3. Research Design and Sample Selection

3.1. Research Design

We capture investors' reactions with the four-day cumulative absolute abnormal returns around the annual report release date (from day -1 to day +2) (Gutierrez et al., 2018; Lennox et al., 2022). Cumulative absolute abnormal returns capture the market reaction following publication of the annual report and indicate whether the market finds dissimilar KAM risk

descriptions informative. KAMs are disclosed in the audit report, which is included in the annual report, and thus become publicly available on the annual report release date. We measure our dependent variable, *ABS_CAR*, following Gutierrez et al. (2018).[6] We compute abnormal returns as the firm's stock returns minus the same-day returns for the FTSE 100 value-weighted portfolio.[7] We then sum the four-day absolute values of abnormal returns around the annual report release date. The annual report release dates and earnings announcement dates are taken from the RNS on Capital IQ and www.lse.co.uk/rns.[8]

We measure differences in KAM risk descriptions using two dissimilarity metrics based on cosine similarity scores (Brown & Knechel, 2016; Brown & Tucker, 2011). The dissimilarity score equals one minus the similarity score. Higher scores indicate greater dissimilarity. First, to capture temporal dissimilarities (*CONTINUOUS_TIME_DISS*), we compare KAMs relating to the same topic and firm between years *t* and *t-1*. Second, to capture cross-sectional dissimilarities (*CONTINUOUS_PEERS_DISS*), we compare KAMs relating to the same topic, industry SIC-1-digit, and year. Calculating dissimilarity within topics alleviates concerns about differences in firms' underlying economic activities. We allocate each KAM to a topic based on the words in the title.[9] We average the scores for all comparisons per KAM to obtain a dissimilarity score at the KAM level.

We then average the scores per firm and fiscal year for each dissimilarity variable, to arrive at two firm-year level dissimilarity scores. To ease the interpretation of our results, we

[6] For clarity, we omit time and firm subscripts when mentioning variables in our paper.
[7] The FTSE 100 index consists of the 100 LSE-listed firms with the highest market capitalization. These firms represent about 80% of the LSE's total capitalization. This index is a widely used summary indicator for the UK stock market (Gutierrez et al., 2018).
[8] We collected annual report release dates manually from the regulatory announcement section of the firms' websites when they were missing or when there were mistakes in the data. When the annual report release date is not available, we use the Annual General Meeting (AGM) date or notice of AGM date (Gutierrez et al., 2018).
[9] Results are qualitatively similar when we include unique KAM topics coded as fully dissimilar (e.g., a KAM topic only occurring for one firm in an industry-year, a KAM topic not disclosed in the previous year for the same firm, or a KAM topic that has been dropped from year *t-1* to year *t* for the same firm).

use dummy variables equal to 1 for the two upper terciles of each dimension of dissimilarity. Details of the calculation of the dissimilarity scores are provided in Appendix 1.

We test our hypotheses with the following OLS regressions:

$$\begin{aligned} ABS\_CAR_{i,t} = {} & \alpha_0 + \alpha_1 DUMMY\_DISSIMILARITY_{i,t} + \alpha_2 LENGTH_{i,t} \\ & + \alpha_3 NB\_KAM_{i,t} + \alpha_4 ABS\_CAR\_EA_{i,t} + \alpha_5 MKT_{i,t} + \alpha_6 ROA_{i,t} \\ & + \alpha_7 CHNI_{i,t} + \alpha_8 MTB_{i,t} + \alpha_9 LOSS_{i,t} + \alpha_{10} LEVERAGE_{i,t} \\ & + \alpha_{11} SALES\_VOL_{i,t} + \alpha_{12} BETA_{i,t} + \alpha_{13} LAG_{i,t} + \alpha_{14} ACHANGE_{i,t} \\ & + \alpha_{15} BUSY_{i,t} + \alpha_{16} ISP_{i,t} + IndustryYearFE + AuditFirmFE + \varepsilon_{i,t} \end{aligned} \quad (1)$$

$$\begin{aligned} ABS\_CAR_{i,t} = {} & \beta_0 + \beta_1 DUMMY\_TIME\_DISS_{i,t} \\ & + \beta_2 DUMMY\_PEERS\_DISS_{i,t} + \beta_3 DUMMY\_TIME\_DISS_{i,t} \\ & * DUMMY\_PEERS\_DISS_{i,t} + \sum \beta_i \, Controls \\ & + IndustryYearFE + AuditFirmFE + \varepsilon_{i,t} \end{aligned} \quad (2)$$

The dependent variable is the four-day cumulative absolute abnormal returns around the annual report release date, denoted by *ABS_CAR*. We first examine each dimension of dissimilarity separately (Equation 1). The coefficient of interest is α_1 which represents the variables *DUMMY_TIME_DISS* and *DUMMY_PEERS_DISS* respectively to test Hypotheses 1 and 2. We then examine their interaction effect to test Hypothesis 3 (Equation 2). The coefficient of interest is β_3.

The two equations include the same set of control variables. We control for the length of the KAM risk description (*LENGTH*) and the number of KAMs disclosed (*NB_KAM*) (Alves Júnior & Galdi, 2019; Klevak et al., 2023; Zhou, 2019). Following prior literature, we control for factors affecting investors' reactions (Carcello & Li, 2013; Gutierrez et al., 2018; Lennox et al., 2022). We collect firm characteristics from Thomson Reuters Eikon. The variables related to firm riskiness and profitability include total market value (*MKT*), return on assets (*ROA*),

profitability (*LOSS*), market-to-book value (*MTB*), leverage (*LEVERAGE*), sales volatility (*SALES_VOL*), change in net income (*CHNI*), and the firm's beta (*BETA*). To capture earnings news and financial information provided in the annual report, we control for market reactions around the earnings announcement date (from day -1 to day +2) (*ABS_CAR_EA*) and the number of days between the earnings announcement and audit report release dates (*LAG*). Prior literature finds that there is little reaction to 10-K reports when earnings are announced beforehand (E. X. Li & Ramesh, 2009). We also include audit firm characteristics that may be associated with the wording of KAMs, such as audit firm rotation (*ACHANGE*), the auditors' "busy season" (*BUSY*), and audit firm industry specialization (*ISP*) (Carlé, Pappert, & Quick, 2023). To further alleviate concerns that investors' reactions may be a response to other information released in the annual report, we remove observations relating to annual reports released on the same day as earnings are announced.

We include industry-year and audit firm fixed effects to account for unobservable differences between industry-years and audit firms. We also cluster standard errors by client firm to control for potential correlation within firms. We winsorize all continuous variables at the 1st and 99th percentiles to mitigate the impact of outliers. All variables are defined in Appendix 2.

3.2. Sample Selection

Our sample consists of premium listed firms on the London Stock Exchange (LSE) from 2013 to 2019, the longest sample period possible.[10] Table 1, Panel A presents the sample selection process. The initial sample consists of 4,594 premium listed firm-year observations on the LSE from 2013 to 2019, for 823 unique client firms. We remove client firms belonging

[10] We restrict our sample up to 2019, as the Covid pandemic affected firms' risks and the audit process starting from 2020.

to the financial industry (SIC 6000-6900) because their risks and accounting structure are different from non-financial firms (2,602 firm-year observations). We further eliminate observations with unavailable annual reports or KAM disclosures (87 firm-year observations).[11] We remove observations with a fiscal period other than twelve months and missing annual report release dates and/or earnings announcement dates (13 firm-year observations).

For the temporal dimension of dissimilarities in KAM risk descriptions, first-year KAMs cannot have a score. This further reduces our sample by 337 firm-year observations, and the final sample relates to the 2014-2019 period. We also remove observations for firms whose earnings are announced the same day as the annual report is released, as this results in the same dependent and control variables for *ABS_CAR* and *ABS_CAR_EA* (79 firm-year observations). Finally, we eliminate observations with missing control variables (225 firm-year observations). Our final sample consists of 1,251 firm-year observations from 306 unique client firms, resulting in 4,545 KAMs from 2014 to 2019. We present the number of firms and KAMs per year in Table 1, Panel B.

[Insert Table 1 here]

The distribution of KAM topics in our sample is shown in Table 1, Panel C. We identify 17 categories of KAMs based on their titles. The two most frequent KAM topics are "Revenue Recognition" (16.330%) and "Valuation of Intangible Assets" (16.170%). We believe that our allocation of KAM topics is representative and consistent with the significant risks reported by auditors in Europe since ISA701.[12]

[11] Using a web scraping technique, we retrieved annual reports from the following three websites: annualreport.com, data.fca.org.uk, and Capital IQ. Some annual reports were downloaded manually from the firms' websites.

[12] The two largest KAM topics for European firms in 2019 are "Asset Impairment and Recoverability" (24.2%) and "Revenue and Other Income" (17.2%), according to the Audit Analytics database https://blog.auditanalytics.com/an-overview-of-kams-2019/, last accessed on November 24th 2023)

4. Empirical Results

4.1. Descriptive Statistics

Table 2 presents the descriptive statistics and correlation matrix for the main variables in Panels A and B, respectively. There are more variations in the dissimilarity scores within firms than in the dissimilarity scores between industry peers, with standard deviation and amplitude standing at 0.219 and 0.985 for *CONTINUOUS_TIME_DISS*, and 0.054 and 0.466 for *CONTINUOUS_PEERS_DISS*, respectively.[13] KAM risk descriptions are 66 words long on average (natural logarithm: 4.120), with a standard deviation of 25 words. The minimum length is 16.7 words (natural logarithm: 2.813), and the maximum is 147.2 words (natural logarithm: 4.992). Auditors report three to four KAMs on average, with a minimum of one and a maximum of eight.

[Insert Table 2 here]

Investors react more to earnings announcements than to the release of the annual report (average *ABS_CAR* and *ABS_CAR_EA* of 0.072 and 0.111, respectively). On average, firms release their annual report 29 days after announcing their earnings (mean of the variable *LAG*). The firms in our sample are large, with an average market capitalization of 1.163 billion GBP (average *MKT* 20.874). Although they have low profitability, with an average *ROA* of 0.054, and an average change in net income of 0.002 (mean of the variable *CHNI*), only 14% reported a loss during our sample period. Our sample firms have an average market-to-book ratio of 3.297 and are mostly financed through debt, with an average leverage ratio of 58%. They are generally low-risk firms, with an average sales volatility of 11.9% and an average *BETA* of 0.848. The majority (93%) of the firms in our sample are audited by a Big 4 audit firm, and about half of them have a fiscal year-end in December (the average for the *BUSY* variable is

[13] The amplitude is calculated as the maximum minus the minimum value displayed in the descriptive statistics.

56.1%). About 11.7% of the firms experienced a change of auditor during our sample period (*ACHANGE*), and 19.8% of the audits were performed by auditors specializing in the client firm's industry (*ISP*).

Panel B of Table 2 presents the Pearson's correlation and Spearman's rank correlation coefficients in the upper- and lower-triangular cells, respectively. The dummies for the two dissimilarity measures are not highly correlated (correlation coefficient: 0.093). Both are positively correlated with *ABS_CAR*, but negatively correlated with *ABS_CAR_EA*. The correlation coefficients are however small. The two variables *ABS_CAR* and *ABS_CAR_EA* are negatively correlated with *MKT, ROA, CHNI,* and *MTB,* but positively correlated with *LOSS, SALES_VOL, BETA*, and *ACHANGE.* The two variables *ROA* and *LOSS* are naturally inversely correlated (with coefficients of -0.638 and -0.594 for the Pearson's and Spearman's rank correlation respectively, that are not statistically significant). Overall, the correlation coefficients do not raise any multicollinearity concerns.

4.2. Main Results

We report our main results in Table 3. We first provide the regression results for the control variables only, in Column (1). We then provide separate results for the two dimensions of dissimilarity in KAM risk descriptions as independent variables in Columns (2) and (3) of the table to test Hypotheses 1 and 2, respectively. Column (2) shows the results for dissimilar KAMs compared to the previous year (*DUMMY_TIME_DISS*), while Column (3) reports dissimilarity in KAMs compared to industry peers in the same year (*DUMMY_PEERS_DISS*). In Column (4), we report both measures together. Finally, in Column (5), we include the interaction of these two variables to test Hypothesis 3.

[Insert Table 3 here]

We find that none of the coefficients from Columns (2) to (4) are significant. In Column (5), the coefficient for *DUMMY_TIME_DISS* is negative and significant at the 5% level, while the coefficient for *DUMMY_PEERS_DISS* is also negative but not significant. These results suggest that KAM risk descriptions that are dissimilar to the previous year or industry peers are not incrementally informative to market participants. Meanwhile, the interaction term is positive and statistically significant at the 5% level (coef. = 0.018). This suggests that examining dissimilarity in both dimensions simultaneously is informative.

Examining changes in the adjusted R^2, it is slightly higher in Column (5) at 38.7% than in the other regressions at 38.4%. These results suggest that the presence of KAM risk descriptions that are dissimilar in both dimensions simultaneously is informative and explains 0.3% of the stock price response at the annual report release date. Our findings contribute to the literature by addressing a call for further research to quantify investors' reactions to auditors' disclosures (Pomeroy et al., 2024).

Turning now to the control variables, we find that neither the length of the KAM risk description nor the number of KAMs disclosed are features that provide useful information to market participants (the coefficient of *NB_KAM* is negative and significant at the 10% level except in Column (2) where it is not significant). Unsurprisingly, the cumulative absolute abnormal returns around the earnings announcement date are positively and significantly (at the 1% level) associated with *ABS_CAR* around the annual report release date. The variables *BETA*, *BUSY*, and *ISP* are also significantly and positively associated with *ABS_CAR*, while the variable *MKT* is negatively associated with *ABS_CAR*. The other control variables are not statistically significant.

These results suggest that the publication of dissimilar KAM risk disclosures is incrementally informative to investors only when they differ from the previous year and are also dissimilar to KAM disclosures published by industry peers. If only one of these two

conditions is met, the information provided about risks of material misstatements is not incrementally informative to investors. This highlights the importance of auditors describing their KAMs in their own words, as they are encouraged to do by the standards (FRC, 2013b). It is also consistent with the FRC's aim of enhancing the communicative value of audit reports by including KAM disclosures.

4.3. Cross-Sectional Tests

We next focus on several cross-sectional analyses to verify the validity of our results. First, we divide our sample based on audit firm industry specialization. Second, we divide our sample based on bid-ask spreads to proxy for information asymmetry faced by investors. Finally, we examine the relation the number of analysts following client firms has on our main results.

In Table 4, we split our sample based on audit firm industry specialization above and below the industry upper tercile for each fiscal year. We define auditor industry specialization based on the portfolio share method, which is the ratio of all audit fees received by a given audit firm in a given industry-year to the sum of all audit fees paid to that audit firm (Audousset-Coulier, Jeny, & Jiang, 2016). Audit firm industry specialists have more knowledge about industry-specific risks (Lu et al., 2017) and may thus use more specific words when describing the risk encountered as a KAM. We thus expect our findings to be stronger for firms audited by an industry specialist.

[Insert Table 4 here]

The results show that the interaction term is positive and significant in both columns, with a coefficient equal to 0.063 significant at the 5% level in Column (1) and a coefficient equal to 0.013 significant at the 10% level in Column (2). The difference in the two coefficients equals 0.050 and is significant at the 10% level. Overall, this suggests that KAM risk

descriptions are more informative for firms audited by an industry specialist. These results are consistent with audit firm industry specialists writing more specific risk descriptions that are informative for market participants.

We next examine subsamples of investors facing more versus less information asymmetry. By presenting the greatest risks of material misstatements encountered during the audit process, KAM disclosures could reduce information asymmetries faced by investors regarding firms' risks. The FRC argues that KAM disclosures can be particularly useful "*for those audited entities where there are fewer sources of other information*" (FRC, 2016). We expect dissimilar KAM risk disclosures to be of more benefit to investors facing high information asymmetry.

We divide our sample into two groups, respectively firms with quoted bid-ask spreads above and below the industry upper tercile for each fiscal year (Corwin & Schultz, 2012; Peterson et al., 2015). Table 5 reports the results of this analysis based on bid-ask spreads. We find that the coefficient of the interaction term *DUMMY_TIME_DISS* * *DUMMY_PEERS_DISS* is statistically significant at the 5% level, but only in the subsample of firm-year observations with a bid-ask spread above the industry-year upper tercile (coeff. = 0.036). The difference in the coefficients between the two subsamples is statistically significant at the 5% level (coeff. = 0.036). This analysis suggests that dissimilar KAM risk descriptions are only informative to firms with greater bid-ask spreads. This result is consistent with our expectation that dissimilarities in KAM risk descriptions are of more benefit to market participants facing higher information asymmetry.

[Insert Table 5 here]

Finally, our sample is composed of premium listed firms on the LSE. These firms are thus big and have on average about 11 analysts following each firm. Prior literature finds that KAMs are useful for financial analysts by improving the quality of their forecasts (Bens et al.,

2019; Dal Bem Venturini et al., 2022). Dissimilar KAM risk descriptions should thus be more informative for firms followed by more analysts.

In Table 6, we divide our sample into two groups, respectively firms followed by a number of analysts above and below the industry upper tercile for each fiscal year. We find that the coefficient of the interaction term *DUMMY_TIME_DISS* * *DUMMY_PEERS_DISS* is statistically significant at the 5% level, but only in the subsample of firm-year observations followed by more analysts (coeff. = 0.018). The difference in the coefficients between the two subsamples is statistically significant at the 10% level (coeff. = 0.043). We note as well that the coefficient for the variable *DUMMY_TIME_DISS* is negative and significant at the 5% level in Column (1), but it is positive and significant at the 10% level in Column (2). These results suggest that dissimilar KAM risk descriptions are only informative for highly covered firms. Our results are also consistent with prior literature finding that KAMs are informative for financial analysts (Bens et al., 2019; Dal Bem Venturini et al., 2022).

[Insert Table 6 here]

5. Robustness Tests

In this section, we perform several robustness tests to ensure our results are not driven by research design choices.

5.1. The Role of New and Dropped KAMs

In our main results, we focus solely on the similarity of recurring KAMs and we exclude the KAMs that have no benchmark in the previous year (new KAMs) or that disappeared in the current year (dropped KAMs). We provide further analyses by replacing the temporal dissimilarity variable with dummies for new and dropped KAMs over time. These results are presented in Table 7. We report only the regression with the interaction effect. In Column (1),

we use a dummy equal to 1 if there is at least a new KAM from year *t-1* to year *t* (*DUMMY_NEW_KAM*). In Column (2), we use a dummy equal to 1 if there is at least a KAM dropped from year *t-1* to year *t* (*DUMMY_DROPPED_KAM*). Finally, in Column (3), we use a dummy equal to 1 if there is either a new or a dropped KAM from year *t-1* to year *t* (*DUMMY_NEW_DROPPED_KAM*). The variable for the cross-sectional dimension remains as previously defined (*DUMMY_PEERS_DISS*).

[Insert Table 7 here]

Our results show that the dummies for the temporal dimension are negative and significant at the 10% and 5% levels in Columns (1) and (3), respectively. The coefficient for the variable *DUMMY_DROPPED_KAM* in Column (2) is not statistically significant. Similarly, the coefficient for the variable *DUMMY_PEERS_DISS* is negative but not significant. However, the coefficients of interest for the interaction terms are all positive and significant at the 10% level in Columns (1) and (2), and at the 5% level in Column (3). These results suggest that providing new KAM disclosures or removing a KAM over time is not sufficient to provide useful information to investors. However, we show that the wording of KAMs matters and only sufficiently dissimilar KAMs provide useful information to market participants.

5.2. Continuous Variables of Dissimilarity Scores

For ease of interpretation, we use dummy variables in all our tests. Table 8 tabulates the results of the regressions with continuous variables of dissimilarity scores. The results are very similar to the ones reported in Table 3. We find that none of the coefficients of interest from Columns (2) to (4) are significant, but the interaction term between *CONTINUOUS_TIME_DISS* and *CONTINUOUS_PEERS_DISS* remains positive and

statistically significant at the 5% level (coef. 0.296). This result confirms that examining dissimilarity in both dimensions simultaneously is informative.

[Insert Table 8 here]

5.3. Alternative Event Windows

We also compute the *ABS_CAR* variable over different windows. Table 9 reports the results of this analysis. For brevity, we only report the regressions with the interaction term. We examine four different event windows from three to five days around the annual report release date (day 0), respectively (-1;+1); (-1;+3); (0;+2); and (0;+3) for Columns (1) to (4).

[Insert Table 9 here]

The results are qualitatively similar to the ones reported in Table 3. The coefficients for *DUMMY_PEERS_DISS* are not statistically significant (p>0.1), while the ones for *DUMMY_TIME_DISS* are negative and significant at the 5% level in Columns (1) and (4), at the 1% level in Column (2) and at the 10% level in Column (3). The interaction term between these two variables is positive and statistically significant at the 5% level in Column (1) (coef. = 0.014), at the 1% level in Columns (2) and (4) (coef. = 0.030 and 0.021, respectively), and at the 10% level in Column (3) (coef. = 0.012). These findings suggest that our results are not sensitive to the event window chosen.

5.4. Alternative Dissimilarity Metric

A further robustness test is conducted using an alternative measure of dissimilarity. We repeat our test using the Jaccard methodology, which compares the occurrence of words, rather than their frequencies, and in that sense differs from cosine similarity. The methodology used to pair KAMs and compute the scores is the same as described in section 3.1 and Appendix 1.

Table 10 reports the results of this robustness test. The only difference compared to our main results is that the coefficients for the temporal dimension and the interaction effect are significant at the 10% level, while they were previously significant at the 5% level. Overall, this suggests that our results are not driven by the methodology used to compute the dissimilarity scores.

[Insert Table 10 here]

5.5. Other Tests

Our results are highly sensitive to the annual report release date. We perform a robustness test by excluding firms for which we could not find the annual report release date and used the notice of Annual General Meeting (AGM) or the AGM date instead. Although some firms release the annual report at the same time as announcing the AGM date, other firms release it earlier. Moreover, the AGM takes place several weeks after publication of the annual report. After removing observations for which we used the notice of AGM or AGM dates, our test only concerns firms with a known annual report release date. We find results similar to our main findings.

We also performed additional analyses to better understand the conditions under which KAM risk descriptions are informative. For these different analyses, we examine the two dimensions of dissimilarity in KAM disclosures separately, then jointly, and finally their interaction effect. For brevity, we do not tabulate these findings.

First, we use an alternative dependent variable with signed cumulative abnormal returns. Second, we examine the informativeness of dissimilarities in KAMs, and in the response and observation component of KAMs. Third, we examine abnormal trading volume, which is a different measure of information content as it reflects changes in the expectations of individual investors that may not affect changes in the market's overall expectations (Bamber, Barron, &

Stevens, 2011; Cready & Hurtt, 2002; Lennox et al., 2022). Un-tabulated results show that none of the coefficients for the dissimilarity variables for these different tests are significant when examining overall KAM disclosures and their two components.

These results suggest that only dissimilarities in the risk description component of a KAM provide incremental information for investors. Moreover, dissimilar KAM risk descriptions are associated with a price reaction, but no volume reaction. This points to a general consensus among investors, suggesting that they interpret the information homogeneously (Beaver, 1968; Verrecchia, 1981).

6. Conclusion

We investigate the conditions under which KAMs are informative to investors by focusing on dissimilarity between KAM risk descriptions. We argue that this encompasses two dimensions: dissimilarity compared to (a) the previous year (i.e., temporal variation), and (b) all industry peers in the same fiscal year (i.e., cross-sectional variation). We hypothesize and confirm that to be informative, the risk description component of KAM disclosures must be dissimilar in both dimensions simultaneously. We capture dissimilar KAM risk descriptions through two dissimilarity metrics and examine the interaction between them.

Our sample consists of premium listed firms on the London Stock Exchange from 2014 to 2019. We find that dissimilar KAM risk descriptions are informative to investors when they show both temporal and cross-sectional variations. However, KAM risk descriptions that are dissimilar in only one of the two dimensions have no informative value. Moreover, we find that only dissimilar information in the risk description component of KAM disclosures provides incremental information to investors; dissimilar information in the auditors' response and observation component, or the overall KAM disclosure, is not informative.

This paper adds to the existing research by highlighting the importance of examining the content of KAM disclosures and their two components separately. It is also the first study to examine two dimensions of dissimilarities in KAM disclosures: temporal and cross-sectional dissimilarities. Our results are relevant for auditors and regulators, as we show that the risk description in KAM disclosures can be informative to investors. However, to make them informative, auditors must write risk descriptions that are dissimilar year over year and that differ from the KAM disclosures published by their industry peers. Finally, our findings are of interest to investors and audit report users, who can find decision-useful information about firms' risks in KAM disclosures.

While regulators stress the importance of comparability in accounting and auditing standards, our research demonstrates that differences in the wording of KAM disclosures are useful for market participants such as investors. Uniformity of KAM *topics* is good for comparability, but identical KAM *content* is bad for comparability as it is not informative. When KAM content for the same topic differs between industry peers, that benefits comparability. For the purposes of this study, similarity in KAM topics (which we control for) was essential to ensure we were comparing the content of KAM disclosures concerning similar risks of material misstatement. Regulators could issue guidelines for auditors, setting out a list of topics to identify KAMs but encouraging auditors to write the content of their KAMs as they wish. This would increase the comparability, between firms and over time, of risks of material misstatement, while allowing variations in their description that are informative to investors.

Although KAM reporting regulations are similar worldwide, there are some differences, especially for Critical Audit Matters (CAMs) in the US. CAMs in the US concern *actual* material misstatements, while in the UK, KAM disclosures concern the greatest *risks* of material misstatement. As a result, fewer CAMs than KAMs are disclosed on average, and in the UK, auditors may report KAMs relating to different and more diverse topics than CAMs in

the US. Additionally, auditors face lower litigation risks in the UK than in the US. This may lead to auditors writing more dissimilar KAMs in the UK, as they are less fearful of close scrutiny of their disclosures (Dannemiller et al., 2022). Moreover, UK-specific institutional characteristics could limit the generalizability of our findings. Financial reporting requirements are stricter in the US, where companies must file quarterly reports, resulting in a more transparent information environment. CAMs in the US may thus be less informative than KAMs in the UK, even though CAMs refer to actual material misstatements that could be more relevant to investors than reports of potential misstatements. Further research could examine the informativeness of KAMs/CAMs and auditors' dissimilar KAM/CAM disclosures in different settings. More research is also needed to examine whether auditors' culture impacts the content of KAMs/CAMs and their informativeness.

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Appendix 1: Calculating KAM Dissimilarity Scores

In this Appendix, we explain how we calculate the dissimilarity scores capturing dissimilar KAM risk descriptions. We use the Cosine Similarity Score (CSS) to arrive at a score measuring the similarity between a pair of documents (Brown & Knechel, 2016; Brown & Tucker, 2011). We start by transforming each KAM risk description into a vector applying the Vector Space Model (VSM) in an *n*-dimensional Euclidian space, where *n* represents the number of unique words appearing in the pair of documents analyzed. We take several steps to clean the transformed text and convert it into an array of words.

First, we ensure similar words are written in the same way by putting all the text in lowercase, removing hyphens and eliminating American/British spelling differences. We convert n-grams, sequences of n words, into their corresponding abbreviation, as they capture the same words. Second, we discard all numbers, special characters, and punctuation marks. Third, we remove stop words contained in the list of stop words available on the Notre Dame Software Repository for Accounting and Finance, together with additional stop words, mainly locations, currencies, and firm names found in our sample.[14] We further remove words unique to one firm and words that appear only once in the full dataset. These words are likely to be firm names, misspelled words, or stop words. The final step in cleaning the text is to lemmatize and stem the words to their root form. [15, 16]

Applying term-frequency-inverse document frequency (TF-IDF), the value of each vector element is the frequency of each word in the document. The CSS measures the angle

[14] The list of stop words is available from the Notre Dame Software Repository for Accounting and Finance on the following website: https://sraf.nd.edu/textual-analysis/stopwords/ (last accessed on November 17th 2023).

[15] Lemmatization, unlike Stemming, reduces inflected words to a root word that belongs to the language. In lemmatization, the root word is called the lemma. A lemma is the canonical form, dictionary form, or citation form of a set of words (e.g. 'walk', 'walked', 'walks' or 'walking' are lemmatized into 'walk'; source: https://www.datacamp.com/community/tutorials/stemming-lemmatization-python, last accessed on November 17th 2023).

[16] Stemming is the process of reducing inflected words to their word stem, even if the stem itself is not a valid word in the language (e.g., the words 'universal', 'university', and 'universe' are stemmed to 'univers'; source: https://www.datacamp.com/community/tutorials/stemming-lemmatization-python, last accessed on November 17th 2023).

between the two vectors: smaller angles indicate more similar documents. The CSS formula between two vectors A and B containing word frequencies is as follows:

$$Similarity\_Score = \cos(A, B) = \frac{AB}{||A||||B||} = \frac{\sum_{i=1}^{n} A_i B_i}{\sqrt{\sum_{i=1}^{n} A^2{}_i}\sqrt{\sum_{i=1}^{n} B^2{}_i}}$$

We focus on dissimilarity, calculated as one minus the similarity scores. Higher scores thus indicate more dissimilar KAM risk descriptions. We use two different metrics to assess dissimilarity in KAM risk descriptions. To measure the temporal dissimilarity (for the same firm in consecutive years), we compare KAM risk descriptions for the same topic and firm for years *t* and *t-1*. To measure the cross-sectional variation (compared to industry peers), we compare KAM risk descriptions for the same topic, industry SIC-1-digit, and year. We do not consider unique KAMs (non-recurring KAM over time or a unique KAM topic in the industry-year) as they cannot be paired with any other KAM.[17] We average all the scores for comparisons per KAM to arrive at scores at the KAM level. We then average the scores obtained per KAM at the firm-year level for each dissimilarity variable. We obtain two measures of dissimilarity: *CONTINUOUS_TIME_DISS* and *CONTINUOUS_PEERS_DISS.* To ease the interpretation of the results, we use dummy variables equal to 1 for the upper two terciles of each continuous dissimilarity variable. The two variables of interest are *DUMMY_TIME_DISS* and *DUMMY_PEERS_DISS.*

[17] We perform un-tabulated analyses by coding unique KAMs as fully dissimilar and our results remain qualitatively unchanged.

Appendix 2: Definition of the Variables

Variables	Definition	Source
Dependent Variables		
$ABS\_CAR(-1;+2)_{i,t}$	Four-day cumulative absolute abnormal returns around the annual report release date *d=0*, from day *d=-1* to *d=+2*, for client firm *i* during year *t*, calculated each day as the client firm *i* returns minus same-day returns for the LSE 100 value-weighted portfolio	Thomson Reuters Eikon
Independent Variables		
$DUMMY\_TIME\_DISS_{i,t}$	Dummy variable equal to 1 if $CONTINUOUS\_TIME\_DISS_{i,t}$ is in the upper two terciles for each firm *i* during year *t*; 0 otherwise	Annual Reports
$DUMMY\_PEERS\_DISS_{i,t}$	Dummy variable equal to 1 if $CONTINUOUS\_PEERS\_DISS_{i,t}$ is in the upper two terciles for each firm *i* during year *t*; 0 otherwise	Annual Reports
$CONTINUOUS\_TIME\_DISS_{i,t}$	Dissimilarity among the risk description of KAMs of the same topic for each firm *i* from year *t* to year *t-1*. Dissimilarity is obtained with the cosine similarity score of the risk description of the KAM. The dissimilarity score is 1 minus the similarity score. Scores are averaged at the firm level to get one score per firm *i* during year *t*. Greater scores represent more dissimilar risk descriptions	Annual Reports
$CONTINUOUS\_PEERS\_DISS_{i,t}$	Dissimilarity among the risk description of KAMs of the same topic for industry peers in the same fiscal year for each firm *i* during year *t*. Dissimilarity is obtained with the cosine similarity score of the risk description of the KAM. The dissimilarity score is 1 minus the similarity score. Scores are first averaged at the KAM level and then averaged again at the firm level to get one score per firm *i* during year *t*. Greater scores represent more dissimilar risk descriptions	Annual Reports
$DUMMY\_NEW\_KAM_{i,t}$	Dummy variable equal to 1 if there is at least one new KAM for each firm *i* from year *t* to year *t-1* ; 0 otherwise	Annual Reports
$DUMMY\_DROPPED\_KAM_{i,t}$	Dummy variable equal to 1 if there is at least one KAM dropped for each firm *i* from year *t* to year *t-1* ; 0 otherwise	Annual Reports
$DUMMY\_NEW\_DROPPED\_KAM_{i,t}$	Dummy variable equal to 1 if there is at least one new KAM or one KAM dropped for each firm *i* from year *t* to year *t-1* ; 0 otherwise	Annual Reports

Variables	Definition	Source
Independent Variables in Robustness Tests		
DUMMY_TIME_ JACCARD_DISS$_{i,t}$	Dummy variable equal to 1 if *CONTINUOUS_TIME_JACCARD_DISS*$_{i,t}$ is in the upper two terciles for each firm *i* during year *t*; 0 otherwise	Annual Reports
DUMMY_PEERS_ JACCARD_DISS$_{i,t}$	Dummy variable equal to 1 if *CONTINUOUS_PEERS_JACCARD_DISS*$_{i,t}$ is in the upper two terciles for each firm *i* during year *t*; 0 otherwise	Annual Reports
CONTINUOUS_TIME_ JACCARD_DISS$_{i,t}$	Dissimilarity between the risk description component of KAMs concerning the same topic for each client firm *i* from year *t* to year *t-1*. The dissimilarity score is 1 minus the similarity score calculated by the Jaccard methodology applied to the KAM risk description. Scores are averaged at the firm level to obtain one score per client firm *i* during year *t*. Higher scores represent more dissimilar KAMs	Annual Reports
CONTINUOUS_PEERS_ JACCARD_DISS$_{i,t}$	Dissimilarity between the risk description component of KAMs concerning the same topic for industry peers in the same fiscal year for each firm client *i* during year *t*. The dissimilarity score is 1 minus the similarity score calculated by the Jaccard methodology applied to the KAM risk description. Scores are first averaged at the KAM level and then averaged again at the firm level to obtain one score per client firm *i* during year *t*. Higher scores represent more dissimilar KAMs	Annual Reports
Control Variables		
LENGTH$_{i,t}$	Natural logarithm of the number of words in the KAM risk description, after removing stop words, lemmatizing and stemming the text for client firm *i* during year *t*	Annual Reports
NB_KAM$_{i,t}$	Number of KAMs per client firm *i* during year *t*	Annual Reports
MKT$_{i,t}$	Natural logarithm of market capitalization for firm *i* during year *t*	Thomson Reuters Eikon
ROA$_{i,t}$	Net income before extraordinary items divided by total assets for client firm *i* during year *t*	Thomson Reuters Eikon
CHNIi,t	Change in net income from year *t* to year *t-1* for client firm *i* during year *t* scaled by total assets	Thomson Reuters Eikon
MTB$_{i,t}$	Market-to-book ratio, measured as the firm's market capitalization divided by total equity for firm *i* during year *t*	Thomson Reuters Eikon
LOSS$_{i,t}$	Dummy variable equal to 1 if the net income is negative and 0 otherwise for firm *i* during year *t*	Thomson Reuters Eikon
LEVERAGE$_{i,t}$	Total liabilities divided by total assets for firm *i* during year *t*	Thomson Reuters Eikon
SALES_VOL$_{i,t}$	Standard deviation of firm *i* total revenue from year *t-1* to *t-3* scaled by total assets	Thomson Reuters Eikon
BETA$_{i,t}$	Beta of firm *i* during year *t*. Missing values have been replaced by 1	Thomson Reuters Eikon

Variables	Definition	Source
$LAG_{i,t}$	Number of days between the earnings announcement date and the annual report release date for firm *i* during year *t*	Capital IQ & lse.co.uk
$ACHANGE_{i,t}$	Dummy variable equal to 1 if there is an audit firm rotation and 0 otherwise for firm *i* during year *t*	Annual Reports
$BUSY_{i,t}$	Dummy variable equal to 1 if the fiscal year-end *t* is in December for firm *i*; 0 otherwise	Thomson Reuters Eikon
$ISP_{i,t}$	Auditor industry specialists measured as the portfolio shares for client firm *i* during year *t*, which is the ratio of all audit fees received by a given audit firm in a given industry-year to the sum of all audit fees paid to that audit firm during the year following Audousset-Coulier et al. (2016)	Thomson Reuters Eikon
Variables used in Cross-Sectional Tests		
$BID\_ASK\_SPREAD_{i,t}$	Bid-ask spreads calculated as yearly ask minus bid prices for firm *i* during year *t*	Thomson Reuters Eikon
$HIGH\_SPREAD_{i,t}$	Dummy variable equal to 1 if the bid-ask spread for firm *i* during year *t* (calculated as yearly ask minus bid prices) is in the industry-year upper tercile; 0 otherwise	Thomson Reuters Eikon
$NB\_ANALYSTS_{i,t}$	Number of analysts following firm *i* during year *t*	Thomson Reuters Eikon
$HIGH\_ANALYSTS_{i,t}$	Dummy variable equal to 1 if the number of analysts following each firm *i* during year *t* is in the industry-year upper tercile; 0 otherwise	Thomson Reuters Eikon
$HIGH\_ISP_{i,t}$	Dummy variable equal to 1 if the audit firm industry specialisation ($ISP_{i,t}$) for firm *i* during year *t* is in the industry-year upper tercile; 0 otherwise	Thomson Reuters Eikon

Missing data was hand collected from annual reports.

Figure 1: The Two Dimensions of Dissimilarity in KAM Risk Descriptions

The two circles represent the two dimensions of dissimilarity in KAM risk descriptions: dissimilarity compared to (a) the previous year, (green circle - temporal dissimilarity), and (b) industry peers (red circle - cross-sectional dissimilarity). KAM risk descriptions are informative when they show both temporal and cross-sectional variations simultaneously.

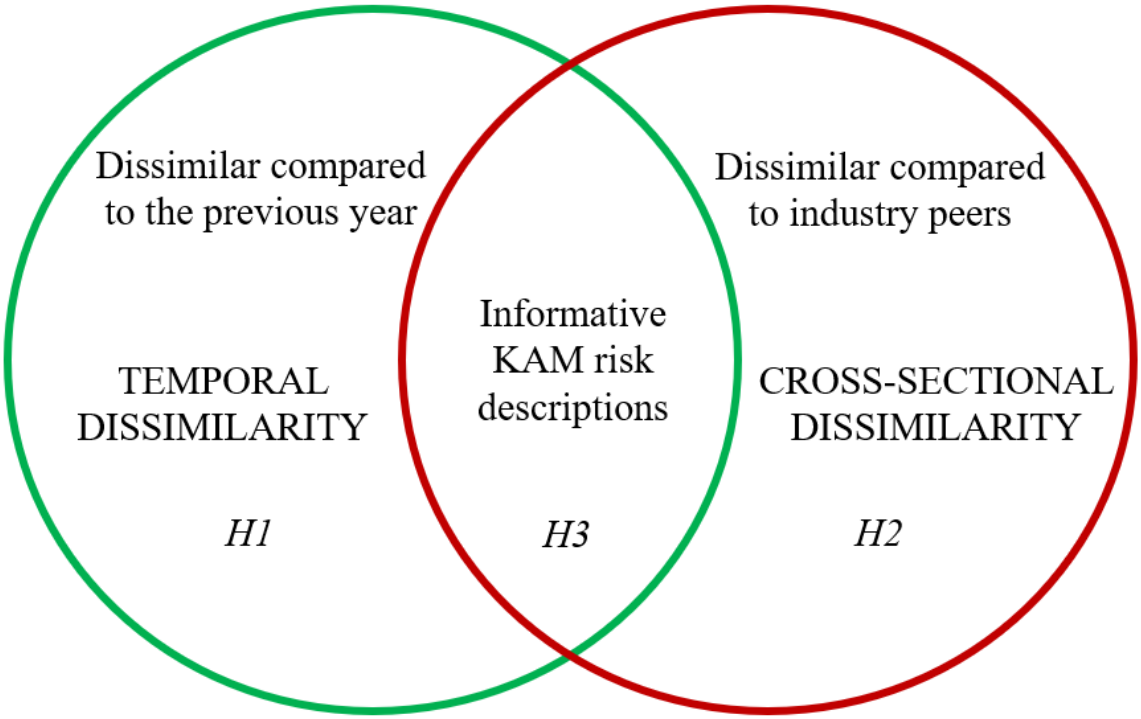

Table 1: Sample Selection

Panel A shows the sample selection procedure; Panel B shows the number of firms and KAMs each year; and Panel C shows the distribution of KAM topics. From 2014 to 2019, the sample includes 1,251 firm-year observations for premium-listed firms on the London Stock Exchange (LSE). Data from annual reports were used to fill in missing observations.

Panel A: Sample Selection Process

Sample period: firms with fiscal year-end after September 30th 2013 to December 31st 2019	
Total firm-year observations (premium-listed firms on the London Stock Exchange)	4,594
(-) Firm-year observations in the financial industry (SIC codes 6000-6900)	-2,602
Total non-financial firm-year observations (premium-listed firms on the LSE)	**1,992**
(-) Firm-year observations without annual reports	-61
(-) Firm-year observations without KAMs	-26
Total firm-year observations	**1,905**
(-) Firm-year observations with a fiscal period other than 12 months	-6
(-) Firm-year observations with no earnings or annual report release date found	-7
(-) Observations with no KAM data in the previous year	-337
(-) Firm-year observations with earnings and annual reports released the same day	-79
(-) Firm-year observations with missing variables	-225
Total firm-year observations from 2014 to 2019	**1,251**

Panel B: Number of Firms and KAMs per Year

Year	No. of Firms	*Percent*	No. of KAMs	*Percent*
2014	102	*8.150*	412	*9.060*
2015	196	*15.670*	727	*16.000*
2016	225	*17.990*	803	*17.670*
2017	226	*18.070*	783	*17.230*
2018	257	*20.540*	905	*19.910*
2019	245	*19.580*	915	*20.130*
Total	1,251	*100*	4,545	*100*

Panel C: Distribution of KAM Topics at the Firm-KAM Level

KAM Topic	Nb of Firm-KAMs	*Percent*
Revenue recognition	742	*16.330*
Valuation of intangible assets	735	*16.170*
Taxation	446	*9.810*
Valuation of liabilities	396	*8.710*
Valuation of properties	372	*8.180*
Acquisitions and disposals	369	*8.120*
Pension and other post-employment benefits	305	*6.710*
Valuation of inventories	292	*6.420*
Related party transactions	155	*3.410*
Exceptional items	125	*2.750*
Internal controls	110	*2.420*
Impairment of loans and receivables	102	*2.240*
Development costs	95	*2.090*
Valuation of securities and financial instruments	90	*1.980*
Going concern	74	*1.630*
Political and economic risks	74	*1.630*
Compliance with laws and regulations	63	*1.390*
Total	4,545	*100*

Table 2: Descriptive Statistics and Correlation Matrix

Panel A reports the descriptive statistics; Panel B shows the correlation matrix. In Panel B, lower- and upper-triangular cells respectively represent Pearson's correlation coefficients and Spearman's rank correlation. From 2014 to 2019, the sample includes 1,276 firm-year observations for premium-listed firms on the LSE. Variables in bold are significant at the 10% level. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2.

Panel A: Descriptive Statistics

	N	Mean	SD	Min	P25	Median	P75	Max
DUMMY_TIME_DISS$_{i,t}$	1,251	0.667	0.472	0.000	0.000	1.000	1.000	1.000
DUMMY_PEERS_DISS$_{i,t}$	1,251	0.667	0.472	0.000	0.000	1.000	1.000	1.000
CONTINUOUS_TIME_DISS$_{i,t}$	1,251	0.293	0.219	0.000	0.116	0.243	0.437	0.985
CONTINUOUS_PEERS_DISS$_{i,t}$	1,251	0.788	0.054	0.483	0.756	0.793	0.824	0.949
DUMMY_NEW_KAM$_{i,t}$	1,251	0.464	0.499	0.000	0.000	0.000	1.000	1.000
DUMMY_DROPPED_KAM$_{i,t}$	1,251	0.504	0.500	0.000	0.000	1.000	1.000	1.000
DUMMY_NEW_DROPPED_KAM$_{i,t}$	1,251	0.671	0.470	0.000	0.000	1.000	1.000	1.000
DUMMY_TIME_JACCARD_DISS$_{i,t}$	1,251	0.667	0.472	0.000	0.000	1.000	1.000	1.000
DUMMY_PEERS_JACCARD_DISS$_{i,t}$	1,251	0.667	0.472	0.000	0.000	1.000	1.000	1.000
CONTINUOUS_TIME_JACCARD_DISS$_{i,t}$	1,251	0.343	0.227	0.000	0.170	0.298	0.478	0.976
CONTINUOUS_PEERS_JACCARD_DISS$_{i,t}$	1,251	0.818	0.051	0.577	0.792	0.821	0.848	1.000
DESCR_LENGTH$_{i,t}$	1,251	4.120	0.385	2.813	3.902	4.127	4.366	4.992
NB_KAM$_{i,t}$	1,251	3.628	1.484	1.000	3.000	3.000	5.000	8.000
ABS_CAR(-1;+2)$_{i,t}$	1,251	0.072	0.069	0.009	0.032	0.050	0.079	0.379
ABS_CAR_EA(-1;+2)$_{i,t}$	1,251	0.111	0.086	0.018	0.057	0.090	0.135	0.569
MKT$_{i,t}$	1,251	20.874	1.760	16.811	19.705	20.779	22.075	25.288
ROA$_{i,t}$	1,251	0.054	0.079	-0.234	0.021	0.051	0.088	0.320
CHNI$_{i,t}$	1,251	0.002	0.060	-0.253	-0.012	0.005	0.023	0.196
MTB$_{i,t}$	1,251	3.297	3.908	-8.925	1.301	2.279	4.299	20.971
LOSS$_{i,t}$	1,251	0.140	0.347	0.000	0.000	0.000	0.000	1.000
LEVERAGE$_{i,t}$	1,251	0.580	0.218	0.131	0.427	0.564	0.712	1.369
SALES_VOL$_{i,t}$	1,251	0.119	0.120	0.008	0.046	0.083	0.142	0.682
BETA$_{i,t}$	1,251	0.849	0.440	0.023	0.547	0.852	1.090	2.228
LAG$_{i,t}$	1,251	28.844	16.057	2.000	18.000	27.000	36.000	89.000
ACHANGE$_{i,t}$	1,251	0.117	0.321	0.000	0.000	0.000	0.000	1.000
BUSY$_{i,t}$	1,251	0.561	0.496	0.000	0.000	1.000	1.000	1.000
ISP$_{i,t}$	1,251	0.198	0.172	0.012	0.078	0.135	0.304	1.000
BIG4$_{i,t}$	1,251	0.930	0.256	0.000	1.000	1.000	1.000	1.000
BID_ASK_SPREAD$_{i,t}$	1,042	0.114	0.391	0.000	0.005	0.020	0.050	3.000
NB_ANALYSTS$_{i,t}$	1,230	10.904	7.215	0.000	5.000	10.000	16.000	36.000

Panel B: Correlation Matrix

	$DUMMY\_TIME\_DISS_{i,t}$	$DUMMY\_PEERS\_DISS_{i,t}$	$DESCR\_LENGTH_{i,t}$	$NB\_KAM_{i,t}$	$ABS\_CAR(-1;+2)_{i,t}$	$ABS\_CAR\_EA(-1;+2)_{i,t}$	$MKT_{i,t}$	$ROA_{i,t}$	$CHNI_{i,t}$	$MTB_{i,t}$	$LOSS_{i,t}$	$LEVERAGE_{i,t}$	$SALES\_VOL_{i,t}$	$BETA_{i,t}$	$LAG_{i,t}$	$ACHANGE_{i,t}$	$BUSY_{i,t}$	$ISP_{i,t}$	$BIG4_{i,t}$	$BID\_ASK\_SPREAD_{i,t}$	$NB\_ANALYSTS_{i,t}$
$DUMMY\_TIME\_DISS_{i,t}$		**0.093**	0.002	**0.168**	**0.066**	-0.006	0.024	-0.132	-0.030	-0.030	**0.135**	**0.076**	-0.069	**0.099**	-0.031	**0.173**	0.024	0.018	0.014	**0.085**	-0.111
$DUMMY\_PEERS\_DISS_{i,t}$	**0.093**		-0.209	**0.122**	0.040	-0.032	-0.009	-0.067	0.034	-0.056	0.042	0.047	-0.024	0.004	-0.028	-0.038	-0.048	-0.030	-0.114	0.041	0.018
$DESCR\_LENGTH_{i,t}$	-0.016	-0.204		0.004	0.007	0.027	**0.104**	-0.178	-0.087	-0.088	**0.148**	0.030	0.003	0.050	0.027	-0.051	0.039	0.005	**0.084**	**0.103**	-0.100
$NB\_KAM_{i,t}$	**0.177**	**0.119**	0.017		-0.055	-0.023	**0.303**	-0.223	-0.163	-0.072	**0.087**	**0.272**	-0.160	**0.082**	0.005	0.022	0.033	**0.126**	0.028	**0.313**	-0.149
$ABS\_CAR(-1;+2)_{i,t}$	**0.058**	0.027	-0.009	-0.025		**0.228**	-0.279	-0.181	-0.082	-0.163	**0.161**	-0.087	**0.079**	0.011	-0.001	-0.036	-0.054	0.029	-0.053	-0.188	0.045
$ABS\_CAR\_EA(-1;+2)_{i,t}$	-0.001	-0.013	0.019	-0.018	**0.230**		-0.134	-0.129	-0.092	-0.081	**0.166**	-0.004	**0.099**	0.043	-0.029	0.005	0.013	-0.032	-0.011	-0.049	-0.095
$MKT_{i,t}$	0.031	-0.002	**0.106**	**0.349**	-0.226	-0.181		**0.163**	0.027	**0.283**	-0.157	**0.117**	-0.166	**0.250**	-0.100	0.019	**0.087**	**0.096**	**0.170**	**0.833**	-0.210
$ROA_{i,t}$	-0.137	-0.071	-0.163	-0.169	-0.207	-0.195	**0.173**		**0.418**	**0.472**	-0.594	-0.205	**0.131**	-0.116	-0.035	-0.002	-0.091	-0.105	0.005	0.011	**0.156**
$CHNI_{i,t}$	-0.039	0.019	-0.081	-0.107	-0.090	-0.167	0.037	**0.487**		**0.163**	-0.330	-0.055	**0.182**	-0.004	-0.036	0.030	0.013	-0.059	0.031	-0.047	0.044
$MTB_{i,t}$	0.004	-0.012	-0.057	-0.040	-0.101	-0.051	**0.192**	**0.344**	**0.092**		-0.244	**0.162**	**0.150**	-0.080	-0.069	0.003	-0.084	-0.050	**0.084**	**0.120**	**0.098**
$LOSS_{i,t}$	**0.135**	0.042	**0.144**	**0.095**	**0.184**	**0.214**	-0.155	-0.638	-0.401	-0.143		**0.056**	0.028	**0.107**	0.031	0.023	**0.062**	**0.088**	-0.006	-0.019	-0.120
$LEVERAGE_{i,t}$	**0.064**	0.041	0.023	**0.244**	-0.052	0.017	**0.096**	-0.108	-0.051	**0.121**	0.049		-0.051	0.033	0.022	0.008	0.007	-0.009	**0.053**	**0.164**	-0.129
$SALES\_VOL_{i,t}$	-0.028	0.015	0.025	-0.132	**0.057**	**0.052**	-0.179	**0.113**	**0.104**	**0.226**	0.039	**0.063**		-0.066	0.019	-0.008	-0.050	-0.128	-0.009	-0.224	**0.058**
$BETA_{i,t}$	**0.099**	0.022	**0.070**	**0.089**	**0.062**	**0.082**	**0.215**	-0.108	-0.019	-0.048	**0.117**	0.025	-0.064		-0.005	0.016	**0.243**	**0.069**	**0.119**	**0.340**	-0.205
$LAG_{i,t}$	-0.040	-0.023	0.045	-0.004	0.019	-0.024	-0.110	-0.024	-0.026	-0.083	0.031	0.012	0.046	0.027		0.037	**0.063**	-0.002	0.036	-0.062	**0.104**
$ACHANGE_{i,t}$	**0.173**	-0.038	-0.044	0.040	-0.049	-0.014	0.024	0.008	0.041	-0.016	0.023	0.009	0.019	-0.008	0.038		-0.011	0.039	-0.014	0.023	-0.015
$BUSY_{i,t}$	0.024	-0.048	**0.054**	0.033	-0.051	0.015	**0.097**	-0.073	-0.024	-0.053	**0.062**	-0.002	-0.088	**0.244**	0.035	-0.011		**0.124**	**0.058**	**0.129**	-0.100
$ISP_{i,t}$	0.022	0.026	-0.097	**0.097**	0.032	-0.036	**0.080**	-0.099	-0.068	-0.093	0.047	-0.042	-0.141	0.040	-0.017	0.033	**0.095**		-0.257	**0.087**	-0.002
$BIG4_{i,t}$	0.014	-0.114	**0.123**	0.036	-0.040	-0.022	**0.165**	0.018	0.012	**0.098**	-0.006	0.040	-0.005	**0.112**	0.004	-0.014	**0.058**	-0.458		**0.177**	-0.109
$BID\_ASK\_SPREAD_{i,t}$	-0.040	**0.053**	-0.031	-0.018	0.025	**0.063**	-0.080	-0.029	0.045	-0.024	-0.001	-0.005	**0.062**	-0.052	0.033	0.013	0.015	-0.011	-0.057		-0.076
$NB\_ANALYSTS_{i,t}$	**0.083**	0.059	**0.098**	**0.360**	-0.122	-0.075	**0.829**	0.000	-0.043	**0.098**	-0.006	**0.118**	-0.222	**0.312**	-0.092	0.025	**0.137**	0.053	**0.162**	0.286	

Table 3: Regression of KAM Risk Description Dissimilarity on Absolute Cumulative Abnormal Returns

Table 3 reports the main regression results investigating the association between dissimilar KAM risk descriptions and investors' reactions. The sample period covers the years 2014 through 2019. Column (1) provides the regression results without the independent variables of interest. Columns (2) and (3) display results for each dimension of dissimilarity, respectively compared to (a) the previous year, and (b) industry peers. Column (4) reports results with the two dimensions of dissimilarity, while Column (5) displays results with its interaction term. The regressions include industry-year and audit firm fixed effects. Standard errors are clustered by client firms and are reported in parentheses. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and * respectively.

VARIABLES	Expected Sign	(1) *ABS_CAR (-1;+2)$_{i,t}$*	(2) *ABS_CAR (-1;+2)$_{i,t}$*	(3) *ABS_CAR (-1;+2)$_{i,t}$*	(4) *ABS_CAR (-1;+2)$_{i,t}$*	(5) *ABS_CAR (-1;+2)$_{i,t}$*
DUMMY_TIME_DISS$_{i,t}$	?		-0.004		-0.004	-0.015**
			(0.004)		(0.004)	(0.006)
DUMMY_PEERS_DISS$_{i,t}$	?			0.004	0.005	-0.006
				(0.004)	(0.004)	(0.007)
DUMMY_TIME_DISS$_{i,t}$ x DUMMY_PEERS_DISS$_{i,t}$	+					0.018**
						(0.007)
DESCR_LENGTH$_{i,t}$	+	-0.003	-0.003	-0.002	-0.002	-0.001
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
NB_KAM$_{i,t}$	+	-0.002*	-0.002	-0.002*	-0.002*	-0.002*
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ABS_CAR_EA(-1;+2)$_{i,t}$	+	0.106***	0.105***	0.106***	0.106***	0.107***
		(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
MKT$_{i,t}$	-	-0.003**	-0.003**	-0.003**	-0.003**	-0.003**
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ROA$_{i,t}$	+	-0.033	-0.034	-0.030	-0.032	-0.033
		(0.025)	(0.025)	(0.025)	(0.026)	(0.025)
CHNI$_{i,t}$	+	0.020	0.020	0.018	0.019	0.019
		(0.034)	(0.034)	(0.034)	(0.035)	(0.034)
MTB$_{i,t}$	-	-0.000	-0.000	-0.000	-0.000	-0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LOSS$_{i,t}$	-	0.010	0.010	0.010	0.010	0.010
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
LEVERAGE$_{i,t}$	-	-0.005	-0.005	-0.005	-0.005	-0.005
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
SALES_VOL$_{i,t}$	-	0.004	0.004	0.004	0.004	0.003
		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
BETA$_{i,t}$	+	0.011**	0.011**	0.011**	0.011**	0.011**
		(0.005)	(0.005)	(0.004)	(0.005)	(0.005)
LAG$_{i,t}$	-	-0.000	-0.000	-0.000	-0.000	-0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

$ACHANGE_{i,t}$	-	-0.002	-0.001	-0.001	-0.000	0.000
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
$BUSY_{i,t}$	+	0.022***	0.022***	0.022***	0.022***	0.022***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
$ISP_{i,t}$	+	0.052***	0.052***	0.053***	0.053***	0.052***
		(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Constant		0.173***	0.175***	0.168***	0.169***	0.174***
		(0.030)	(0.031)	(0.031)	(0.031)	(0.031)
Observations		1,251	1,251	1,251	1,251	1,251
Adjusted R-squared		0.384	0.384	0.384	0.384	0.387
Industry-Year FE		YES	YES	YES	YES	YES
Audit firm FE		YES	YES	YES	YES	YES
Client Firm Clusters		YES	YES	YES	YES	YES

Table 4: Cross-Sectional Test based on Audit Firm Industry Specialization

Table 4 reports the cross-sectional test investigating the relation on the main results of the audit firm industry specialization. Only the regression of interest with the interaction term is shown. The sample period covers the years 2014 through 2019. The regressions include industry-year and audit firm fixed effects. Standard errors are clustered by client firms and are reported in parentheses. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and * respectively. For the sake of brevity, control variables are included but not reported.

		HIGH_ $ISP_{i,t} = 1$	*HIGH_ $ISP_{i,t} = 0$*	
	Expected	(1)	(2)	*Test of coeff.*
VARIABLES	Sign	*ABS_CAR $(-1;+2)_{i,t}$*	*ABS_CAR $(-1;+2)_{i,t}$*	*Differences*
DUMMY_TIME_DISS$_{i,t}$	?	-0.042	-0.012*	
		(0.027)	(0.006)	
DUMMY_PEERS_DISS$_{i,t}$	?	-0.038	-0.003	
		(0.026)	(0.007)	
DUMMY_TIME_DISS$_{i,t}$ x DUMMY_PEERS_DISS$_{i,t}$	+	0.063**	0.013*	*0.050**
		(0.031)	(0.007)	*(0.027)*
Controls		*YES*	*YES*	
Observations		233	1,018	
Adjusted R-squared		0.375	0.376	
Industry-Year FE		YES	YES	
Audit Firm FE		YES	YES	
Client Firm Clusters		YES	YES	

Table 5: Cross-Sectional Test based on Information Asymmetry

Table 5 reports the cross-sectional test investigating the relation on the main results of information asymmetry, proxied by bid-ask spreads. Only the regression of interest with the interaction term is shown. The sample period covers the years 2014 through 2019. The regressions include industry-year and audit firm fixed effects. Standard errors are clustered by client firms and are reported in parentheses. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and * respectively. For the sake of brevity, control variables are included but not reported.

		HIGH_ SPREAD$_{i,t}$ = 1	*HIGH_ SPREAD$_{i,t}$ = 0*	
	Expected	(1)	(2)	*Test of coeff.*
VARIABLES	Sign	*ABS_CAR (-1;+2)$_{i,t}$*	*ABS_CAR (-1;+2)$_{i,t}$*	*Differences*
DUMMY_TIME_DISS$_{i,t}$	?	-0.032**	0.002	
		(0.013)	(0.004)	
DUMMY_PEERS_DISS$_{i,t}$	?	-0.015	-0.001	
		(0.012)	(0.005)	
DUMMY_TIME_DISS$_{i,t}$ x DUMMY_PEERS_DISS$_{i,t}$	+	0.036**	-0.000	*0.036***
		(0.015)	(0.006)	*(0.016)*
Controls		*YES*	*YES*	
Observations		533	718	
Adjusted R-squared		0.433	0.207	
Industry-Year FE		YES	YES	
Audit Firm FE		YES	YES	
Client Firm Clusters		YES	YES	

Table 6: Cross-Sectional Test based on the Number of Analysts

Table 6 reports the cross-sectional test investigating the relation on the main results of the number of analysts following a firm. Only the regression of interest with the interaction term is shown. The sample period covers the years 2014 through 2019. The regressions include industry-year and audit firm fixed effects. Standard errors are clustered by client firms and are reported in parentheses. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and * respectively. For the sake of brevity, control variables are included but not reported.

		HIGH_ ANALYSTS$_{i,t}$ = 1	*HIGH_ ANALYSTS$_{i,t}$ = 0*	
	Expected	(1)	(2)	*Test of coeff.*
VARIABLES	Sign	*ABS_CAR (-1;+2)$_{i,t}$*	*ABS_CAR (-1;+2)$_{i,t}$*	*Differences*
DUMMY_TIME_DISS$_{i,t}$	?	-0.015**	0.046*	
		(0.007)	(0.026)	
DUMMY_PEERS_DISS$_{i,t}$	?	-0.007	0.010	
		(0.007)	(0.022)	
DUMMY_TIME_DISS$_{i,t}$ x DUMMY_PEERS_DISS$_{i,t}$	+	0.018**	-0.024	*0.043**
		(0.008)	(0.034)	*(0.025)*
Controls		*YES*	*YES*	
Observations		1,135	116	
Adjusted R-squared		0.381	0.383	
Industry-Year FE		YES	YES	
Audit Firm FE		YES	YES	
Client Firm Clusters		YES	YES	

Table 7: Analysis based on New and Dropped KAMs over Time

Table 7 reports the analysis investigating the association between dissimilar KAM risk descriptions and investors' reactions based on new and dropped KAMs over time. The sample period covers the years 2014 through 2019. Columns (1), (2) and (3) respectively provide the regression results with new KAMs, dropped KAMs, and a combination of new and dropped KAMs over time. Only the regressions of interest with the interaction term are shown. The regressions include industry-year and audit firm fixed effects. Standard errors are clustered by client firms and are reported in parentheses. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and * respectively. For the sake of brevity, control variables are included but not reported.

VARIABLES	Expected Sign	(1) *ABS_CAR (-1;+2)$_{i,t}$*	(2) *ABS_CAR (-1;+2)$_{i,t}$*	(3) *ABS_CAR (-1;+2)$_{i,t}$*
DUMMY_NEW_KAM$_{i,t}$	?	-0.012*		
		(0.006)		
DUMMY_DROPPED_KAM$_{i,t}$	?		-0.007	
			(0.006)	
DUMMY_NEW_DROPPED_KAM$_{i,t}$	?			-0.013**
				(0.007)
DUMMY_PEERS_DISS$_{i,t}$	?	-0.001	-0.002	-0.008
		(0.005)	(0.005)	(0.006)
DUMMY_NEW_KAM$_{i,t}$ x DUMMY_PEERS_DISS$_{i,t}$	?	0.013*		
		(0.007)		
DUMMY_DROPPED_KAM$_{i,t}$ x DUMMY_PEERS_DISS$_{i,t}$	?		0.013*	
			(0.007)	
DUMMY_NEW_DROPPED_KAM$_{i,t}$ x DUMMY_PEERS_DISS$_{i,t}$	?			0.019**
				(0.007)
Controls		*YES*	*YES*	*YES*
Observations		1,251	1,251	1,251
Adjusted R-squared		0.385	0.385	0.387
Industry-Year FE		YES	YES	YES
Audit Firm FE		YES	YES	YES
Client Firm Clusters		YES	YES	YES

Table 8: Robustness Test with Continuous Variables

Table 8 reports the main regression results investigating the association between dissimilar KAM risk descriptions and investors' reactions with continuous variables. The sample period covers the years 2014 through 2019. Columns (1) and (2) display results for each dimension of dissimilarity, respectively compared to (a) the previous year, and (b) industry peers. Column (3) reports results with the two dimensions of dissimilarity, while Column (4) displays results with its interaction term. The regressions include industry-year and audit firm fixed effects. Standard errors are clustered by client firms and are reported in parentheses. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and * respectively. For the sake of brevity, control variables are included but not reported.

VARIABLES	Expected Sign	(1) *ABS_CAR (-1;+2)$_{i,t}$*	(2) *ABS_CAR (-1;+2)$_{i,t}$*	(3) *ABS_CAR (-1;+2)$_{i,t}$*	(4) *ABS_CAR (-1;+2)$_{i,t}$*
CONTINUOUS_TIME_DISS$_{i,t}$	?	0.003		0.002	-0.235**
		(0.008)		(0.008)	(0.105)
CONTINUOUS_PEERS_DISS$_{i,t}$	?		0.051	0.050	-0.033
			(0.036)	(0.036)	(0.058)
CONTINUOUS_TIME_DISS$_{i,t}$ x CONTINUOUS_PEERS_DISS$_{i,t}$	+				0.296**
					(0.130)
Controls		*YES*	*YES*	*YES*	*YES*
Observations		1,251	1,251	1,251	1,251
Adjusted R-squared		0.383	0.384	0.384	0.386
Industry-Year FE		YES	YES	YES	YES
Audit firm FE		YES	YES	YES	YES
Client Firm Clusters		YES	YES	YES	YES

Table 9: Robustness Tests with Alternative Event Windows

Table 9 reports robustness analyses of the main results using different event windows to compute the absolute cumulative abnormal returns. The sample period covers the years 2014 through 2019. In Columns (1) to (4), the absolute cumulative abnormal returns are computed for windows of three to five days around the annual report release date (*d=0*), respectively from day -1 to day +1; from day -1 to day +3; from day 0 to day +2; and from day 0 to day +3. The regressions include industry-year and audit firm fixed effects. Standard errors are clustered by client firms and are reported in parentheses. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and * respectively. For the sake of brevity, control variables are included but not reported.

VARIABLES	Expected Sign	(1) *ABS_CAR (-1;+1)$_{i,t}$*	(2) *ABS_CAR (-1;+3)$_{i,t}$*	(3) *ABS_CAR (0;+2)$_{i,t}$*	(4) *ABS_CAR (0;+3)$_{i,t}$*
DUMMY_TIME_DISS$_{i,t}$	?	-0.012**	-0.024***	-0.010*	-0.015**
		(0.005)	(0.009)	(0.005)	(0.006)
DUMMY_PEERS_DISS$_{i,t}$	?	-0.005	-0.011	-0.006	-0.010
		(0.005)	(0.009)	(0.005)	(0.006)
DUMMY_TIME_DISS$_{i,t}$ x DUMMY_PEERS_DISS$_{i,t}$	+	0.014**	0.030***	0.012*	0.021***
		(0.006)	(0.010)	(0.006)	(0.008)
Controls		*YES*	*YES*	*YES*	*YES*
Observations		1,251	1,179	1,251	1,179
Adjusted R-squared		0.349	0.394	0.341	0.382
Industry-Year FE		YES	YES	YES	YES
Audit Firm FE		YES	YES	YES	YES
Client Firm Clusters		YES	YES	YES	YES

Table 10: Robustness Tests with an Alternative Dissimilarity Metric

Table 10 reports robustness analyses of the main results using an alternative measure of dissimilarity, the Jaccard methodology. The sample period covers the years 2014 through 2019. Columns (1) and (2) display results for each dimension of dissimilarity, respectively compared to (a) the previous year, and (b) industry peers. Column (3) reports results for both dimensions of dissimilarity simultaneously, while Column (4) displays results with their interaction term. The regressions include industry-year and audit firm fixed effects. Standard errors are clustered by client firms and are reported in parentheses. All the continuous variables are winsorized at the 1% and 99% levels. All the variables are defined in Appendix 2. Significance at the 1%, 5%, and 10% levels is indicated by ***, **, and * respectively. For the sake of brevity, control variables are included but not reported.

VARIABLES	Expected Sign	(1) *ABS_CAR (-1;+2)$_{i,t}$*	(2) *ABS_CAR (-1;+2)$_{i,t}$*	(3) *ABS_CAR (-1;+2)$_{i,t}$*	(4) *ABS_CAR (-1;+2)$_{i,t}$*
DUMMY_TIME_JACCARD_DISS$_{i,t}$	?	-0.004		-0.004	-0.013*
		(0.003)		(0.003)	(0.007)
DUMMY_PEERS_JACCARD_DISS$_{i,t}$	?		0.001	0.001	-0.008
			(0.004)	(0.004)	(0.006)
DUMMY_TIME_JACCARD_DISS$_{i,t}$ x DUMMY_PEERS_JACCARD_DISS$_{i,t}$	+				0.015*
					(0.008)
Controls		*YES*	*YES*	*YES*	*YES*
Observations		1,251	1,251	1,251	1,251
Adjusted R-squared		0.384	0.383	0.383	0.385
Industry-Year FE		YES	YES	YES	YES
Audit Firm FE		YES	YES	YES	YES
Client Firm Clusters		YES	YES	YES	YES