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Duboissee De Ricquebourg, A orcid.org/0000-0002-5268-2109 and Maroun, W (2023) How do auditor rotations affect key audit matters? Archival evidence from South African audits. *British Accounting Review*, 55 (2). 101099. ISSN 0890-8389

<https://doi.org/10.1016/j.bar.2022.101099>

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How do auditor rotations affect key audit matters? Archival evidence from South African audits

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Abstract

The expansion of the auditor's reporting duties with the introduction of critical or key audit matters (KAMs) has reignited interest in the determinants and consequences of the rules and regulations aimed at improving audit's functionality and quality. This paper expands on a growing body of work which investigates possible determinants of the KAMs being included in audit reports. It provides an original perspective on KAM identification and reporting in three ways. Firstly, the paper deals specifically with audit partner and firm rotations as possible KAM determinants. Secondly, hand-collected details are analysed to test for changes in the absolute number of KAMs as well as for KAMs added to or removed from audit reports to provide a more refined measure of how KAM disclosures are varying. Finally, data are gathered from South Africa to complement the empirical work which, to date, has largely focused on the U.S. and U.K. Our findings reveal a duality of stability and variability in how the requirement to report KAMs is being operationalised. A change in audit partner is not associated with changes in reported KAMs but changing audit firms appears to have a significant impact on the KAMs added to or removed from an audit report. The provisions of ISA 701 promote consistency in how KAMs are identified and disclosed by individual partners. However, ISA 701 cannot define and control every aspect of KAM determination. As a result, there is a degree of agency at the firm-level which allows for differences in how audit firms choose to implement the standard's provisions. Our study makes an important contribution by providing evidence of the complex interaction between standardisation of audit practice and sources of performative variability and may lend weight to the regulatory arguments in favour of mandatory firm rotation.

Key words: audit, audit partner, audit firm, key audit matters, firm rotation

Acknowledgements

The authors would like to thank Michael Harber, Michael Buchling, Wayne van Zijl, Dannielle Cerbone, Harvey Wainer and Dusan Ecim for their comments on earlier versions of this paper. Special thanks go to the attendees of the Meditari Accountancy Research conference and the Centre for Critical Accounting and Auditing Research. Finally, the authors are grateful to Lelys Maddock for her invaluable editorial services.

1. Introduction

This research is concerned with the recent efforts to expand the scope of information included in audit reports under either a critical or key audit matter regime. In the U.S., Auditing Standard 3101¹ requires ‘critical audit matters’ (CAMs) to be included in audit reports issued on or after 30 June 2019. These include:

‘any matter arising from the audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved especially challenging, subjective, or complex auditor judgment’ (AS3101, para 11).

The Public Company Accounting Oversight Board (PCAOB) introduced CAMs as part of the audit report to reduce information asymmetry between investors and auditors by providing details on the most significant issues encountered during an audit and how they were managed (PCAOB, 2017). The International Auditing and Assurance Standards Board (IAASB) has taken a similar position. Per ISA 701², auditors are required to include ‘key audit matters’ (KAMs) as part of their audit reports. These are the *‘matters that, in the auditor’s professional judgment, were of most significance in the audit of the financial statements of the current period’* (IAASB, 2016, para 8).

The IAASB may have taken a more principles-based approach to KAMs than the PCAOB followed when developing its requirements for CAMs (Jermakowicz et al., 2018). The definitions in the respective standards appear similar but there are technical differences in how requirements are outlined and how these could be operationalised by audit firms³ (see Minutti-Meza, 2021). Nevertheless, both ISA 701 and Auditing Standard 3101 are predicated on the position that users of financial statements benefit from additional information on how audits are being conducted (Jermakowicz et al., 2018). There is, at least, some empirical evidence to support this position. For example, U.S.-based studies find that CAMs and other auditor commentary are associated with individuals changing their investment and asset pricing decisions under certain circumstances (Christensen et al., 2014; Ozlanski, 2019; Elliott et al., 2020). CAMs can forewarn users about ‘misstatement risk’ (Kachelmeier et al., 2020). Enhanced auditor reporting may bolster the perceived credibility of the audit report, especially for smaller audit firms (Moroney et al., 2021). From the perspective of the auditee, reporting either key or critical matters may lead to the use of less aggressive accounting estimates and improved financial reporting quality because of improved transparency and accountability (Reid et al., 2019; Gold et al., 2020). CAMs may also have an unintended effect on managers’ real operating decisions resulting from changes in disclosure costs and the perceived level of auditor support (Bentley et al., 2021). As is often the case with experimental and archival research, results are mixed (see, for example, Gutierrez et al., 2018; Bédard et al., 2019; Segal, 2019; Lennox et al., 2022) but the general position is that an expanded auditor reporting regime improves the functionality of audit reports and addresses, at least, some aspects of the audit expectation gap.

Given the information-relevance of the additional matters included in an audit report, several recent papers examine empirically the client- and auditor-specific variables associated with the number of CAMs or KAMs being disclosed (e.g. Sierra-García et al., 2019; Pinto et al., 2020; Rousseau and Zehms, 2020; Abdelfattah et al., 2021). This is complemented by research,

¹ Auditing Standard 3101: *The Auditor’s Report on an Audit of Financial Statements When the Auditor Expresses an Unqualified Opinion*

² ISA 701: *Communicating Key Audit Matters in the Independent Auditor’s Report*

³ A detailed discussion of the similarities and differences between ISA 701 and AS3101 is beyond this paper’s scope.

predominantly from the U.S., on the implication of expanded auditor reporting for legal liability (see, for example, Gimbar et al., 2016; Asbahr and Ruhnke, 2019; Kachelmeier et al., 2020). However, the link between the introduction of Auditing Standard 3101 or ISA 701 and changes in how engagements are executed have not been studied extensively (Prasad and Chand, 2017). The possibility that audit firms and partners have different reporting styles (see Rousseau and Zehms, 2020; Abdelfattah et al., 2021) and that audit firms can shape professional practice (Power, 2003; Cooper and Robson, 2006) provides the basis for this study. We use proprietary hand collected data of the KAMs reported for South African companies to examine how audit partner and audit firm changes affect the disclosure of KAMs.

Latour's (1986; 2004) distinction between the performative and ostensive is used to explain how, in conjunction with isomorphic pressures, ISA 701 is understood and applied by audit firms and their partners. At the ostensive level, the standard provides normative aspirations which, according to the theory, should promote consistent identification of and reporting on KAMs (see Feldman and Pentland, 2003). In support of this position, this study finds that the KAMs disclosed in audit reports do not vary significantly when audit partners are rotated. Consistent with earlier interpretive studies, accounting and auditing standards have a powerful socialising or normalising effect on individual engagement leaders (see, for example, Fogarty, 1992; Pentland, 1993). The performative nature of the auditing standards cannot, however, be overlooked. ISA 701 is principles-based. It provides a definition and additional considerations for concluding whether an issue is also a KAM but does not mandate minimum disclosure requirements. This means that there is a degree of agency among audit firms which enables variability in their application of ISA 701 (see Latour, 1986; Feldman and Pentland, 2003). Our findings show that rotating audit partners did not impact KAM disclosures, but the number of KAMs added to or removed from an audit report varied significantly when companies changed audit firms.

These findings make an important contribution by highlighting how audit partners and their firms are 'sites of professionalisation' (Cooper and Robson, 2006). They also demonstrate the duality of audit practice: formal standards can have a stabilising effect on how individual partners conduct their audits, but they can also enable differences in how audit firms require engagements to be performed.

The paper's contribution is bolstered by studying KAM disclosures in a novel setting. Technical differences between auditing standards mean that findings from U.S. studies may not be generally applicable. AS3101 is used mainly in the U.S. while ISA 701 has been adopted by regulators in, *inter alia*, the U.K., the E.U., South Africa, Hong Kong, China, Australia and New Zealand (Burke et al., 2021). Yet, the evidence concerning the consequences of adopting ISA 701 and the determinants of KAM's vary between jurisdictions (Minutti-Meza, 2021). Given the widespread application of International Auditing Standards, findings generated from more jurisdictions where these standards are in use adds to an international effort to understand the nature and consequences of audit practice. This is especially the case when it comes to developing economies, such as South Africa. In addition to being one of the most active and important capital markets on the Continent, South Africa adopted ISA 701 shortly after it was issued by the IAASB and without amendments. The country also boasts a well-established and regulated assurance market where audit firms have extensive experience applying international auditing and accounting standards and engaging with different external regulators.

Finally, the current paper offers an account of the extent and type of KAMs being reported in addition to examining how KAMs vary with rotation of either audit firms or partners. That the number and type of KAMs reported per audit client remain largely the same, even when engagement leaders rotate, iterates concerns that the much-vaunted addition to audit reports leads

mainly to boilerplate information being provided to stakeholders (see, for example, Brasel et al., 2016; Segal, 2019; Minutti-Meza, 2021). It is only when firms rotate that there is a material change in the KAMs being disclosed. At the policy level, a detailed examination of the benefits of mandatory firm rotation is beyond the scope of this study but the findings lend weight to the argument that firm rotation provides a fresh perspective on how audits are conducted (see Harber and Maroun, 2020; PCAOB, 2011; Bell, Causholli, & Knechel, 2015; IRBA, 2016) and highlights changes in KAMs as a *possible* indicator of how audit firms are implanting professional standards differently. Indirectly, the research also expands on earlier work dealing with the relevance of audit partner idiosyncrasies for audit and financial reporting quality (for details see Lennox and Wu, 2018) and offers additional insights into sources of variation in KAM outcomes which will be helpful for future researchers, standard-setters, regulators.

Section 2 provides a summary of the KAM determinants literature, outlines the paper's theoretical framing, and positions its two research questions. Section 3 discusses the method. The sample is outlined, and descriptive statistics are provided in Section 4. Results and additional analysis follow in Sections 5 and 6. Section 7 concludes, discusses implications and outlines areas for future research.

2. Background and motivation

ISA 701 follows a principles-based approach for determining KAMs. '*Key audit matters are selected from matters communicated with those charged with governance*' (IAASB, 2016, para 8). When evaluating if an issue reported to a governing body is also a KAM, the auditor considers (1) the risk of material misstatement, (2) whether or not significant estimates and judgments are involved and (3) any significant events and transactions which have taken place during the reporting period (IAASB, 2016, para 9). After KAMs have been identified, they are described in a separate section of the auditor's report (IAASB, 2016, para 11). This includes an explanation of why each matter was of most significance for executing the audit and how it was addressed (IAASB, 2016, para 13). If there are no KAMs, this is clearly stated in the audit report (IAASB, 2016, para 16).

Recent adoption of extended audit reports around the world has led to a rapidly growing body of research exploring the consequences of these changes, but with mixed results. For example, studies in New Zealand (Li et al., 2019), Thailand (Kitiwong and Sarapaivanich, 2020), and China (Zeng et al., 2021) find audit quality improved, while studies in Finland (Rautiainen et al., 2021), Australia (Nguyen and Kend, 2021), and Hong Kong (Liao et al., 2019), report no effect on audit quality after the audit reporting changes. Likewise, in the U.K., the contemporaneous studies by Gutierrez et al. (2018) and Reid et al. (2019) provide alternative conclusions regarding the effects of these changes on audit quality. While the research examining the consequences of these changes presents mixed results, so does the research which examines KAM determinants.

2.1 Empirical evidence of client and auditor features as KAM determinants

While determining KAMs is a matter of professional judgement, the prior research has considered different predictors of the number and type of KAMs being reported. These can be categorised broadly as either client or auditor-specific. Empirical results on the magnitude and direction of the determinants are mixed but it is possible to highlight those features of auditors and auditees which, at the conceptual level, influence the KAM determination process.

Starting with client features, the complexity of business models and operations goes hand-in-hand with the auditor's assessment of the risk of material misstatement (ROMM) at both the overall and assertion-level (IAASB, 2013). Several proxies for client complexity and, in turn, risk have been proposed and tested including firm profitability, industry membership, the number

and type of assets on the balance sheet and the accounting standards used to prepare financial statements.

For example, the use of more precise or rules-based accounting requirements may lower the use of professional judgment among preparers and contribute to a reduction in the number of KAMs (Pinto et al, 2020). Turning to the content of financial statements, Sierra-García et al. (2019) find that higher revenue, inventory, goodwill and intangible asset balances are associated with a greater number of KAMs. Rousseau and Zehms (2020) find only inventory, receivables, pension liabilities and legal costs to be KAM determinants. A third U.K.-based study reports that entities with volatile share prices, which are loss-making and which have more assets on their balance sheets report the greatest number of KAMs (Abdelfattah et al., 2021). These findings are largely in line with those of Rousseau and Zehms (2020) who find a positive relationship between financial risk (measured by the ratio of the book to market value of equity) and number of KAMs. The type of industry is also found to influence the number of KAMs by Pinto et al. (2020) and Sierra-García et al. (2019). For the latter, results are sensitive to the classification of KAMs as either entity- or account-level issues.

The empirical results are mixed but there is, at least, some evidence to support the general position that client features contributing to complexity of engagements and the associated ROMM are influencing KAM determination. For example, risk levels may be higher at larger, specialised or multi-national operations because of the practical challenges of gaining an understanding of these clients (IAASB, 2013), the inherent limitations of audit procedures (IAASB, 2009b) and the difficulty of coordinating engagement teams working in different locations (IAASB, 2009d). In turn, auditors can be expected to find and report a greater number of matters to governing bodies increasing the likelihood of a KAM being included in an audit report. The same logic applies when considering the profitability measures, asset balances, incomes and expenses treated as predictor variables by the prior research. These can serve as useful proxies for the contextual characteristics of the balances and transactions being tested by auditors. To the extent that the measures capture the features which contribute to variations in inherent, control and detection risks (see IAASB, 2009c), they also provide a measure of the amount of effort expended by the auditor on different parts of the audit and the likelihood of issues being flagged as KAMs.

When it comes to the audit-specific features, Sierra-García et al. (2019) find that neither audit nor non-audit fees are associated with the total number of KAMs reported but audit fees are inversely related to the number of account-level KAMs. The opposite is true for entity-level KAMs. Pinto et al. (2020) confirm that audit fees are not driving KAM determination while Abdelfattah et al. (2021) report a positive association between audit fees and the number KAMs. Focusing on specific firms, Deloitte, EY and KPMG report fewer entity and account-level KAMs than does PwC. This may be the result of PwC's clients being more complex and regulated than those audited by the other professional firms (Sierra-García et al., 2019).

Abdelfattah et al. (2021) add to the discussion on KAM determinants by considering the relevance of the audit partners' gender on the extent and style of KAM disclosures and find that female partners disclose more KAMs compared to their male counterparts. Building on this, Rousseau and Zehms (2020) test the relative importance of the unobservable audit partner and audit firm decision styles. Controlling for audit partner fixed effects led to a significant increase in the explanatory power of a KAM determinants model compared to the model with audit firm fixed effects, suggesting that the decision-making styles of audit partners were *'the primary force behind KAM reporting outcomes'* (pp. 31-32).

2.2 A conceptual approach for KAM determination

The current paper is grounded in the distinction between the ostensive and performative aspects of professional practice. At the ostensive level, formal rules and systems are a source of stability because they define desired outcomes, enclose the operating space and promote the consistent application of tasks (Foucault, 1983; Latour, 1986). As explained by Feldman and Pentland (2003, p. 107), the ostensive features of rules, manuals and operating protocols provide the vocabulary for describing issues and the techniques for how to manage them. They become part of a procedural knowledge template which delineate acceptable and unacceptable practice. As a result, the ostensive properties of auditing prescriptions can work together with isomorphic or socialising forces which homogenise professional behaviour and practice (e.g. Humphrey and Moizer, 1990; Fogarty, 1992; Pentland, 1993).

The performative dimension caters for the practicalities of enacting prescriptions and the agency inherent in how those tasks are performed by unpredictable individuals (Feldman and Pentland, 2003). While auditing ‘routines’ appear scientific and objective, they ‘*are enacted through actions taken by people (or machines) and are reflective of the actions that constitute them*’ (Pentland et al., 2012, p. 1489). Concerning KAM determination, professional judgment, expertise and experience interact with the procedural aspects of the KAM identification process per ISA 701. In practical terms, exactly how KAMs are evaluated and understood can vary among audit firms and audit partners despite the ostensive features of the standard which promote consistency.

To evaluate how the requirements of ISA 701 are being applied, it is useful to distinguish between the decision-making activities of audit firms and audit partners (Rousseau and Zehms, 2020; Pelzer, 2021)

2.2.1 Audit partner decision-making

ISA 701 provides a definition of a ‘KAM’ and outlines the procedures which can be followed to select a KAM systematically from the matters communicated to governing bodies. The standard, however, stops short of prescribing exactly how KAMs are identified and precisely which issues ought to be reported. In keeping with a principles-based approach, ISA 701 caters for the fact that how an audit is conducted is heavily dependent on context and the engagement leader’s professional judgement (IAASB, 2016, para 9). Similarly, the academic research highlights how an audit partner’s individual characteristics or idiosyncrasies can influence how engagements are performed (Lennox and Wu, 2018) and, of particular interest in this study, how KAMs are identified and reported (Rousseau and Zehms, 2020; Abdelfattah et al., 2021). That partners will approach their audits differently also aligns with the prior research arguing that audit partner rotation improves independence and may have other quality benefits. Most notable is the fresh perspective when it comes to assessing and responding to audit risk (Dodgson et al., 2020).

Despite the opacity of the audit process, auditors do not enjoy complete agency. The auditing standards set minimum requirements to ensure that, notwithstanding any differences at the level of an individual partner or engagement, audit risk is reduced to an acceptably low level. The profession’s informal socialising practices also result in, at least, some homogeneity in how ISA 701 is operationalised by individual auditors.

For example, Fogarty (1992) explains how role-modelling, mentoring, reward structures and diffusion of values normalise practice. Similarly, Pentland (1993) demonstrates how micro-level interactions among auditors work in conjunction with the application of well-established ‘verification rituals’ to guide the completion and control the quality of audit engagements. More generally, Meyer and Rowan (1977), DiMaggio and Powell (1983) and Suchman (1995) describe how structures, behaviours and actions often coalesce according to the prevailing views,

expectations or norms. This is especially the case in auditing where, despite the appearance of a scientific approach, the processes of verification are inherently subjective, significantly dependent on professional judgment and difficult to observe and calibrate (Power, 2003). Powerful normative pressures should be at work which result in individual auditors replicating practices which conform with generally accepted standards, industry guides and other well-established heuristics.

Strict compliance with auditing standards and generally accepted operating guidelines confers legitimacy by aligning individual practices with the discourse and activities constituting professional expertise. The inherently subjective nature of an audit means that the replication of those actions and procedures which are perceived as being the most effective or desirable can be expected. Actual or perceived sanction for non-compliance with ISAs or firm policies are a source of coercive pressure which ensures the 'correct' application of auditing standards (see Meyer and Rowan, 1977; DiMaggio and Powell, 1983). It follows that client-specific factors relevant for identifying KAMs should be processed consistently among audit partners at the same firm. This leads us to our first research question:

RQ1: Does a change in audit partner affect the key audit matters included in the auditor's report?

2.2.2 Audit firm decision-making

The socialising or isomorphic pressures which lead to audit partners consistently identifying and reporting on KAMs can also be at work among audit firms. Read with the relevant standards on quality control and management, audit firms must develop appropriate systems, processes and monitoring functions to ensure compliance with professional standards and the highest levels of audit quality (see IAASB, 2009a). Each firm will develop its own policies for guiding audit practice, including KAM determination, but these must be grounded in the requirements of the applicable ISA and will be subject to regulatory scrutiny at both the engagement- and firm-level. The net result is a measure of performative consistency when it comes to how the audit firms implement ISA 701.

In contrast, the empirics point to material differences in the quality of audits conducted by the Big 4 and second tier firms. Variations in audit quality can even arise among the offices of the same audit firm (e.g. Palmrose, 1988; Ferguson et al., 2003; Francis, 2004). How principles-based standards and quality control requirements are understood and applied will, invariably, differ among firms. In turn, differences in how audit firms implement and monitor the provisions of ISA 701 can be expected (Pelzer, 2021).

The standard's provisions continue to promote consistency but are also informed by how they are applied, modified and recalled by individual auditors. Within a single audit firm, isomorphic forces are at work limiting the degree of performative variability. The processes followed to identify and report on KAMs and any variations become part of the accumulated experience of applying ISA 701. These yield a set of generally accepted policies and practices which are re-enacted by *that* audit firm's members each time KAMs are being assessed. There is, however, no guarantee that normative, mimetic and coercive forces work in precisely the same way at other firms (Pelzer, 2021). Isomorphic pressures still result in consistently performed KAM determinations, but the exact sequence of steps taken to identify and report on KAMs at a second audit firm can differ from the first. To paraphrase Feldman and Pentland (2003), each time the provisions of ISA 701 are interpreted by audit firms and incorporated as part of their operating procedures is an opportunity for variation in how the standard is operationalised.

The above position provides one explanation for mixed results on the statistical significance of the audit firm variables included in the KAM determination models of, *inter alia*, Sierra-García et al. (2019), Velte (2018), Abdelfattah et al. (2020) and Rousseau and Zehms (2020). The research dealing with variability in audit practice is often concerned with the expertise, experience and judgment of engagement leaders (Lennox and Wu, 2018). Equally relevant are firm-specific idiosyncracies which influence KAMs at the performative level. This leads us to our second research question:

RQ2: Does a change in audit firm affect the key audit matters included in the auditor's report?

While not a specific consideration in this paper, whether or not KAMs vary with a change in audit firm contributes to the ongoing debate on the appropriateness of firm, in addition to partner, rotation. Proponents argue that, at best, rotating audit firms improves independence in appearance but does not guarantee a change in audit practice and resulting increase in audit quality. A loss of client-specific experience may compromise audit quality (e.g. Casterella and Johnston, 2013; Laurion et al., 2017). Equally possible is that underlying isomorphic pressures lead to the standardisation of audit methodologies with the result that switching audit firms does not alter, in substance, how engagements are being performed. Conversely, if isomorphic pressure is not distributed homogeneously, rotating audit firms would allow performative variability to be 'realised' by an audit client. External parties would not be privy to changes in how audits are executed but could draw conclusions from context-specific details in audit reports such as the KAMs included in or removed from the reports.

3. Method

3.1 Measurement of the KAMs

Our research questions require us to examine the effect of auditor changes on the KAMs included in audit reports. To do so, we create several variables related to the KAM disclosures and how these KAM disclosures change. First, we estimate the number (K_NUM) and length (K_WORDS) of the reported KAMs. K_NUM is the total number of KAMs mentioned in the audit report and K_WORDS the natural logarithm of the total number of words used to describe the KAMs. Next, we estimate our three main measures used to examine the change in KAMs between the current and prior year audit reports by counting the number of new KAMs added in the current year (N_NEW)⁴, the number of KAMs dropped in the current year (N_DROP) and the overall change in KAMs (K_CHANGE) between the two years. K_CHANGE is the sum of N_NEW and N_DROP, standardized by the number of KAMs disclosed in the prior year's audit report and is used to measure the extent of change in the KAMs disclosed between the two years. Finally, we estimate two binary variables for use in a logistic regression model which are equal to 1 if a new KAM is added (K_NEW) or dropped (K_DROP) in the current year when compared to the prior year's audit report and 0 otherwise.

⁴ These are entirely new KAMs disclosed in the current year's audit report compared to last year.

3.2 Estimation model used to examine the effect of auditor changes on the KAMs

To test our research questions, we estimate various specifications of the following model based on prior studies examining the determinants of key audit matters including Sierra-García et al. (2019), Velte (2018), Abdelfattah et al. (2020) and Rousseau and Zehms (2020):

$$KAM_{it} = \beta_0 + FIRM_SW_{it} + PARTNER_SW_{it} + Audit\ variables_{it} + Client\ variables_{it} + Industry_{it} + Year_t + \varepsilon_{it} \quad (1)$$

where *KAM* refers to one of the dependent variables described in Section 3.1 above. Auditor switches are proxied by the two binary variables *FIRM_SW* and *PARTNER_SW*, where *FIRM_SW* is equal to 1 if company *i* changed their audit firm in year *t* and 0 otherwise and *PARTNER_SW* is equal to 1 if company *i* changed their audit partner but retained their audit firm in year *t* and 0 otherwise.⁵

Audit variables include controls for characteristics related to the audit which may influence KAM reporting. Specifically, we control for the audit fees paid (*AUDIT_FEE*). As audit fees proxy for the extent of audit work performed, we expect companies paying higher audit fees to have more KAMs and a greater number of KAMs being added or removed. Since there is no statutory requirement for audit fees to be disclosed by South African companies during the entire sample period, we estimated *AUDIT_FEE* as the natural logarithm of audit fees where this information is provided in the annual report.⁶ *BIG4*, controls for any differences in KAM reporting between the Big 4 and non-Big 4 audit firms and is equal to 1 for companies audited by Deloitte, EY, KPMG, or PWC, and 0 otherwise. *SPECIALIST* controls for differences between KAM reporting by industry and non-industry specialist audit firms. *SPECIALIST* is 1 if a company's audit firm audits 30% or more of the aggregate total assets of that company's one digit SIC sector in a given year and 0 otherwise. Finally, *BUSY* controls for variations between reporting for busy and non-busy audit seasons and is equal to 1 for firm years with a 30 June fiscal year end (the busy season in South Africa) and 0 otherwise.

Client variables include controls for characteristics of the audit client which may influence KAM reporting and include measures for the complexity, performance and financial risk of the auditee. Following the approach used by prior KAM studies, controls for a company's complexity include the natural log of total assets (*LTA*), the natural logarithm of 1 + the number of subsidiaries shown in a company's annual report (*SUBS*) and the book to market ratio (*BTM*) calculated as the net asset value divided by the market capitalization of the company at its financial year end. Performance is controlled for by estimating the return on assets (*ROA*) as the profit before tax divided by total assets. Finally, controls for a company's financial risk include a binary variable (*LOSS*) which is equal to 1 if profit before tax is negative and 0 otherwise and a variable for a company's leverage (*LEV*) calculated as total liabilities divided by total assets. All our models are estimated using standard errors clustered by companies and include controls for industry and year fixed effects.

⁵ In additional unreported tests, we separately examine the effects of either *FIRM_SW* or *PARTNER_SW* on the dependent variables. Results from this analysis are consistent with our main findings, and so all of our analysis will examine the effect of both of these events on the dependent variables.

⁶ We do not restrict our sample based on this disclosure requirement, but instead estimate our models on the full sample without controls for *AUDIT_FEE*, and a reduced sample where this disclosure is made available.

4. Sample selection and descriptive statistics

4.1 Sample selection and distribution

The sample selection process is outlined in **Table 1 Panel A**. We start by using Compustat Global to identify an initial sample of 293 companies with a South African country code and 835 observations with a financial year ending between 1 January 2018 and 31 December 2020.⁷ From this initial sample, we then use S&P Capital IQ to identify and remove 17 companies (43 observations) without a primary listing on the Johannesburg Stock Exchange (JSE) during the same period. Next, we remove a further 8 companies (46 observations) without the necessary financial information for the estimation of our main control variables. We then search online for the current and preceding years' audit reports for each of the 746 observations in this reduced sample and remove a further 17 companies (53 observations) without this necessary information. During this process, we identified a further 2 companies (4 observations) whose audits were conducted outside of South Africa and 6 companies (23 observations) where the current or prior year's audit report was signed by more than one audit firm. Removing these observations leaves us with a final sample for our main analysis of 243 companies and 666 firm years, audited by 16 audit firms and 237 unique audit partners.

The distribution of the final sample in **Table 1 Panel B** shows that the sample is comprised of companies from ten different industry sectors based on their two digit SIC code with companies from the financial and manufacturing sectors accounting for approximately half the total number of observations. **Panel C** shows the distribution of the audit firm changes, according to their type, and the distribution of audit partner changes over the sample period. There are 69 audit firm changes and 150 audit partner rotations over the sample period. A breakdown of the 69 audit firm changes by direction shows 46 between firms of the same tier (i.e., from a Big 4 to Big 4 firm, or a non-Big 4 to non-Big 4 firm), 18 downward changes from a Big 4 to non-Big 4 firm and five upwards changes from a non-Big 4 to a Big 4 firm. Overall, 33% of firm years experienced an auditor rotation in our final sample. The remaining 447 firm years without a change in audit firm or partner will form the control group used in our subsequent analysis.

Table 2 shows a total of 1,496 KAMs were reported over the sample period. The distribution of KAMs by industry sector follows a similar frequency to the distribution of firm years in **Table 1 Panel B** while the average number of KAMs reported per company has fallen slightly from 2.37 in 2018 to 2.17 in 2020. This is comparable with other recent studies which show an average of 1.69 CAMs in the U.S (Burke et al., 2021), 2.01 KAMs in Australia (Kend and Nguyen, 2020), and 2.85 KAMs in the U.K. (Rousseau and Zehms, 2020). On average, a company in our sample has a slightly higher number of KAMs being dropped (N_DROP) than added (N_ADD) each year leading to a small drop in the average number of KAMs over our sample period.

During the sample collection process, each of the 1,496 KAMs was manually coded into one of 50 subcategories. These were then grouped under one of the 11 major themes listed in **Table 2 Panel B**, with the most common KAMs concerning issues related to business combinations & goodwill. A comparison of the top five themes in Panel B, with the top five topics reported in the U.S. (Burke et al., 2021), U.K. (Rousseau and Zehms, 2020), and Australia (Kend and Nguyen, 2020), shows a high level of similarity in the major issues being raised by auditors. For example, compared to our sample, KAMs concerning "goodwill" and "revenue" are listed within the top five in all settings, "business combinations" are also the most common KAMs in the U.S., and

⁷ KAM reporting requirements became effective for South African listed entities for fiscal years ending on or after 15 December 2016. Commencing our sample selection from 1 January 2018 allows for a comparison between the KAMs disclosed in 2017 and those at the start of the sample period.

“financial instruments” are listed within the top three most common KAMs in the U.K. While there is broad similarity between the major themes across these countries, macro-level factors lead to slight differences. For example, given the large number of mining companies in Australia, the most common KAMs within this setting concern “exploration and evaluation” matters.

Table 1 Sample selection and distribution

| <i>Panel A: Sample selection</i> | | | | | |
|--|------------------|-------------|-------------|---------------------|-------------|
| | <u>Companies</u> | | | <u>Observations</u> | |
| Initial sample of South African companies from 2018-2020 | 293 | | | 835 | |
| Less: observations without a primary listing on the JSE | (17) | | | (43) | |
| Less: observations missing the necessary financial data | (8) | | | (46) | |
| Less: observations missing the necessary KAM data | (17) | | | (53) | |
| Less: observations audited outside of South Africa | (2) | | | (4) | |
| Less: observations signed by two audit firms | (6) | | | (23) | |
| Number of companies in the final sample | 243 | | | 666 | |
| Number of audit firms | 16 | | | | |
| Number of audit partners | 237 | | | | |
| <i>Panel B: Distribution of observations by industry and year</i> | | | | | |
| <u>Industry sector</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>Total</u> | <u>%</u> |
| Agriculture, Forestry | 3 | 3 | 3 | 9 | 1.4% |
| Mining | 23 | 22 | 19 | 64 | 9.6% |
| Construction | 7 | 6 | 5 | 18 | 2.7% |
| Manufacturing | 49 | 50 | 46 | 145 | 21.8% |
| Transportation & Public utilities | 16 | 15 | 14 | 45 | 6.8% |
| Wholesale Trade | 10 | 10 | 8 | 28 | 4.2% |
| Retail Trade | 20 | 20 | 19 | 59 | 8.9% |
| Finance, Insurance, Real estate | 69 | 75 | 69 | 213 | 32.0% |
| Services | 22 | 27 | 24 | 73 | 11.0% |
| Public Administration | 4 | 4 | 4 | 12 | 1.8% |
| Total | 223 | 232 | 211 | 666 | 100% |
| <i>Panel C: Distribution of the auditor changes by type of change and year</i> | | | | | |
| <u>Type of auditor change</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>Total</u> | <u>%</u> |
| Upwards change in audit firm | 1 | 3 | 1 | 5 | 1% |
| Lateral change in audit firm | 13 | 15 | 18 | 46 | 7% |
| Downwards change in audit firm | 4 | 8 | 6 | 18 | 3% |
| Total audit firm changes | 18 | 26 | 25 | 69 | 10% |
| Audit partner changes | 57 | 47 | 46 | 150 | 23% |
| No change in audit firm or partner | 148 | 159 | 140 | 447 | 67% |
| Total | 223 | 232 | 211 | 666 | 100% |

This table shows the sample selection process followed to obtain the final sample of JSE listed companies used in the main analysis of this paper in Panel A; the distribution of observations for the final sample of JSE listed companies across the sample period according to their SIC industry sector in Panel B; and the distribution of the number of auditor changes according to their type in Panel C. An upwards change refers to a change from a non-Big 4 to a Big 4 auditor. A lateral change refers to a change of auditor within the same tier of firm and a downwards change refers to a change from a Big 4 to a non-Big 4 auditor.

4.2 Descriptive statistics

Table 3 reports the descriptive statistics for the key variables for the full sample (Columns 1 to 3), observations with no auditor changes (Columns 4 to 6), observations with a change in audit firm (Columns 7 to 9), and observations with a change in audit partner (Columns 10 to 12). Tests of differences in the means of these subsamples are reported in Columns 13 to 15. All non-logarithm transformed continuous variables have been winsorized at the 1st and 99th percentile to control for any undue influence of outliers on our results.

The statistics in Columns 1 to 3 for the full sample show most audit reports have at least two or more KAMs, 57% of the reports contain KAMs which did not appear in the prior year’s audit

report and 60% dropped KAMs which were raised in the prior year. Overall, compared to the prior year, 78% of the current year's KAMs are different. These statistics are similar to those shown in Columns 4 to 6 for the subsample without a change in auditor and columns 10 to 12 for the subsample where only the audit partner changed. However, there is a notable and statistically significant difference in most of these measures for the subsample with a change in audit firm (Columns 7 to 9) when compared to the subsamples without any change or only a change in audit partner.

Companies which changed audit firms report a significantly higher number of new KAMs and a higher number of old KAMs dropped compared to observations without a change in auditor or only a change in audit partner. On average, companies which changed audit firms reported at least one new KAM and removed at least one old KAM compared to the prior year. By comparison, a change in audit partner has a lower impact on the number of KAMs added and the number of old KAMs dropped compared to a change in audit firm.

Statistics for the audit variables shown in the full sample indicate that 10% (23%) of observations experienced a change in audit firm (partner). Approximately 70% of audit reports were signed by a Big 4 audit firm, 18% of audits were performed by an audit firm considered to be an industry specialist and 31% of audits were for 30 June year ends. Statistics for the client control variables shown in the full sample indicate 17% of firm years reported a loss while the average firm year showed a return on assets of 6%, a leverage ratio of 49%, and a book-to-market ratio of 1.39. A comparison of the means for these audit and client control variables shows, with the exception of BIG4, no significant differences between the different subsamples. A comparison of the means of BIG4 shows that, while a Big 4 firm audited 70% of observations, only 52% of those organisations which changed audit firms hired a Big 4 firm. This is partly due to eight companies that changed audit firms due to the Grant Thornton and BDO mergers in South Africa.⁸ However, the proportion of non-Big 4 audit firms represented within the subsample of audit firm changes is still notably higher than that of the entire population.⁹

Finally, in **Table 4** we report the Pearson correlations for the variables used in our main analysis. Columns 1 to 7 show the correlations for our dependent variables and significant associations between FIRM_SW and the number of new KAMs issued (N_NEW), and the proportion of KAMs that have changed compared to the prior year's audit report (K_CHANGE). By comparison, none of the dependent variables is correlated with PARTNER_SW. In addition, the variables for audit fees paid (AUDIT_FEE), company size (LTA), and complexity (SUBS) are correlated with most of the dependent variables, confirming the importance of these controls. Insignificant and low correlations between the controls and FIRM_SW and PARTNER_SW suggest that multicollinearity is not having a material influence on the coefficients and standard errors of the auditor switch variables in the subsequent analysis.

⁸ We treat these observations as audit firm switches since the audit reports showed that each of these companies reset their audit firm's tenure after this change. However, to ensure our results are not unduly influenced by these observations, we exclude them in our additional analysis and note that our findings remain unaffected.

⁹ To address this concern, we re-estimated our models in Section 6 after excluding observations audited by a non-Big4 firms and report results that are consistent with our main findings.

Table 2 Distribution of KAMs

| <i>Panel A: Distribution of the total number of KAMs reported, number of KAMs added, and number of KAMs dropped, by industry and year</i> | | | | | | | | | | | | | | | |
|---|--------------|-------------|-------------|--------------|-------------|--------------|-------------|--------------|--------------|-------------|---------------|-------------|--------------|---------------|-------------|
| <u>Industry sector</u> | <u>K_NUM</u> | | | | | <u>N_NEW</u> | | | | | <u>N_DROP</u> | | | | |
| | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>Total</u> | <u>%</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>Total</u> | <u>%</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>Total</u> | <u>%</u> |
| Agriculture, Forestry | 7 | 4 | 4 | 15 | 1.0% | 4 | 0 | 0 | 4 | 0.7% | 5 | 3 | 0 | 8 | 1.3% |
| Mining | 51 | 42 | 35 | 128 | 8.6% | 26 | 21 | 19 | 66 | 12.0% | 30 | 26 | 18 | 74 | 12.3% |
| Construction | 23 | 21 | 15 | 59 | 3.9% | 3 | 6 | 3 | 12 | 2.2% | 5 | 5 | 8 | 18 | 3.0% |
| Manufacturing | 108 | 100 | 97 | 305 | 20.4% | 42 | 46 | 51 | 139 | 25.2% | 43 | 52 | 50 | 145 | 24.0% |
| Transportation & Public utilities | 43 | 38 | 28 | 109 | 7.3% | 14 | 16 | 10 | 40 | 7.2% | 13 | 18 | 19 | 50 | 8.3% |
| Wholesale Trade | 21 | 22 | 13 | 56 | 3.7% | 9 | 8 | 8 | 25 | 4.5% | 13 | 7 | 12 | 32 | 5.3% |
| Retail Trade | 47 | 48 | 51 | 146 | 9.8% | 16 | 14 | 24 | 54 | 9.8% | 22 | 13 | 19 | 54 | 8.9% |
| Finance, Insurance, Real estate | 163 | 160 | 144 | 467 | 31.2% | 38 | 41 | 53 | 132 | 23.9% | 42 | 54 | 50 | 146 | 24.2% |
| Services | 53 | 63 | 57 | 173 | 11.6% | 17 | 21 | 27 | 65 | 11.8% | 15 | 21 | 26 | 62 | 10.3% |
| Public Administration | 12 | 13 | 13 | 38 | 2.5% | 3 | 4 | 8 | 15 | 2.7% | 3 | 4 | 8 | 15 | 2.5% |
| Total | 528 | 511 | 457 | 1496 | 100% | 172 | 177 | 203 | 552 | 100% | 191 | 203 | 210 | 604 | 100% |
| Average | 2.37 | 2.20 | 2.17 | 2.25 | | 0.77 | 0.76 | 0.96 | 0.83 | | 0.86 | 0.88 | 1.00 | 0.91 | |
| <i>Panel B: Distribution of KAMs according to their type</i> | | | | | | | | | | | | | | | |
| <u>KAM typology</u> | | | | | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>Total</u> | | | | | <u>Total</u> | <u>%</u> | |
| Business combinations & goodwill | | | | | 176 | 149 | 130 | 455 | | | | | 455 | 30.4% | |
| Non-financial assets | | | | | 119 | 125 | 113 | 357 | | | | | 357 | 23.9% | |
| Financial instruments | | | | | 61 | 66 | 52 | 179 | | | | | 179 | 12.0% | |
| Other issues | | | | | 19 | 40 | 66 | 125 | | | | | 125 | 8.4% | |
| Revenue | | | | | 43 | 39 | 23 | 105 | | | | | 105 | 7.0% | |
| Taxes | | | | | 30 | 17 | 18 | 65 | | | | | 65 | 4.3% | |
| Complex estimates | | | | | 24 | 23 | 14 | 61 | | | | | 61 | 4.1% | |
| Provisions | | | | | 24 | 19 | 12 | 55 | | | | | 55 | 3.7% | |
| Inventories | | | | | 17 | 18 | 14 | 49 | | | | | 49 | 3.3% | |
| Systems, controls, & governance | | | | | 11 | 12 | 11 | 34 | | | | | 34 | 2.3% | |
| Accounting changes & errors | | | | | 4 | 3 | 4 | 11 | | | | | 11 | 0.7% | |
| Total | | | | | 528 | 511 | 457 | 1,496 | | | | | 1,496 | 100.0% | |

This table shows the distribution by KAMs over the sample period. Panel A shows the distribution of KAMs by industry SIC sector industry for the total number of KAMs (K_NUM), number of KAMs added (N_NEW), and number of KAMs dropped (N_DROP). Panel B shows the distribution of KAMs based on their typology.

Table 3 Descriptive statistics of regression variables

| Variable | Full sample | | | No change in auditor | | | Change of audit firm | | | Change of audit partner | | | Test of difference in means | | |
|------------------------------|-------------|------------|-----------|----------------------|------------|-----------|----------------------|------------|-----------|-------------------------|-------------|------------|-----------------------------|-------------------|-------------------|
| | (1) Mean | (2) Med | (3) SD | (4) Mean | (5) Med | (6) SD | (7) Mean | (8) Med | (9) SD | (10) Mean | (11) Med | (12) SD | (13) [B]vs.[A] | (14) [B]vs.[C] | (15) [C]vs.[A] |
| Dependent variables | | | | | | | | | | | | | | | |
| K_NUM | 2.25 | 2.00 | 1.17 | 2.22 | 2.00 | 1.16 | 2.35 | 2.00 | 1.20 | 2.28 | 2.00 | 1.19 | 0.40 | 0.70 | 0.58 |
| K_WORDS | 5.86 | 5.89 | 0.66 | 5.85 | 5.89 | 0.67 | 5.87 | 6.03 | 0.62 | 5.88 | 5.88 | 0.65 | 0.83 | 0.95 | 0.70 |
| N_NEW | 0.83 | 1.00 | 0.91 | 0.75 | 1.00 | 0.82 | 1.19 | 1.00 | 1.07 | 0.89 | 1.00 | 1.02 | 0.00 | 0.05 | 0.09 |
| N_DROP | 0.91 | 1.00 | 0.95 | 0.85 | 1.00 | 0.93 | 1.12 | 1.00 | 0.90 | 0.99 | 1.00 | 1.04 | 0.02 | 0.40 | 0.10 |
| K_CHANGE | 0.78 | 0.67 | 0.75 | 0.73 | 0.60 | 0.71 | 1.10 | 1.00 | 0.85 | 0.79 | 0.67 | 0.76 | 0.00 | 0.01 | 0.34 |
| K_NEW | 0.57 | 1.00 | 0.50 | 0.55 | 1.00 | 0.50 | 0.70 | 1.00 | 0.46 | 0.57 | 1.00 | 0.50 | 0.02 | 0.09 | 0.56 |
| K_DROP | 0.60 | 1.00 | 0.49 | 0.58 | 1.00 | 0.49 | 0.72 | 1.00 | 0.45 | 0.60 | 1.00 | 0.49 | 0.02 | 0.07 | 0.62 |
| Independent variables | | | | | | | | | | | | | | | |
| FIRM_SW | 0.10 | 0.00 | 0.30 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 0.00 | . | . | . |
| PARTNER_SW | 0.23 | 0.00 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | . | . | . |
| AUDIT_FEE | 15.78 | 15.70 | 1.46 | 15.82 | 15.80 | 1.49 | 15.67 | 15.85 | 1.49 | 15.68 | 15.51 | 1.37 | 0.46 | 0.95 | 0.34 |
| BIG4 | 0.70 | 1.00 | 0.46 | 0.72 | 1.00 | 0.45 | 0.52 | 1.00 | 0.50 | 0.73 | 1.00 | 0.45 | 0.00 | 0.00 | 0.88 |
| SPECIALIST | 0.18 | 0.00 | 0.39 | 0.19 | 0.00 | 0.39 | 0.17 | 0.00 | 0.38 | 0.18 | 0.00 | 0.39 | 0.82 | 0.91 | 0.88 |
| BUSY | 0.31 | 0.00 | 0.46 | 0.30 | 0.00 | 0.46 | 0.30 | 0.00 | 0.46 | 0.31 | 0.00 | 0.47 | 1.00 | 0.89 | 0.83 |
| LTA | 22.56 | 22.70 | 2.03 | 22.58 | 22.72 | 2.02 | 22.48 | 22.60 | 2.13 | 22.53 | 22.66 | 2.03 | 0.69 | 0.84 | 0.81 |
| SUBS | 2.68 | 2.71 | 0.95 | 2.70 | 2.71 | 0.97 | 2.72 | 2.83 | 0.91 | 2.63 | 2.77 | 0.93 | 0.82 | 0.47 | 0.45 |
| ROA | 0.06 | 0.07 | 0.10 | 0.06 | 0.07 | 0.10 | 0.06 | 0.07 | 0.11 | 0.06 | 0.07 | 0.09 | 0.93 | 0.63 | 0.55 |
| LOSS | 0.17 | 0.00 | 0.37 | 0.15 | 0.00 | 0.36 | 0.20 | 0.00 | 0.41 | 0.19 | 0.00 | 0.39 | 0.31 | 0.78 | 0.35 |
| LEV | 0.49 | 0.48 | 0.23 | 0.49 | 0.47 | 0.23 | 0.49 | 0.51 | 0.20 | 0.49 | 0.48 | 0.24 | 0.98 | 0.89 | 0.86 |
| BTM | 1.39 | 1.02 | 1.41 | 1.38 | 1.02 | 1.41 | 1.47 | 1.16 | 1.25 | 1.40 | 1.02 | 1.51 | 0.62 | 0.76 | 0.85 |
| N excluding AUDIT_FEE | 666 | 666 | 666 | 447 | 447 | 447 | 69 | 69 | 69 | 150 | 150 | 150 | | | |
| N including AUDIT_FEE | 552 | 552 | 552 | 369 | 369 | 369 | 57 | 57 | 57 | 126 | 126 | 126 | | | |

This table reports the descriptive statistics for the key variables used in our models for the full sample (Columns (1) to (3)), for observations where there was no change in audit firm or audit partner (Columns (4) to (6)), only a change in audit firm (Columns (7) to (9)), and only a change in audit partner (Columns (10) to (12)). Columns (13) to (15) report the tests of differences in the means for the different subsamples. Not all companies disclose AUDIT_FEE, so statistics for this variable use a slightly smaller number of observations compared to the remaining variables. See **Table A1** of the Appendix for a full list of variable definitions.

Table 4 Pearson correlations

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| (1) K_NUM | 1.00 | | | | | | | | | |
| (2) K_WORDS | 0.72* | 1.00 | | | | | | | | |
| (3) N_NEW | 0.58* | 0.49* | 1.00 | | | | | | | |
| (4) N_DROP | 0.17* | 0.23* | 0.44* | 1.00 | | | | | | |
| (5) K_CHANGE | 0.15* | 0.21* | 0.79* | 0.46* | 1.00 | | | | | |
| (6) K_NEW | 0.42* | 0.41* | 0.80* | 0.39* | 0.73* | 1.00 | | | | |
| (7) K_DROP | 0.16* | 0.20* | 0.39* | 0.78* | 0.54* | 0.43* | 1.00 | | | |
| (8) FIRM_SW | 0.03 | 0.01 | 0.14* | 0.07 | 0.15* | 0.09 | 0.09 | 1.00 | | |
| (9) PARTNER_SW | 0.02 | 0.01 | 0.04 | 0.05 | 0.01 | 0.01 | 0.00 | -0.18* | 1.00 | |
| (10) AUDIT_FEE | 0.33* | 0.45* | 0.22* | 0.28* | 0.11* | 0.18* | 0.23* | -0.03 | -0.04 | 1.00 |
| (11) BIG4 | -0.06 | 0.25* | 0.01 | 0.06 | 0.03 | 0.03 | 0.04 | -0.13* | 0.03 | 0.39* |
| (12) SPECIALIST | -0.01 | 0.15* | 0.06 | 0.05 | 0.10* | 0.08 | 0.08 | -0.01 | -0.00 | 0.18* |
| (13) BUSY | -0.06 | -0.00 | -0.05 | -0.03 | 0.01 | -0.03 | -0.03 | -0.00 | 0.01 | 0.06 |
| (14) LTA | 0.17* | 0.35* | 0.08 | 0.14* | 0.00 | 0.09 | 0.13* | -0.01 | -0.01 | 0.76* |
| (15) SUBS | 0.27* | 0.31* | 0.17* | 0.24* | 0.09 | 0.13* | 0.23* | 0.01 | -0.03 | 0.50* |
| (16) ROA | -0.09 | -0.11* | -0.02 | -0.01 | 0.03 | -0.02 | -0.01 | 0.01 | -0.02 | 0.04 |
| (17) LOSS | 0.03 | 0.03 | -0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.03 | 0.03 | -0.12* |
| (18) LEV | 0.17* | 0.27* | 0.12* | 0.09 | 0.01 | 0.08 | 0.04 | -0.00 | 0.01 | 0.41* |
| (19) BTM | 0.07 | 0.04 | 0.04 | 0.06 | -0.00 | 0.09 | 0.05 | 0.02 | 0.00 | -0.16* |
| | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) |
| (11) BIG4 | 1.00 | | | | | | | | | |
| (12) SPECIALIST | 0.29* | 1.00 | | | | | | | | |
| (13) BUSY | 0.04 | -0.01 | 1.00 | | | | | | | |
| (14) LTA | 0.50* | 0.15* | 0.02 | 1.00 | | | | | | |
| (15) SUBS | 0.15* | 0.12* | 0.07 | 0.40* | 1.00 | | | | | |
| (16) ROA | 0.20* | 0.09 | -0.01 | 0.16* | 0.04 | 1.00 | | | | |
| (17) LOSS | -0.22* | -0.09 | 0.02 | -0.24* | -0.09 | -0.70* | 1.00 | | | |
| (18) LEV | 0.17* | 0.03 | -0.05 | 0.34* | 0.30* | -0.16* | 0.04 | 1.00 | | |
| (19) BTM | -0.23* | -0.11* | -0.07 | -0.13* | -0.07 | -0.30* | 0.27* | -0.12* | 1.00 | |

This table shows the Pearson correlations of the key variables. See **Table A1** of the Appendix for a full list of variable definitions. * Indicate correlations at significance levels of less than 1%.

5. Results

5.1 Does changing auditor affect the number and length of KAMs?

We start our analysis by examining whether a change in auditor affects the number and length of the KAMs shown in the audit report. **Table 5** presents the results of estimating an ordinary least squares (OLS) regression of Equation 1 using K_NUM (Columns 1 and 2) and K_WORDS (Columns 3 and 4) as the dependent variables. Results are reported with and without those observations with AUDIT_FEE disclosed. The coefficients of FIRMS_SW and PARTNER_SW are insignificant across all four regressions, showing that a change in audit firm or audit partner does not significantly affect the number and length of the KAMs disclosed.

Table 5 Effect of changing auditors on the number and length of KAMs

| VARIABLES | (1) K_NUM | (2) K_NUM | (3) K_WORDS | (4) K_WORDS |
|--------------------|---------------------|---------------------|----------------------|---------------------|
| AUDIT_FEE | | 0.321*** (0.000) | | 0.141*** (0.000) |
| FIRM_SW | 0.126 (0.386) | 0.112 (0.478) | 0.088 (0.236) | 0.093 (0.255) |
| PARTNER_SW | 0.108 (0.212) | 0.084 (0.355) | 0.051 (0.326) | 0.027 (0.654) |
| BIG4 | -0.368** (0.017) | -0.351** (0.020) | 0.197** (0.012) | 0.197** (0.013) |
| SPECIALIST | -0.133 (0.372) | -0.176 (0.243) | 0.072 (0.282) | 0.050 (0.468) |
| BUSY | -0.209* (0.067) | -0.205 (0.113) | -0.050 (0.421) | -0.031 (0.659) |
| LTA | 0.105** (0.014) | -0.087 (0.156) | 0.076*** (0.000) | 0.003 (0.915) |
| SUBS | 0.243*** (0.000) | 0.207*** (0.003) | 0.112*** (0.001) | 0.090*** (0.008) |
| ROA | -1.332** (0.039) | -0.774 (0.296) | -1.129*** (0.002) | -0.900** (0.024) |
| LOSS | -0.104 (0.578) | -0.042 (0.829) | -0.034 (0.709) | -0.016 (0.869) |
| LEV | 0.343 (0.271) | 0.205 (0.535) | 0.243* (0.098) | 0.122 (0.444) |
| BTM | 0.071 (0.119) | 0.061 (0.120) | 0.034 (0.111) | 0.044** (0.046) |
| Constant | -0.602 (0.456) | -0.971 (0.283) | 3.480*** (0.000) | 3.093*** (0.000) |
| N | 666 | 552 | 666 | 552 |
| Adj. R-squared | 0.152 | 0.204 | 0.246 | 0.264 |
| Industry & Year FE | YES | YES | YES | YES |

This table shows the pooled OLS regression results examining the effect of rotating auditors on the number of KAMS (K_NUM) (Columns 1 and 2), the number of words used to describe the KAMS (K_WORDS) (Columns 3 and 4). See **Table A1** of the Appendix for a full list of variable definitions. We use robust standard errors clustered on company. Two tailed p-values are shown in parentheses *** p<0.01, ** p<0.05, * p<0.1

With respect to the audit controls, AUDIT_FEE is positive and significantly associated with K_NUM and K_WORDS. Companies with higher audit fees report a higher number of KAMs and KAMs with more words. Moreover, BIG4 is negatively associated with K_NUM, but positively associated with K_WORDS, suggesting that Big 4 audit firms report fewer, but lengthier, KAMs than their non-Big 4 counterparts. With respect to the client controls, LTA and SUBS are

positively associated with K_NUM and K_WORDS, although LTA is insignificant when including controls for AUDIT_FEE. These results show that larger more complex companies receive a greater number of KAMs which are longer compared to smaller and less complex entities. Finally, ROA is negatively associated with K_NUM and K_WORDS in three of the four regressions, showing that better performing companies have fewer and shorter KAMs.

5.2 Does changing auditors determine the number of KAMs added or dropped?

The initial results in Section 5.1 may not fully account for the effect of changing auditors on the KAMs reported because they do not consider the number of KAMs being added or removed. For example, an audit report may have two KAMs in both the current and prior year, but they may be the same two KAMS, two entirely different KAMS, or one new and one old KAM. To address this, we proceed by examining whether a change in auditor determines the number of new KAMs added, the number of prior year's KAMs removed and the extent to which the KAMs in the current and prior year's audit reports differ. As before, results are presented separately for observations with and without disclosed audit fees.

Table 6 shows the results of estimating an OLS regression of Equation 1 using N_NEW, N_DROP and K_CHANGE as the dependent variables. The coefficients for FIRM_SW are significant in all six estimations, showing that a change in audit firm is associated with a significant number of new KAMs being reported (N_NEW), old KAMs being dropped (N_DROP), and the overall change in the KAMs (K_CHANGE) compared to the previous year. In other words, a change in audit firm leads to an audit report with different KAMs compared to what was reported by the previous firm in the prior year. By comparison, the coefficients for PARTNER_SW, while marginally significant in Columns 1 and 3, are insignificant in the remaining four model specifications. A change in audit partner does not appear to have the same effect on the number of KAMs added or dropped as a change in audit firm.

An overview of the control variables shows significant coefficients for AUDIT_FEE and SUBS across most of the model specifications. More complex companies, and companies with higher audit fees, have a greater number of KAMs added, KAMs dropped and KAMs changed compared to the prior year's audit report.

5.3 Does changing auditors determine the likelihood of KAMs added or dropped?

Section 5.2 examines the effect of changing auditors on the number of KAMs added or dropped. To ensure that the findings are uninfluenced by a few observations where a high number of KAMs are added or dropped, we examine whether a change in auditor affects the likelihood of KAMs being included in or removed from an audit report.

Table 7 shows the results of a logistic regression using the dichotomous dependent variables K_NEW and K_DROP for observations with and without audit fee data. Consistent with the results in **Table 6**, the coefficients of FIRM_SW are significant for all four regressions. Changing audit firms increases the likelihood of new KAMs added and increases the likelihood of old KAMs dropped. By comparison, changing audit partners does not significantly increase the likelihood of new KAMs added or old KAMs dropped.

In line with **Table 6**, companies with higher audit fees and a greater number of subsidiaries are more likely to have their KAMs changed. Finally, while insignificant in **Table 6**, the coefficients for BTM in **Table 7** suggest that companies with higher book-to-market ratios are more likely to have KAMs added. Overall, our findings in **Table 6** and **Table 7** provide compelling evidence that changing audit firms leads to an overhaul of the KAMs being reported as opposed to only rotating the engagement partner.

Table 6 Effect of changing auditors on the number of KAMs added, removed, and changed

| VARIABLES | (1) N_NEW | (2) N_NEW | (3) N_DROP | (4) N_DROP | (5) K_CHANGE | (6) K_CHANGE |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| AUDIT_FEE | | 0.167*** (0.003) | | 0.183*** (0.001) | | 0.080 (0.103) |
| FIRM_SW | 0.419*** (0.001) | 0.420*** (0.003) | 0.263** (0.024) | 0.267** (0.029) | 0.349*** (0.001) | 0.338*** (0.003) |
| PARTNER_SW | 0.147* (0.086) | 0.118 (0.212) | 0.156* (0.093) | 0.157 (0.118) | 0.059 (0.375) | 0.030 (0.667) |
| BIG4 | -0.009 (0.920) | -0.026 (0.798) | 0.100 (0.307) | 0.190* (0.076) | 0.057 (0.497) | 0.060 (0.517) |
| SPECIALIST | -0.003 (0.973) | -0.017 (0.871) | -0.096 (0.371) | -0.108 (0.337) | 0.094 (0.288) | 0.091 (0.322) |
| BUSY | -0.116 (0.121) | -0.152* (0.072) | -0.113 (0.182) | -0.037 (0.707) | -0.002 (0.973) | -0.017 (0.814) |
| LTA | 0.014 (0.528) | -0.079** (0.027) | 0.038 (0.131) | -0.071* (0.060) | -0.016 (0.401) | -0.060* (0.074) |
| SUBS | 0.133*** (0.001) | 0.120*** (0.005) | 0.215*** (0.000) | 0.175*** (0.000) | 0.083** (0.011) | 0.087** (0.015) |
| ROA | -0.676 (0.211) | -0.760 (0.243) | -0.423 (0.407) | -0.617 (0.320) | 0.164 (0.741) | 0.000 (1.000) |
| LOSS | -0.229* (0.074) | -0.235 (0.108) | -0.070 (0.604) | -0.045 (0.776) | -0.020 (0.859) | -0.008 (0.949) |
| LEV | 0.282 (0.160) | 0.099 (0.651) | 0.005 (0.977) | -0.079 (0.690) | -0.010 (0.951) | -0.147 (0.429) |
| BTM | 0.037 (0.198) | 0.035 (0.256) | 0.054* (0.059) | 0.044 (0.146) | -0.006 (0.770) | -0.014 (0.578) |
| Constant | -0.263 (0.566) | -0.475 (0.415) | -0.945* (0.065) | -1.133* (0.073) | 0.542 (0.194) | 0.452 (0.385) |
| N | 666 | 552 | 666 | 552 | 666 | 552 |
| Adj. R-squared | 0.080 | 0.093 | 0.092 | 0.112 | 0.085 | 0.081 |
| Industry & Year FE | YES | YES | YES | YES | YES | YES |

This table shows the pooled OLS regression results examining the effect of rotating auditors on the number of new KAMs reported (N_NEW); the number of KAMs dropped (N_DROP) from the prior year; and the change in KAMs (K_CHANGE). K_CHANGE is the sum of N_NEW and N_DROP standardized by the number of KAMs in the prior year's audit report. See **Table A1** of the Appendix for a full list of variable definitions. We use robust standard errors clustered on company. Two tailed p-values are shown in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 7 Effect of changing auditors on the likelihood of KAMs being added or removed

| VARIABLES | (1) K_NEW | (2) K_NEW | (3) K_DROP | (4) K_DROP |
|----------------------|--------------|--------------|---------------|---------------|
| AUDIT_FEE | | 0.229* | | 0.379** |
| | | (0.088) | | (0.011) |
| FIRM_SW | 0.639** | 0.582* | 0.661** | 0.707** |
| | (0.022) | (0.054) | (0.025) | (0.031) |
| PARTNER_SW | 0.130 | 0.048 | 0.128 | 0.190 |
| | (0.508) | (0.819) | (0.523) | (0.400) |
| BIG4 | 0.007 | 0.078 | 0.125 | 0.328 |
| | (0.974) | (0.752) | (0.624) | (0.256) |
| SPECIALIST | 0.196 | 0.154 | 0.084 | 0.031 |
| | (0.425) | (0.541) | (0.760) | (0.917) |
| BUSY | -0.180 | -0.211 | -0.227 | -0.078 |
| | (0.329) | (0.323) | (0.260) | (0.742) |
| LTA | 0.067 | -0.075 | 0.070 | -0.153 |
| | (0.251) | (0.415) | (0.235) | (0.118) |
| SUBS | 0.225** | 0.254** | 0.536*** | 0.462*** |
| | (0.026) | (0.025) | (0.000) | (0.000) |
| ROA | -0.773 | -0.696 | -0.877 | -1.608 |
| | (0.538) | (0.639) | (0.499) | (0.292) |
| LOSS | -0.264 | -0.250 | -0.113 | -0.088 |
| | (0.395) | (0.458) | (0.718) | (0.814) |
| LEV | 0.274 | -0.002 | -0.524 | -0.949* |
| | (0.527) | (0.997) | (0.264) | (0.079) |
| BTM | 0.146** | 0.154** | 0.069 | 0.025 |
| | (0.016) | (0.016) | (0.302) | (0.729) |
| Constant | -2.666** | -2.840** | -3.087** | -3.475** |
| | (0.027) | (0.045) | (0.014) | (0.026) |
| N | 666 | 552 | 666 | 552 |
| Industry and Year FE | YES | YES | YES | YES |
| Pseudo R-squared | 0.0563 | 0.0617 | 0.0840 | 0.104 |

This table shows the logit regression results examining whether rotating auditors increases the likelihood of KAMs being added (K_NEW) in the current year (Columns 1 and 2), dropped (K_DROP) from the previous year (Columns 3 and 4), or either added or dropped (K_CHANGE) compared to the prior year (Columns 5 and 6). See **Table A1** of the Appendix for a full list of variable definitions. We use robust standard errors clustered on company. Two tailed p-values are shown in parentheses *** p<0.01, ** p<0.05, * p<0.1

6. Additional analysis

In this section, we perform additional analysis to test the robustness of findings presented in Section 5. We start by examining the sensitivity of our main findings in **Table 8** to the exclusion of financial companies (Panel A), companies audited by a non-Big 4 audit firm¹⁰ (Panel B) and using a matched sample of companies which did not switch audit firms (Panel C). The matched sample in Panel C was created by estimating propensity scores based on the likelihood of rotating audit firms using the same client and audit controls in Equation 1. Using these propensity scores, each treatment observation was matched to its single closest control observation within a calliper distance of 0.1 where a suitable control observation was found from the same industry, in the same fiscal year, and audited by the same size of audit firm (Big 4 or non-Big 4). Although the number of audit firm switches and observations drop slightly, the results in **Table 8** are consistent with our main findings. Specifically, a change in audit firm results in a significant number of KAMs being added (N_NEW), KAMs dropped (N_DROP), and KAMs changed (K_CHANGE), compared to the prior year, and the effects are more pronounced than for a rotation of audit partners.

Next, we examine the effect of audit firm tenure on the number of KAMs added, dropped, and changed. We do this by replacing FIRM_SW with a new variable estimated as the natural log of an audit firm's tenure (AF_TENURE). Based on our findings so far, we expect longer tenures to be associated with fewer KAMs added, dropped, or changed. The results in **Panel A** of **Table 9** support this assertion by showing a significantly negative coefficient for AF_TENURE for five of the six regressions. In **Panel B** of **Table 9** we further examine the effect of changing audit firms by creating six indicator variables prefixed by "Y" which identify the year immediately preceding (Y-1) and the five years immediately following (Y+1 to Y+5) an audit firm rotation. The results of this analysis show the effects of changing audit firms is confined to the initial engagement year as shown by the significant coefficient for FIRM_SW in all six estimations. Results from the year before the change (Y-1_FIRM_SW) show negative coefficients for all six models. Only the specification examining the number of KAMs dropped (N_DROP) using the sample of firms with audit fees disclosed is significant. By comparison, N_DROP is positive and significant in columns 3 and 4 in the first year after the initial engagement year (Y+1_FIRM_SW) but the coefficients in the remaining columns are insignificant. These results show that a change in audit firms has the greatest effect on the KAMs reported in the initial engagement year.

Finally, we examine the effect of the direction of the audit firm switch on the number of KAMs added, dropped, or changed. We do so by disaggregating FIRM_SW into three indicator variables which take on the value of one if a change in audit firm was between two firms from the same tier (LATERAL), from a Big 4 firm to a non-Big 4 firm (DOWN) and from a non-Big 4 firm to a Big 4 firm (UP). In all other cases the variable is zero. The results in **Table 10** show the greatest effect for the companies that experienced a lateral change in audit firm, no effect when a company changed from a Big 4 to a non-Big 4 firm, and only an effect on the number of KAMs dropped when a company changed from a non-Big 4 to a Big 4 firm. However, there are very few audit firm changes in the sample (as shown in **Table 1 Panel C**) where companies moved from a non-Big 4 to a Big 4 auditor, so caution is needed when interpreting these findings.

¹⁰ Our findings are also robust to the exclusion of the eight audit firm switches affected by the BDO and Grant Thornton merger. For brevity, we do not report these additional results since the findings in Panel B of Table 8 report the effects of excluding all observations with a non-Big 4 audit firm.

Table 8 Analysis of results after excluding financial firms and non-Big 4 clients

| <i>Panel A: Results after excluding all financial firms</i> | | | | | | |
|---|-----------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|
| VARIABLES | (1) N_NEW | (2) N_NEW | (3) N_DROP | (4) N_DROP | (5) K_CHANGE | (6) K_CHANGE |
| AUDIT_FEE | | 0.160** (0.030) | | 0.213*** (0.009) | | 0.069 (0.291) |
| FIRM_SW | 0.485*** (0.006) | 0.483*** (0.008) | 0.294* (0.060) | 0.294* (0.061) | 0.365*** (0.008) | 0.363*** (0.009) |
| PARTNER_SW | 0.111 (0.315) | 0.11 (0.375) | 0.154 (0.221) | 0.148 (0.290) | 0.037 (0.675) | 0.02 (0.833) |
| N | 453 | 373 | 453 | 373 | 453 | 373 |
| Firm switches | 46 | 40 | 46 | 40 | 46 | 40 |
| Adj. R-squared | 0.058 | 0.071 | 0.087 | 0.089 | 0.041 | 0.036 |
| Controls | YES | YES | YES | YES | YES | YES |
| Industry & Year FE | YES | YES | YES | YES | YES | YES |
| <i>Panel B: Results after excluding all observations with a non-Big 4 auditor</i> | | | | | | |
| AUDIT_FEE | | 0.162** (0.011) | | 0.133** (0.031) | | 0.086 (0.135) |
| FIRM_SW | 0.380** (0.026) | 0.419** (0.017) | 0.239 (0.135) | 0.283* (0.087) | 0.345** (0.011) | 0.381*** (0.006) |
| PARTNER_SW | 0.065 (0.520) | 0.088 (0.402) | 0.132 (0.238) | 0.16 (0.172) | 0.01 (0.893) | 0.037 (0.640) |
| N | 467 | 436 | 467 | 436 | 467 | 436 |
| Firm switches | 36 | 35 | 36 | 35 | 36 | 35 |
| Adj. R-squared | 0.068 | 0.082 | 0.094 | 0.103 | 0.085 | 0.095 |
| Controls | YES | YES | YES | YES | YES | YES |
| Industry & Year FE | YES | YES | YES | YES | YES | YES |
| <i>Panel C: Results for sample using propensity score matching</i> | | | | | | |
| AUDIT_FEE | | 0.013 (0.918) | | 0.179 (0.267) | | -0.021 (0.870) |
| FIRM_SW | 0.424** (0.013) | 0.705*** (0.001) | 0.188 (0.252) | 0.131 (0.547) | 0.346** (0.018) | 0.493*** (0.004) |
| PARTNER_SW | 0.221 (0.556) (0.652) | 0.364 (0.347) (0.343) | -0.176 (0.640) (0.235) | 0.060 (0.886) (0.778) | 0.220 (0.590) (0.780) | 0.081 (0.780) (0.471) |
| N | 132 | 100 | 132 | 100 | 132 | 100 |
| Firm switches | 66 | 50 | 66 | 50 | 66 | 50 |
| Adj. R-squared | 0.110 | 0.119 | 0.066 | 0.103 | 0.042 | 0.043 |
| Controls | YES | YES | YES | YES | YES | YES |
| Industry & Year FE | YES | YES | YES | YES | YES | YES |

This table shows the pooled OLS regression results examining the effect of rotating auditors on N_NEW, N_DROP and K_CHANGE after excluding financial companies (Panel A), after excluding companies with a non-Big 4 auditor (Panel B) and using a matched sample of companies that did not switch audit firms (Panel C). The matched sample in Panel C was created by estimating propensity scores based on the likelihood of rotating audit firms using the same client and audit controls in equation (1). Using these propensity scores, each treatment observation was matched to their single closest control observation from the same industry, firm year, and size of their audit firm (Big 4 or non-Big 4) within a calliper distance of 0.1 where a suitable control observation was found. See **Table A1** of the Appendix for a full list of variable definitions. We use robust standard errors clustered on company. Two tailed p-values are shown in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 9 Effect of audit firm tenure on the number of KAMs added, removed, and changed

| <i>Panel A: Effect of audit firm tenure on the number of KAMS added, removed, and changed</i> | | | | | | |
|---|---------------------|---------------------|---------------------|----------------------|---------------------|----------------------|
| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
| | N_NEW | N_NEW | N_DROP | N_DROP | K_CHANGE | K_CHANGE |
| AUDIT_FEE | | 0.181*** (0.002) | | 0.202*** (0.000) | | 0.096* (0.058) |
| AF_TENURE | -0.054 (0.113) | -0.075** (0.045) | -0.089** (0.011) | -0.102*** (0.006) | -0.070** (0.013) | -0.082*** (0.007) |
| PARTNER_SW | 0.116 (0.179) | 0.095 (0.315) | 0.159* (0.085) | 0.165* (0.096) | 0.043 (0.519) | 0.021 (0.770) |
| N | 666 | 552 | 666 | 552 | 666 | 552 |
| Adj. R-squared | 0.066 | 0.084 | 0.096 | 0.12 | 0.076 | 0.079 |
| Controls | YES | YES | YES | YES | YES | YES |
| Industry & Year FE | YES | YES | YES | YES | YES | YES |
| <i>Panel B: Analysis of the years surrounding a change in audit firm</i> | | | | | | |
| AUDIT_FEE | | 0.172*** (0.003) | | 0.198*** (0.001) | | 0.082 (0.104) |
| Y-1_FIRM_SW | -0.057 (0.647) | -0.104 (0.433) | -0.198 (0.122) | -0.322** (0.021) | -0.082 (0.470) | -0.103 (0.417) |
| FIRM_SW | 0.390*** (0.003) | 0.420*** (0.004) | 0.304** (0.011) | 0.300** (0.018) | 0.334*** (0.002) | 0.338*** (0.005) |
| Y+1_FIRM_SW | -0.105 (0.401) | 0.000 (0.997) | 0.350** (0.021) | 0.378** (0.025) | 0.016 (0.877) | 0.057 (0.604) |
| Y+2_FIRM_SW | 0.042 (0.762) | 0.095 (0.549) | 0.064 (0.640) | 0.114 (0.452) | 0.05 (0.665) | 0.086 (0.502) |
| Y+3_FIRM_SW | -0.166 (0.209) | -0.123 (0.420) | -0.015 (0.916) | -0.007 (0.966) | -0.141 (0.220) | -0.13 (0.340) |
| Y+4_FIRM_SW | -0.047 (0.766) | 0.159 (0.425) | 0.23 (0.256) | 0.335 (0.178) | -0.076 (0.536) | 0.011 (0.945) |
| Y+5_FIRM_SW | -0.136 (0.505) | 0.031 (0.902) | -0.074 (0.785) | -0.183 (0.332) | -0.125 (0.509) | 0.028 (0.909) |
| PARTNER_SW | 0.146* (0.090) | 0.117 (0.221) | 0.178* (0.057) | 0.182* (0.068) | 0.062 (0.356) | 0.031 (0.663) |
| N | 666 | 552 | 666 | 552 | 666 | 552 |
| Adj. R-squared | 0.075 | 0.087 | 0.098 | 0.124 | 0.08 | 0.075 |
| Controls | YES | YES | YES | YES | YES | YES |
| Industry & Year FE | YES | YES | YES | YES | YES | YES |

This table shows the pooled OLS regression results examining the effect of an audit firm's tenure (Panel A), and the years surrounding a change in audit firm (Panel B), on N_NEW, N_DROP and K_CHANGE. AF_TENURE is the natural logarithm of the number of years of an audit firm's tenure as disclosed in the audit report; the variables in Panel B with the prefix "Y" are binary variables used to identify the year before (Y-1) and the five years after (Y+1 to Y+5) an audit firm rotation. See **Table A1** of the Appendix for a full list of the remaining variable definitions. We use robust standard errors clustered on company. Two tailed p-values are shown in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 10 Effect of the audit switch direction on the number of KAMs added, removed, and changed

| VARIABLES | (1) N_NEW | (2) N_NEW | (3) N_DROP | (4) N_DROP | (5) K_CHANGE | (6) K_CHANGE |
|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| AUDIT_FEE | | 0.167*** (0.003) | | 0.198*** (0.000) | | 0.081 (0.102) |
| LATERAL | 0.520*** (0.002) | 0.491*** (0.006) | 0.232* (0.083) | 0.19 (0.164) | 0.426*** (0.002) | 0.385*** (0.009) |
| DOWN | 0.21 (0.301) | 0.231 (0.415) | 0.083 (0.714) | 0.09 (0.727) | 0.168 (0.257) | 0.188 (0.342) |
| UP | 0.193 (0.518) | 0.323 (0.311) | 1.117*** (0.000) | 1.272*** (0.000) | 0.263 (0.167) | 0.332 (0.116) |
| PARTNER_SW | 0.147* (0.087) | 0.118 (0.216) | 0.155* (0.095) | 0.156 (0.119) | 0.059 (0.377) | 0.03 (0.672) |
| N | 666 | 552 | 666 | 552 | 666 | 552 |
| Adj. R-squared | 0.08 | 0.091 | 0.096 | 0.12 | 0.084 | 0.079 |
| Controls | YES | YES | YES | YES | YES | YES |
| Industry & Year FE | YES | YES | YES | YES | YES | YES |

This table shows the pooled OLS regression results examining the direction of the change in audit firm on N_NEW, N_DROP and K_CHANGE. LATERAL, DOWN, and UP are binary variables, which are respectively equal to one if a change in audit firm is between two firms of the same tier, from a Big 4 to a non-Big 4 firm, from a non-Big 4 firm to a Big 4 firm, and zero otherwise. See **Table A1** of the Appendix for a full list of the remaining variable definitions. We use robust standard errors clustered on company. Two tailed p-values are shown in parentheses *** p<0.01, ** p<0.05, * p<0.1

7. Discussion and conclusions

Preliminarily, neither a partner rotation nor a change in audit firm was associated with the number and length of KAMs reported, but these measures oversimplify the expanded reporting environment because not all additions and removals of individual KAMs are captured. When focusing on the number of KAMs added or dropped each year and the overall difference in year-on-year KAM disclosures the findings change. Rotating audit partners continues to show an insignificant effect on the KAM disclosures, but rotating audit firms is associated with significantly different KAMs being identified and reported.

Theoretically, audit practice is a combination of the ostensive elements of professional standards and the manner in which their provisions are understood and applied by practitioners (see Latour, 1986; Feldman and Pentland, 2003). The ostensive aspects of the KAM determination process are a source of stability. ISA 701 does not define every issue which should be flagged as a key matter or test procedures which must, at a minimum, be performed to ensure that all KAMs have been identified. Nevertheless, a combination of coercive, normative and mimetic pressures – which characterise the functioning of all professionalised activity – should be at work and lead to the consistent identification of and reporting on KAMs by individual partners (consider DiMaggio and Powell, 1983; Fogarty, 1992; Power, 2003). This provides a reasonable explanation for why audit partner rotation does not significantly impact the KAMs disclosed within the audit report.

Audit firms have developed internal policies and best practices which complement the provisions of ISA 701 and serve to coordinate, monitor and control how individual partners operationalise the requirement to disclose KAMs. This line of thought is consistent with findings reported by earlier accounting and auditing scholars. Knowledge templates (Durocher and Gendron, 2014), well-established heuristics (Power, 2003) and the bureaucracy of professional

firms (Fogarty, 1992) have a powerful socialising effect on individual practitioners which leads to repetitive behaviour and conformance to the normalised methods of accounting and verification.

The pressures which drive conformity at the individual level do not necessarily work in the same way when it comes to how audit firms apply ISA 701. In practical terms, the standard cannot define the KAM determination process with sufficient precision to eliminate all sources of variability (see Feldman and Pentland, 2003). Internally developed guides, best practices and operating processes can differ among the firms. Each audit firm's interpretation of ISA 701's requirements is technically correct, but differences can arise when one audit firm replaces another. There is evidence of performative variability in how, for example, audit firms determine materiality, sample sizes and the exact test procedures employed during an engagement (see Humphrey and Moizer, 1990; Pentland, 1993; Power, 2003). That KAMs are added to and removed from audit reports when there is a change in audit firm is offered as additional evidence of how professional standards can be implemented differently at a firm-level.

Rousseau and Zehms (2020) argue that "partner-level decision styles are the primary force behind KAM reporting outcomes", something which suggests that 'regulators' coercive pressures towards engagement-specific KAM reporting are sufficient to overcome audit firms' institutional pressures towards 'standardisation' (p. 31). We do not refute this argument. While the setting in South Africa and the U.K. is not precisely the same, the current paper's sensitivity tests show that the effects of a firm change on KAM determination are most pronounced in the first year of a new engagement and diminish thereafter. The nature and number of KAM disclosures may, therefore, be a function of client-specific features and partner idiosyncrasies over the long-term rather than performative differences in how firms operationalise auditing standards.

The findings have implications for scholars, practitioners and regulators. The current paper addresses the call for additional research on the practicalities of accounting and auditing where the unit of analysis is the individual partner or audit firm rather than the profession considered as a whole (Cooper and Robson, 2006). There have been experimental efforts to examine auditors' decision-making processes and judgements in different settings (see Lennox and Wu, 2018) but few have dealt specifically with KAM determination. Rousseau and Zehms (2020) are a notable exception but their model relies on a proxy for audit partner decision style based on how KAMs are worded. It does not fully cater for audit firm and partner rotations. In contrast, the current paper deals with both. Empirical evidence is provided to demonstrate how ostensive and performative elements of the audit process promote stability and, at the same time, enable flexibility. The isomorphic forces which drive consistency in professionalised settings are strongest at the level of the individual auditor at each firm but, because these forces are not exerted homogeneously across the professional space, lead to differences in audit practices among firms.

Variability in KAM reporting when there is a change in audit firms is important for policymakers, audit committees and professional accounting bodies dealing with or considering requirements to rotate audit firms. Rotations should not only be evaluated as a mechanism for promoting auditor independence (see, for example, Guénin-Paracini et al., 2015; Horton et al., 2021) but according to the implications for how audits are executed and findings are reported to users. Differences in how audit firms identify KAMs highlight the need for further reflection among auditors on how risk assessments are conducted, test procedures are executed and professional judgement is applied, especially if a change in KAMs is the result of a deficiency in how prior engagements were completed. That KAMs are most likely to be added to or removed from an audit report following a change in audit firm also provides indirect evidence in favour of firm rotations in addition to or in place of rotating an engagement leader. If performative variability is most likely when audit firms are changed, this could be an important mechanism for avoiding

audits characterised by habitual application of professional standards and the execution of the same test procedures in favour of a more proactive approach to risk identification and response.

Additional research will be required to expand on these observations. The current paper deals with how KAMs are reported but does not test the value relevance of changes in KAM disclosures or consider empirically how these may evidence an increase or decrease in audit quality. At the same time, data has been collected from a single jurisdiction over a relatively short period. Because South Africa is one of the more than 60 countries which have adopted International Standards on Auditing, the findings should be broadly applicable but an extended longitudinal study which incorporates auditors and auditees working under different regulatory, cultural, and legal frameworks will be required to gain additional insights. For example, future researchers could test for differences in the number and type of KAMs reported and changes in KAMs following partner switches or firm changes among jurisdictions where levels of litigation risk, governance frameworks and extent of independent monitoring by regulators vary. How the promulgation of rules mandating audit firm rotations affects KAM disclosures can be considered in more detail using data collected from multiple regions. While South Africa has decided to require audit firm rotations by listed companies, the period covered by the current study precedes the effective date of the first obligatory rotations. In addition, South Africa is not the only country to require listed companies to change auditors after set periods. As such, only preliminary evidence on the link between compulsory firm rotations and KAM disclosures is offered. The importance of other macro-level factors for what and how KAMs are reported such as engagement between companies and institutional investors, the strength of regulatory protection for financial capital providers and requirements established by stock exchanges could also be considered.

The authors accept that the conclusions drawn are based only on inferential testing. No effort has been made to engage with audit firms and their clients to understand exactly how KAMs are being determined and the factors which contribute to the inclusion of a new KAM or removal of an existing one from an audit report. A more exploratory research design using detailed interviews, ethnographies and case studies is required to provide additional insights and reach more definitive conclusions. This line of research can be taken further by considering how regulators, investors and other stakeholders engage with KAMs and their perceived usefulness. How a client's internal governance and control environment influences the auditor's identification of and reporting on KAMs must also be considered by both empirical and qualitative studies.

Despite its limitations, this paper provides a current account of KAM reporting and determination by South African companies which can be used by future researchers. Findings should be interesting for investors, standard-setters and regulators interested in what KAMs are being reported. While not the express purpose of this research, the findings also lend weight to the argument that mandatory firm rotation can improve audit quality and auditor independence (see Harber and Maroun, 2020; PCAOB, 2011; Bell, Causholli, & Knechel, 2015; IRBA, 2016). This is predicated on the position that variation in the KAMs included in an audit report when firms rotate are indicative of a new auditor taking a fresh perspective on a client's risk of material misstatement and responding to those risks differently to the incumbent firm. If this is the case, examining if KAMs provide insights into how audits are being executed and, if so, how KAMs can be used to gauge changes in audit activity and audit quality could provide an interesting avenue for future research and have a significant impact on audit practice and theory.

Appendix

Table A1 Variable definitions

| <u>KAM variables</u> | <u>Definition</u> |
|--------------------------------|--|
| K_NUM | Number of KAMs disclosed in the audit report. |
| K_WORDS | Natural log of the total number of words from the KAMs, excluding the words from the separate sections which report how the auditor addressed those KAMs, within a given audit report. |
| N_NEW | Number of entirely new KAMs disclosed in the current year's audit report compared to last year. |
| N_DROP | Number of KAMs that appeared in last year's audit report which were not reported in the current year's audit report. |
| K_CHANGE | Change in KAMs estimated as the sum of N_NEW and N_DROP standardized by the number of KAMs in the prior year's audit report. |
| K_NEW | 1 if a new KAM is reported in the current year audit report, and 0 otherwise. |
| K_DROP | 1 if a KAM is dropped from the prior year audit report, and 0 otherwise. |
| <u>Switch variables</u> | |
| FIRM_SW | 1 for the first year of an audit firm's tenure, and 0 otherwise. |
| PARTNER_SW | 1 for the first year of an audit partner's tenure where the company has retained the same audit firm as the previous year, and 0 otherwise. |
| <u>Audit variables</u> | |
| AUDIT_FEE | Natural logarithm of audit fees. |
| BIG4 | 1 for companies audited by Deloitte, EY, KPMG, or PWC, and 0 otherwise. |
| SPECIALIST | 1 if a company's audit firm audits 30% or more of the aggregate total assets of the company's one digit SIC sector in a given year, and 0 otherwise. |
| BUSY | 1 for companies with a June fiscal year-end, the busiest period for South African audit firms. |
| <u>Client variables</u> | |
| LTA | Natural logarithm of total assets |
| SUBS | Natural logarithm of 1 + the number of subsidiaries shown in the annual report. |
| ROA | Return on assets calculated as the profit before tax divided by total assets |
| LOSS | 1 if profit before tax is negative, and 0 otherwise |
| LEV | Leverage calculated as total liabilities divided by total assets. |
| BTM | Book to market ratio is calculated as the net asset value divided by the market capitalization of the company at their fiscal year-end. |

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