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Industry tournament incentives and Auditors' Professional Judgment

Abstract

Purpose – This study examines whether CEO's industry tournament incentives are associated with auditors' professional judgements, particularly in determining key audit matters (KAM) and setting materiality levels (MAT).

Design/methodology/approach – We use a sample of UK firms and measure auditors' judgment through the number of KAM and the MAT levels, where a higher number of KAM indicates a broader audit scope, and a lower MAT level suggests a more detailed audit inspection. The analysis also examines cases in which CEOs possess financial expertise and employs various alternative specifications and robustness checks to address potential endogeneity.

Findings – Findings show that a larger industry tournament gap is associated with a decrease in KAM and an increase in MAT levels. However, this relationship is nuanced: when CEOs have a financial background, auditors perceive the higher in-industry pay gap as increasing business and fraud risks, prompting a deeper audit approach. Specifically, auditors lower materiality threshold and increase the depth of audit procedures to address these perceived risks. These findings underscore the importance of compensation and financial expertise dynamics in shaping audit practices.

Originality – While prior research has primarily focused on audit fees, this study offers novel insights by shifting the focus to auditors' professional judgments. Specifically, it is the first to examine how industry tournament incentives influence auditors' judgment, thereby providing new evidence on new channels, namely, the number of Key Audit Matters and Materiality levels, through which auditors respond to CEO industry tournament pressures. These channels are arguably less prone to measurement bias than audit fee-based. Furthermore, the study extends the literature by demonstrating how auditors adjust their judgments in response to CEOs' financial backgrounds, which may serve as a signal of heightened strategic reporting risk.

Keywords: ISA 700; ISA 701; tournament incentives; industry tournament; CEO; audit risk; auditors' professional judgment; materiality; KAM

Paper type: Research paper

1. Introduction

In this study, we investigate whether CEOs' industry tournament incentives influence auditors' professional judgment¹. The influence of executive compensation on auditors' decision-making has been a subject of controversy among regulators and scholars (Wysocki, 2010). The Public Company Accounting Oversight Board (PCAOB, 2012) emphasized the importance of understanding executive compensation structures for assessing audit risk. While prior studies have explored the influence of performance-based compensation on audit quality, their conclusions remain inconsistent (Billings et al., 2014; Kim et al., 2014; Kannan et al., 2014). However, most studies focus on performance-based compensation and its association with financial reporting irregularities, often overlooking the competitive dynamics among executives that may incentivize misreporting.

A new stream of research has shifted the focus to tournament incentives, which might align CEOs' interests with those of shareholders (Huang et al., 2019) and potentially reduce the likelihood of financial misstatements. For instance, some studies show that tournament incentives can encourage CEOs to adopt value-enhancing policies (Coles et al., 2018; Huang et al., 2019; Kubick & Lockhart, 2016). Conversely, other studies argue that such incentives might trigger self-interest, increase risk-taking behaviors (Abdoh, 2023; Kubick & Lockhart, 2021) and heighten the motivation to manipulate earnings (Huang et al., 2020). Despite these opposing views, how auditors respond to the risks driven by tournament incentives remains an open research question. Notably, only a few studies (e.g., Jia, 2017; Ge et al., 2020; Tan, 2021) have examined this issue, and their conclusions are inconsistent.

The inconsistent conclusions may partly be due to the use of audit fees as a proxy for audit quality and effort. While audit fees may theoretically reflect audit quality and effort, they do not necessarily indicate the actual effort exerted by auditors (Kinney et al., 2004; Kwon et al., 2018; Seetharaman et al., 2002). In fact, audit fee premiums may not correspond to increased breadth or scope of audit effort (Kwon et al., 2018). Instead, they may represent a fee protection for expected litigation risk (e.g., Seetharaman et al., 2002) or reflect diminished auditor independence (e.g., Kinney et al., 2004). Thus, existing findings, which suggest that low industry tournament incentives lead to higher audit fees, could imply either of the following: that the audit fee premium is charged to account for the heightened audit risks, or it reflects

¹ Industry tournament incentives refers to the gap between the highest-paid CEOs in an industry and their industry peers.

litigation protection against potential managerial opportunism, or it is rent extraction by the auditors rather than genuine efforts to improve audit quality. This raises an open research question: do higher audit fees effectively translate into sufficient diligence by auditors to mitigate the risks associated with tournament incentives, and hence genuinely protect investors? The conflicting interpretations on the validity of audit fees as a proxy for audit efforts/quality suggest that further research is necessary to precisely understand auditors' responses to tournament incentives.

To address the limitations in prior research, we directly measure auditors' response (i.e., professional judgment) to industry tournament incentives². In essence, by exploiting the UK regulatory requirement by the Financial Reporting Council (FRC) with effect from 2013 (FRC, 2013a; 2013b) for auditors to disclose key audit matters (KAMs) and materiality (MAT) levels, we employ these disclosures as proxies for professional judgements. Consequently, we also provide further evidence consistent with the relevant audit regulatory language. KAMs reflect risk areas requiring significant audit attention and guide audit planning (IAASB; Messier et al., 2019). For example, KAMs support auditors in identifying which areas and accounts need to be audited, which sampling techniques to apply, how many accounts may comprise the audit sample, and which compliance and substantive procedures to proceed with (Christensen et al., 2015; ICAEW, 2017). Arguably, the higher the number of identified KAMs, the higher the implied audit risks, and the greater the audit effort, thus providing greater assurance that financial statements are of higher quality (Al-mulla and Bradbury, 2022). Also, to draw an opinion on whether financial statements provide a fair representation of a firm's financial position, auditors should set a maximum level of potential misstatements at the planning stage; these are known as MAT levels^{3,4}. While a lower MAT level implies a broader and greater depth of audit procedures, a higher MAT level indicates a narrower and lesser depth of audit procedures, which might lead to more undetected misstatements (Audsabumrungrat, et al., 2016). Therefore, we argue that by employing MAT levels and number of KAM, we more effectively capture not only the broadness and depth of auditors' effort, hence the scope of external audits (Livne et al., 2024), but also the auditors' professional judgment.

² As a further analysis, we also considered the internal tournament incentive.

³ The IAASB's guidance (2009, ISA 320.04) states, "the auditor's determination of materiality is a matter of professional judgment, and is affected by the auditor's perception of the financial information needs of users of the financial statements".

⁴ The level of materiality set is based on professional judgment and is likely to depend on many factors, such as the complexity of the company, its business and financial structure, the reliability of its internal controls, and the corporate governance mechanism (FRC, 2016).

Furthermore, we challenge existing research postulating that auditors' responses to tournament incentives are homogeneous. Instead, we posit that their responses are contingent on CEOs' ability to exploit the flexibility inherent to financial reporting, particularly when CEOs possess relevant financial expertise. Indeed, research shows that CEOs with financial experience influence firms' financial policies, risk profiles and financial reporting environment (Custodio & Metzger, 2014; Matsunaga et al., 2013). These later findings raise a valid concern about whether it is the tournament incentive alone, or the combination of such incentives and CEOs with relevant financial background, that affects auditors' judgement. Therefore, we, further, extend prior research by investigating whether auditors' response to industry tournament incentive is contingent on CEOs ability to misuse the flexibility inherent to financial reporting (i.e., possessing relevant financial background).

To investigate our research question, we use a sample of UK firms from 2013 to 2020 and two proxies for auditors' judgment: the number of key audit matters (KAM) reported in the auditor report (Lennox et al., 2018; Reid et al., 2019) and materiality (MAT) level. Our results suggest a negative association between industry tournament incentives and auditors' professional judgment. Specifically, auditors appear to perceive that higher industry tournament incentives reduce audit risk, prompting them to narrow the audit scope. However, when CEOs have finance expertise or experience in their career background, auditors seem to view the industry pay gap as increasing business and fraud risks, leading to increased depth and breadth of auditors' audit approach by lowering the MAT levels adopted in audit procedures. We also examine how CEOs career horizons influence auditors' responses. CEOs with longer career horizons (younger CEOs) have greater motivation to win the tournament 'prize', while older CEOs with shorter horizons are less motivated (Veiga, 1983, Ward et al., 1995). Our further analysis shows that industry tournament incentives have a stronger impact on number of KAM for older CEOs and a greater effect on MAT levels for younger CEOs. We also control for CFO incentives and intra-firm tournament incentives. Our findings are robust to several alternative specifications and control for potential endogeneity issues. Although our results continue to hold, we cannot completely rule out the possibility that some endogeneity issues remain.

This paper contributes to the auditing literature by advancing our knowledge of the relations between firm compensation policies and auditors' judgment and their efforts. Despite the importance of auditors' professional judgment on audit quality, evidence of the judgment

process in the context of the audit plan is limited⁵. Therefore, to the best of our knowledge, this is the first paper to examine the influence of industry tournament incentives on auditors' professional judgments. Specifically, we document that industry tournament incentives statistically and economically affect the number of KAM and MAT levels reported by external auditors. While existing studies on audit quality and CEO industry tournaments are important (e.g., Tan, 2021), our research extends this literature by providing the first evidence of new channels (i.e., number of KAM and MAT levels) through which auditors respond to CEO industry tournaments. Specifically, we offer evidence that aligns with the relevant audit regulatory language (FRC, 2013a; 2013b) and is less subject to measurement bias (Livne et al., 2024).

Second, we also contribute to existing audit quality and tournament literature (Tan, 2021) by considering the heterogeneity of auditor responses to industry tournaments incentives. In particular, unlike prior studies, we document that auditor response to the tournament incentives are not homogeneous but depend on CEOs' financial expertise. Our findings suggest that the results of Tan (2021) could be driven by auditors' responses to CEOs lacking relevant financial background. Indeed, we show that auditors perceive industry tournaments as indicators of business risk and incorporate this risk into their audit plans, especially when the CEO possess relevant financial background.

These findings have crucial practical implications for both auditors and corporate governance stakeholders. As key players in financial markets who fulfill both insurance and informational roles globally (Ge & Kim, 2020), auditors' perception on the pay gap between the CEO and other industry peers carry broader implications for the development of optimal corporate compensation policies. The findings of this study are particularly relevant to boards of directors and compensation committees, suggesting that they should carefully evaluate executive compensation policies to mitigate unintended economic consequences of widening the pay gap between the CEO and industry peers, particularly for CEOs with financial expertise. By aligning CEO incentives more closely with long-term firm performance rather than short-term financial outcomes, boards can help reduce auditor effort and its subsequent cost.

Finally, our study addresses the PCAOB's call for auditors to consider incentive compensation structures as audit risk factors. We propose that, in addition to the size of CEO compensation,

⁵ Prior studies on the determinants of materiality and risk matters are limited because of lack of data availability (Bepari et al., 2022; Doyle et al., 2007).

the pay gap between the CEO and other industry peers should be considered as a relevant risk factor when determining the scope and depth of the audit. Our results complement existing studies on pay gaps (Ge & Kim, 2020; Tan, 2021) and highlight the need for regulatory attention, particularly in countries where CEO compensation disclosure is not currently required. Our findings suggest that it is time to mandate such disclosures.

The remainder of the paper is organised as follows: Section 2 discusses the underlying theory and hypotheses. Section 3 outlines the research design. Section 4 presents and discusses the empirical findings, while Section 5 concludes the paper.

2. Theory and hypotheses development

2.1. Tournament theory

CEOs play a central role in corporate decision-making and policy-setting, making their incentives a critical area of research. Agency theory suggests that aligning CEOs' interests with those of shareholders is essential, with compensation schemes serving as a key mechanism for achieving this alignment (Jensen & Meckling, 1976). Tournament theory posits that individuals compete for rewards based on relative performance, with promotion incentives driving effort and risk-taking (Ehrenberg & Bognanno, 1990; Green & Stokey, 1983; Lazear & Rosen, 1981; Prendergast, 1999; Cappelli & Cascio, 1991; Bloom, 1999). The large pay gap between the CEO and lower-ranked executives serves as a tournament incentive, encouraging subordinates to increase effort and engage in riskier investments to enhance their chances of winning the tournament (Hvide, 2002; Lazear & Rosen, 1981). Prendergast (1999) suggests that this competition increases both prize size and monitoring efficiency. Empirical studies support this notion; for instance, Kini and Williams (2012) find that internal tournaments elevate firm risk, R&D intensity, and leverage. Similarly, Jia (2017) reports that tournament incentives drive managerial risk-taking and financial misreporting, leading to higher audit fees. Haß et al. (2015) further demonstrate that intra-firm tournament incentives encourage risky managerial decisions and fraudulent financial reporting.

Expanding on internal tournament incentives, Coles et al. (2018) introduce the concept of industry tournament incentives, arguing that CEOs tend to desire the top job in their industry, which influences firm performance and financial policies. Huang et al. (2019) find that industry tournament incentives increase both the marginal and absolute value of cash holdings. Chowdhury et al., (2020) show that industry tournaments reduce CEOs' motivation to conceal

negative information, mitigating stock price crash risk. More recently, Chowdhury et al, 2024) find that industry tournament incentive enhance stock liquidity, suggesting that these incentives align CEOs' interests with those of shareholders.

Nevertheless, other studies highlight the risks associated with industry tournament incentives. For example, Ma et al. (2020) find that CEO industry tournaments is associated with heightened risk-taking and financial misreporting, as executives seek to portray stronger performance to win the tournament. Huang et al. (2023) report that industry tournament incentives increase earnings manipulation and the likelihood of financial restatements. Additionally, Kubick and Lockhart (2016) show that such incentives encourage aggressive tax policies.

Despite the growing literature on industry tournament incentives and their impact on financial policies, little research has examined how external auditors respond to these dynamics. It remains an open empirical question whether industry tournament incentives influence auditors' professional judgment.

2.2. Industry tournament and auditor professional judgment

CEOs' compensation schemes influence CEO behavior and could increase the risk of financial misreporting (Burns & Kedia, 2006; Bergstresser & Philippon, 2006; Jiang et al., 2010), as evidenced by their link to numerous accounting scandals⁶. Given that auditor are required to assess their client risks, especially those arising from CEO's compensation (DeFond and Zhang, 2014; Kim et al., 2014), existing studies have explored whether auditors factor in these compensation-related risks when planning and executing audits. For example, Vafeas and Waagelein (2007) find that long-term compensation is associated with lower audit fees, while Qu et al. (2020) find that the proportion of equity-based CEO compensation, rather than total compensation, drives audit fees. Similarly, Kannan et al. (2014) and Kim et al. (2014) demonstrate that CEO equity portfolio vega, which measures the sensitivity of equity-based compensation to share price fluctuations, is positively associated with audit fees. Chen et al. (2015) confirm this relationship but note that the effect weakens post-SOX due to clawback provisions that reduce incentives for financial misreporting.

⁶ For example, Alan Greenspan, former Chairman of the Board of Governors of the Federal Reserve System, noted that the widespread use of shares and stock options as executive compensation had unintended consequences. He stated this practice "perversely created incentives to artificially inflate reported earnings in order to keep stock prices high and rising" (Federal Reserve Board's semiannual monetary policy report to Congress, July 16, 2002).

While the previous studies focused on firm-specific compensation structures, another stream of research examines CEO incentives linked to competition for the top position within the industry. However, findings on the association between tournament incentives and audit effort remain inconsistent. Jia (2017) finds that internal tournament incentives is associated with higher audit fees, suggesting that auditors perceive such incentives as drivers of managerial risk-taking and financial misreporting. Building on Jia's work, Ge et al. (2020) investigate this relationship in firms with high R&D investment. Although they find a positive association between executive pay gaps and audit fees, auditors in R&D-intensive firms may interpret high CEO pay as justified compensation for innovation risk rather than a signal of unethical managerial behaviour. In contrast, Tan (2021) reports that industry tournament incentives reduce audit fees, implying that promotion-based incentives encourage CEOs to operate more efficiently, align their interests with shareholders, and adopt value-enhancing policies.

Notably, as discussed earlier, most existing studies rely on audit fees as a proxy for audit quality. However, audit fees may not directly reflect audit effort or quality (Kwon et al., 2018). Instead, they may represent fee protection against litigation risk (Seetharaman et al., 2002) or compensation for compromised auditor independence (Kinney et al., 2004), introducing potential bias in prior research findings. Livne et al. (2024) advocate for the use of the number KAM and MAT levels as more direct and reliable indicators of auditors' professional judgment and audit quality. Therefore, to mitigate the bias associated with audit fees, we use number of KAM and MAT levels to investigate whether auditors incorporate industry tournament incentives into their risk assessments and audit planning. Elmarzouky et al. (2022b) and dos Santos et al. (2020) show that KAM are associated with improved financial reporting quality, as indicated by enhanced risk disclosures and reduced accrual earnings management, respectively. Elmarzouky et al. (2023) and Al-Mulla and Bradbury (2022) find that KAM are linked to higher audit costs, while Xu et al. (2023) show that the readability of KAM enhances the informational value of audit reports for investors. Unexpectedly, while Camacho-Miñano et al. (2024) demonstrate that KAM can predict financial distress, Elmarzouky et al. (2022a), using Thomas Cook as a case study, found that KAM disclosed in financial statements did not have significant power of predicting corporate bankruptcy. Collectively, these studies underscore the validity of KAM as a proxy for audit quality and professional judgment⁷.

⁷ For a comprehensive review of studies on KAM, please refer to Elmarzouky et al. (2024).

Theoretical expectations regarding the impact of industry tournament incentives on auditor judgment remain ambiguous. On the one hand, industry tournament incentives encourage CEOs to exert greater strategic effort, as top performers can signal their managerial talent to the market and gain access to enhanced career opportunities (Fee and Hadlock, 2003; Rajgopal, Shevlin, and Zamora, 2006). The potential for external rewards motivates CEOs to perform better, differentiate themselves in the talent market, and avoid opportunistic behavior, as such actions, if uncovered, could impair their professional reputation and future career prospects. Consistent with this view, Chowdhury et al. (2020, 2024) find that industry tournament incentives reduce stock price crash risk by discouraging bad news hoarding, promoting transparency, improving stock liquidity, and limiting both accrual-based and real earnings management. Building on these findings, auditors may perceive industry tournament incentives as indicative of reduced inherent and control risks, therefore they may increase materiality thresholds and potentially identify fewer areas of significant financial misstatement risks that require a particular attention and response from firm management. Consequently, this may lead to reduced audit effort and reinforcing confidence in the financial statements quality.

On the other hand, industry tournament incentives may encourage CEOs to take opaque decisions or excessive risks to enhance their prospects of moving to more prestigious firms. Even without an actual move to other firms, a stronger reputation can increase outside opportunities, pressuring boards to match potential offers or raise compensation to retain the CEO (Chowdhury et al., 2020; Huang et al., 2023). Supporting this view, existing studies show that such incentives are associated with more aggressive tax strategies (Kubick and Lockhart, 2016), increased use of opaque financial reporting, especially under earnings pressure (Huang et al., 2023), and heightened systematic risk-taking (Abdoh, 2023; Ma et al., 2020). From this perspective, auditors may perceive industry tournament incentives as signals of elevated financial reporting risk and, in response, expand the scope and intensity of their audit procedures. Considering these contrasting perspectives, we propose the following non-directional hypotheses:

H1a: *Industry tournament incentives are significantly associated with the number of KAM.*

H1b: *Industry tournament incentives are significantly associated with the MAT levels.*

2.3. CEO financial background and the industry tournament – auditor judgment nexus

We also investigate whether auditors' responses to industry tournament incentives are homogeneous or contingent on CEOs' financial expertise. This is a critical question, given that many firms hire CEOs with financial experience. According to upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984), a CEO's background can shape their decision-making and influence corporate outcomes. Research has shown that CEOs with financial experience tend to enhance financial policy (Custodio & Metzger, 2014), improve financial disclosure practices (Gounopoulos & Pham, 2018; Matsunaga et al., 2013), and reduce information asymmetry between firms and investors (Matsunaga & Yeung, 2008). Consequently, compared to financially inexperienced CEOs, CEOs with a financial background may lower auditors' perceived risk, leading to reduced audit scope.

Nevertheless, while empirical studies (e.g., (Gounopoulos & Pham, 2018; Matsunaga et al., 2013; Matsunaga & Yeung, 2008) suggest that CEOs with relevant financial backgrounds are generally less likely to engage in opportunistic financial reporting, other studies evince that such background to enable CEOs to misreport overtly (Ngo & Nguyen, 2024; Putra & Setiawan, 2024). That is, it is still plausible that auditors may view financially sophisticated CEOs with a degree of caution. Specifically, auditors might perceive that such CEOs could leverage their expertise to structure aggressive financial reporting practices or pursue high-risk strategic decisions that remain technically compliant but obscure underlying risks. These actions may be motivated by a desire to outperform peers and enhance their standing in competitive executive labor markets. As a result, auditors may respond by increasing scrutiny and expanding audit procedures to mitigate the perceived risk of strategic opportunism masked by financial acumen. Given these contrasting possibilities, we suggest that it remains theoretically uncertain whether auditors respond differently to CEOs with financial backgrounds. Therefore, and based on this discussion, we test the following hypothesis:

H2: *CEO financial background will influence the relationship between CEO industry tournament incentives and KAM and MAT level.*

3. Research methodology

3.1. Variables measurement

3.1.1. Dependent variables: auditor professional judgment

To capture the depth and scope of auditors' professional judgment, we use the number of key audit matters⁸ and materiality level reported in the audit report as proxied for auditor professional judgment (Lennox et al., 2018; Reid et al., 2019; Sierra-García et al., 2019). Lower materiality threshold (reflecting more detailed audit inspections) and a higher number of reported key audit matters indicate greater audit effort. We manually collected data on materiality and audit risk disclosures from firms' audit reports, while financial data are sources from Fame and DataStream.

3.1.2. Independent variable: CEO industry tournament incentives

To measure industry tournament incentives, we collect CEOs' compensation and industry classification data from the BoardEx database (see the **Appendix 2**). The industry tournament incentive is defined as the compensation gap between a given CEO and the highest-paid CEO in the same industry. A potential concern with this measure is that the highest CEO compensation in a given industry and year may be driven by an unusual or temporary factor, making it unreliable benchmark for what a CEO could earn by winning the tournament. To address this, we follow Coles et al. (2018) and use the second-highest CEO pay rather than the highest. Accordingly, we measure our independent variable, *Indgap*, to be the natural logarithm⁹ of the difference between a CEO's total compensation and that of the second-highest-paid CEO in the same industry and year. For CEOs who are already the highest-paid in their industry (i.e., with negative pay gap values), we set the pay gap to zero. Nevertheless, our results remain robust when these CEOs are excluded from our sample.

3.2. Sample

Our initial sample comprises firms in the FTSE 350 index, as reported by BoardEx, covering the period from 2013 (when the revised UK Code and ISA 700 were mandated) to 2020. We

⁸ According to ISA (UK) 701.A9, "the auditor's decision-making process in determining key audit matters is designed to select a smaller number of matters from the matters communicated with those charged with governance, based on the auditor's judgment about which matters were of most significance in the audit of the financial statements of the current period." (FRC, 2022, p. 9)

⁹ We add 1 to all values before applying the natural log function to ensure that CEOs with the highest and second-highest compensation, who are designated as 0, are included in the sample.

focus on the FTSE 350 as it includes both large and mid-sized firms (Lueg et al., 2014; Zaman et al., 2011) and provides greater data availability (Lueg et al., 2014). We exclude firms in the finance, insurance, and real estate industries due to their distinct regulatory environments. Additionally, we exclude observations with missing CEO compensation or auditor judgment data. We then merge these datasets with financial statement data from Datastream and Fame databases. After applying these filters, our final sample consists of 1040 firm-year observations. Further details are provided in **Table 1**.

[PLEASE INSERT TABLE 1 HERE]

3.3. Regression models

To test our first hypothesis, we utilize the following regression model¹⁰,

$$Auditor_judgment = \beta_0 + \beta_1 Indgap + \beta_n CONTROLS + \varepsilon \quad (1)$$

where *Auditor_judgment* is measured using two proxies: (i) the number of key audit matters (*KAM*) and (ii) materiality (*MAT*) levels reported by auditors in annual reports. The key independent variable, *Indgap*, captures the industry tournament incentives and is measured as discussed under section 3.1.2.

In addition to our main independent variable, consistent with prior literature, we include several firm-specific control variables (DeFond et al., 2002; Francis et al., 2005) as well as controls for audit risk, audit complexity, and auditor characteristics that may influence audit quality (Ashton et al., 1987, 1989; Ng & Tai 1994; Simunic 1980). Specifically, we control for Audit fees (*LAFEE*), Big Four auditor (*BIG4*), Audit committee independence (*ACIndep*), board independence (*BoDIndep*). We also control for Current ratio (*CurrentR*), Leverage (*Leverage*) Profitability (*ROA and LOSS*), and Number of employees (*Employees*). Finally, we control for CEO characteristics such as CEO tenure (*CEOR*), gender (*CEOGender*), CEO Near-Retirement (*Retire*) and insider CEO (*Insider*). Variable definitions are provided in Appendix 1.

¹⁰ We employ Ordinary Least Squares (OLS) regression, a widely used method in accounting research. This choice aligns with prior studies (e.g., Thomsen et al., 2006; Zhou, 2001), which suggest that fixed-effects models are less suitable for corporate governance research. The key limitation of fixed-effects models arise from the minimal year-to-year variation in governance variables – such as *Indgap* in our case – within firms. These small changes are unlikely to meaningfully capture or reflect auditor’s professional judgment. In contrast, research suggests that between-firm variation in corporate governance variables is significantly larger (e.g., Thomsen et al., 2006; Zhou, 2001). Accordingly, we adopt OLS regression to better account for these cross-sectional differences.

To examine whether the relationship between industry tournament incentives and auditor judgment is influenced by a CEO's financial background (Hypotheses 2a & 2b), we introduce interaction terms using three proxies for financial expertise, following Badolato et al. (2014). Our first proxy is the CEO's financial experience (*FinExp*). We set *FinExp* equals to 1 if the CEO has prior experience in a financial role (e.g., banker, analyst, loan officer, investment/asset/fund manager, treasurer, finance director, or vice president of finance), and 0 otherwise. Our second proxy is the CEO's accounting experience (*AccExp*). We set *AccExp* equals to 1 if the CEO has work experience as a public auditor, certified public accountant, or chartered accountant, or in an accountancy-specific position, such as (chief) financial officer, treasurer, controller, head of accounting, chief accountant, or accounting officer, and 0 otherwise. Our third proxy is CEO's overall financial experience (*Fin-AccExp*). We set *Fin-AccExp* equal to 1 if the CEO has prior experience in at least one of the above accounting or finance role.

To test these interactions, we estimate the following models:

$$Auditor_judgment = \beta_0 + \beta_1 Indgap + \beta_2 FinExp + \beta_3 Indgap * FinExp + \beta_n CONTROLS + \varepsilon \quad (2:1)$$

$$Auditor_judgment = \beta_0 + \beta_1 Indgap + \beta_2 AccExp + \beta_3 Indgap * AccExp + \beta_n CONTROLS + \varepsilon \quad (2:2)$$

$$Auditor_judgment = \beta_0 + \beta_1 Indgap + \beta_2 Fin-AccExp + \beta_3 Indgap * Fin-AccExp + \beta_n CONTROLS + \varepsilon \quad (2:3)$$

These models allow us to assess whether CEOs with financial expertise influence auditors' assessment of risk and audit effort in the presence of industry tournament incentives.

4. Empirical results

4.1. Descriptive statistics and correlations: Primary variables

4.1.1. Descriptive statistics

Table 2 presents the descriptive statistics of the variables used in our primary analyses. The mean (standard deviation) of industry tournament incentives (*Indgap*), measured as the compensation gap between the CEO under consideration and the second-highest-paid CEO in the industry is 6.399 (3.327). The mean value of *KAM (MAT)* is 3.925 (0.648). The mean (standard deviation) of logged audit fees (*LAFEE*) is 3.478 (2.057), and approximately 97% of

firm-year observations involve Big-4 auditors. On average, firms report a return on assets (*ROA*) of 6.7%, with 13% of firm-year observations showing a net loss. Firm size, proxied by number of employees (*Employees*) has a mean (standard deviation) of 30,661.3 (62,966.1). Regarding CEO characteristics, the average CEO tenure (*CEOR*) exceeds four years, with approximately 94% of CEOs being male and 44% having prior in-house experience (i.e., they worked in the firm before assuming the CEO role).

[PLEASE INSERT TABLE 2 HERE]

4.1.2. Pearson's correlation analysis

Table 3 reports the correlation coefficients of the main variables. *Indgap* is negatively and significantly correlated with *KAM* at the 0.01 level and positively and significantly correlated with *MAT* at the 0.05 level. The correlation between *Indgap* and *LAFEE* is negative but not statistically significant. A correlation of 80% or higher in absolute value typically signals multicollinearity concerns (Gujarati and Damodar, 2009) and therefore results reported in Table 3 do not indicate multicollinearity issues. Additionally, variance inflation factors (VIFs) were assessed to further examine multicollinearity. Unreported results show that the highest VIF value is 1.6, well below the conventional threshold of 10, confirming that multicollinearity is not a concern (Gujarati and Damodar, 2009; Hair et al., 2006). The Spearman correlation coefficients yield similar results, consistent with Pearson correlation values.

[PLEASE INSERT TABLE 3 HERE]

4.2. Regression analysis results and discussion

4.2.1. Primary test results

Table 4 presents the regression results for Hypotheses 1a and 1b, which examine the relationship between CEO industry tournament incentives (*Indgap*) and auditors' professional judgement, measured by number of *KAM* and *MAT level*. As shown in Columns (1) and (2) of Table 4, *Indgap* is negatively and significantly associated with *KAM* (coefficient = -0.049, $p < 1\%$), while it is positively associated with *MAT* (coefficient = 0.013, $p < 5\%$). To assess the economic significance of these results, we multiply the coefficient estimates of *Indgap* by its sample standard deviation (3.3, as reported in Table 2). The results indicate that a one standard deviation

increase in *Indgap* is associated with an approximate 16 % decrease in *KAM* and 4% increase in *MAT*¹¹.

These results support Hypotheses 1a and 1b, suggesting that stronger industry tournament incentives are linked to auditor professional judgment. This may be because such incentives mitigate agency problems and reduce the perceived risk of earnings management, leading auditors to adjust their risk assessment accordingly. Our results align with Tan (2021), indicating that auditors recognize the reduced audit risk associated with higher industry tournament incentives and consequently scale back the scope and breadth of their audit plans. Conversely, lower industry tournament incentives lead to more extensive audit procedures. While Tan (2021) imply that lower industry tournament incentives are associated with higher audit fees, our results suggest that the higher audit fees in such cases translate into meaningful increase in auditor effort. Thus, our findings contribute to the literature on audit quality and CEO equity-based compensation (e.g., Chen et al., 2015; Kannan et al., 2014; Kim et al., 2014, Tan, 2021) by demonstrating that auditors adjust their audit plans based on the risks associated with CEO compensation structures.

Results for the control variables are largely aligned with prior research. For example, board independence (*BoDIndep*) is significantly and positively associated with both dimensions of auditor judgment. Additionally, we find a negative and significant relationship between *MAT* and audit fees, consistent with Choudhary et al. (2019), who report that looser materiality threshold – values closer to the high end of a normal materiality range – are associated with lower audit fees. This suggests that stricter materiality thresholds lead to increased audit effort and higher fees. Furthermore, profitability (*ROA*) is negatively associated with auditor judgment, implying that more profitable firms face lower perceived audit risk, leading to a reduced audit scope and effort.

[PLEASE INSERT TABLE 4 HERE]

4.2.2. Moderator: Financial background

To test Hypothesis 2, we follow Badolato et al. (2014) and categorise CEOs' financial experience into three groups: accounting expertise, financial expertise, and overall financial

¹¹ While we followed Coles et al. (2018) and Tan (2021) in measuring the pay gap, this approach may not fully eliminate the influence of extreme outliers. Therefore, as a robustness analysis, we constructed an alternative percentile-based pay gap measures (75th percentiles) and our unreported results are qualitatively similar to our baseline analysis, especially when using key audit matters.

expertise. The results, presented in Table 5, show that the coefficients of *Indgap*, without the interaction term, are consistent with our baseline results in Table 4, suggesting that higher industry tournament incentives reduce auditors' perceived risk. However, this effect holds only when the CEO lack a relevant financial background. When the CEO has a financial background, auditors perceive industry tournament incentives as a signal for heightened audit risk, prompting them to increase their audit effort, particularly through stricter materiality thresholds (lower MAT). Specifically, the interaction between industry tournament incentive and overall financial expertise is negative and significant at the 5% level with MAT. The results for accounting expertise are qualitatively similar. This suggests that auditors view CEOs with financial expertise as more capable of engaging in earnings management, thereby increasing perceived business and fraud risks. Consequently, auditor respond with more extensive audit procedures.

These findings extend the work of Tan (2021) by demonstrating that industry tournament incentives mitigate perceived audit risk only when the CEO lacks financial expertise. When CEOs lack such expertise, auditors may consider industry tournament incentives sufficient to reduce the risk of earnings management, leading to lower audit effort. In contrast, when CEOs possess a relevant financial expertise, auditors respond with heightened scrutiny, particularly in cases of strong tournament incentives.

[PLEASE INSERT TABLE 5 HERE]

4.2.3. Further analysis: CEO career horizon

Lazear (2000) highlights how compensation-based contracts attract managers with the necessary skills and professional experience to compete effectively in the market. Firms offering higher compensation relative to industry peers are more appealing to mobile CEOs, making them more sensitive to industry tournament incentives. Consistent with this prediction, Coles et al. (2018) suggest that the influence of industry tournaments is associated with CEO mobility. Younger CEOs, with longer career horizons, have greater career mobility than older CEOs, making them more motivated to compete for industry tournament prizes (Veiga, 1983, Ward et al., 1995).

To test whether CEO career horizons influence the relationship between industry tournament incentives and auditor judgment, we split our sample into two groups based on CEO age. CEOs below the sample median age are classified as having longer career horizons, while those above the median are categorised as having shorter career horizons. We then re-estimate our model

separately for these groups. Our unreported results indicate that the coefficients of *Indgap* remain negative and significant at the 1% level with *KAM* and positive and significant with *MAT*, but only for CEOs with longer career horizons. Specifically, the effect of industry tournament incentives on *KAM* for younger CEOs is three times lower than for the older CEOs, while its impact on *MAT* is 2.4 times higher. These results suggest that younger CEOs, who have greater career mobility and a higher likelihood of winning industry tournaments, amplify the effect of industry tournament incentives on auditor judgment. These results support prior US-based evidence (Close et al., 2018) that industry tournament incentives are positively associated with CEO mobility.

4.2.4. Further analysis: Controlling CFO incentives and intra-firm tournament incentives

Our primary analysis focuses on CEO industry tournament incentives, as CEO compensation plays a dominant role in shaping firms' financial reporting decisions compared to CFO compensation (e.g., Kim et al., 2014). However, CEOs influence CFOs' compensation, retention, and career prospects (Mian 2001; Fee & Hadlock 2003). Research also suggests that CFOs may engage in material accounting manipulations due to CEOs pressure (Feng et al., 2011). Some studies suggest that auditors view CFO compensation as a greater audit risk than CEO incentives because CFOs are directly involved in accounting choices (Ge et al., 2011). Others, however, emphasise that intra-firm tournament incentives also influence audit effort and audit fees (Bryan & Mason, 2017; Jia, 2017).

To account for these factors, and as further robustness analysis, we re-estimate Equation (1) while controlling for CFO industry tournament incentives (*CFOIT*) and intra-firm tournament incentives (*CEO_CFOGAP*). *CFOIT* is measured as the natural log of the compensation gap between the CFO under consideration and the second-highest-paid CFO in the same industry, with negative values replaced by zero. *CEO_CFOGAP*, following Jia (2017), is measured as the difference between the CEO and CFO total compensation. Table 6 reports the results of this analysis. The coefficient of *CFOIT* in Columns (1) and (2) are insignificant for both *KAM* and *MAT*, and our primary findings (Columns (5) and (6)) remain qualitatively unchanged. However, it seems that auditors place less weight on *CFOIT* and *CEO_CFOGAP* and they do not significantly influence the audit effort. These results suggest that auditors place greater emphasis on CEO industry tournament incentives rather than CFO incentives, when assessing

audit risk. This aligns with Kim et al. (2014), who find that auditors are more concerned with CEO compensation than CFO compensation in shaping their audit judgment.

[PLEASE INSERT TABLE 6 HERE]

4.2.5. Robustness for primary tests: Controlling for endogeneity

To mitigate potential endogeneity concerns, we employ a two-stage least squares (2SLS) instrumental variables approach, using two instruments drawn from prior research. The first is drawn from Coles et al. (2018), which is the natural logarithm of the total compensation received by all CEOs in the same industry (*SUM_CEO_COMP-IND*). To avoid a mechanical relationship with this instrument, we compute it as the natural logarithm of the total compensation received by all CEOs in the same industry, excluding that of the highest-paid CEO in the benchmark industry and the correspondent firm CEO. Arguably, wages paid to firms' employees depend on the firms' ability to pay such wages (Coles et al., 2018; Kahneman et al., 1986) so total industry CEO compensation is conditional on the ability of an industry to pay. Accordingly, following Coles et al. (2018), we assume that the total compensation paid to all CEOs in a certain industry reflects the degree of CEO compensation in that industry.

Our second instrumental variable is drawn from Huang et al. (2019) and represents the natural logarithm of the number of CEOs in the same industry with higher-paid CEOs in the same industry as the sample firm (*NO_HIGHER_PAID_IND_CEOS*). We rank CEO within each industry-year from the highest to lowest pay, assigning a value of 0 to the highest-paid CEO (as there is no CEO receiving compensation higher than this), 1 to the second-highest, 2 to the third, and so on. This clarifies how many CEOs have higher compensation than the CEO under consideration. This measure captures industry tournament intensity and competition for higher pay slots without directly influencing auditor judgment. As Huang et al. (2019) discuss, CEOs at the lower spectrum of industry pay need to make several moves to arrive nearer to maximum pay. Accordingly, an increase in the number of higher-paid CEOs in a specific industry augments the industry tournament incentives and thus the level of competition for those slots. Although our main sample focuses mainly on the FTSE 350, in order to avoid bias when computing these two instruments, we consider all firms in the FTSE All Share Index. Both instrument variables are winsorised at the 1% and 99% levels. We also include time and industry fixed effects in all 2SLS models to isolate time-invariant industry factors as well as any time trend within external tournament incentives and/or auditors' efforts.

For instrument validity, the two instruments should be (i) theoretically ‘relevant’, meaning they are significantly positively correlated with the independent variable (*Indgap*), and (ii) exogenous to our estimation model, meaning they do not directly influence our dependent variables (*MAT* and *KAM*) and the regression error terms, beyond their effect on *Indgap*. In other words, CEOs in industries with higher overall compensation and/or greater tournament intensity are more likely to receive higher compensation or have a higher pay gap, but these are not expected to influence auditor judgment directly.

In line with our expectations, the first-stage regression results (Table 7, Column 1) confirm that both *SUM_CEO_COMP-IND* and *NO_HIGHER_PAID_IND_CEOS* are positively and significantly correlated ($p < 1\%$) with the industry pay gap (*Indgap*), rejecting the null hypothesis of weak instruments. Furthermore, as reported in Table 7, *Cragg-Donald Wald F statistic* is 313.96 which is significantly higher than the Stock-Yogo critical value. Finally, *Hansen J statistic* is insignificant demonstrating that our instrumental variables are jointly exogenous. These statistics further confirm that our instruments are both valid and relevant. Finally, the second-stage results (Table 7, Columns (2) and (3)) remain consistent with our main findings in Table 4, reinforcing that industry tournament incentives lead to lower perceived audit risk, thereby reducing the breadth or scope of the audit plan.

[PLEASE INSERT TABLE 7 HERE]

We further build on Chahine et al. (2020) and Costa and Habib (2023) and utilize the entropy balancing matching technique to mitigate endogeneity concerns arising from observable differences in firm characteristics. To apply this method, we categorize our sample into two groups based on the average value of *Indgap1*, assigning a dummy variable of 1 (treatment group) if *Indgap1* exceeds the sample average and 0 (control group) otherwise. After implementing entropy balancing, we merge the matched pairs into a pooled sample and re-estimate our baseline regression. The entropy-balanced regression results, presented in Table 8, indicate that the coefficient on *Indgap1* remains consistent with our baseline findings. This confirms that our key results are robust to potential endogeneity issues.

[PLEASE INSERT TABLE 8 HERE]

5. Conclusion

While prior studies provide evidence on the influence of CEO compensation on audit quality (Chen et al., 2015; Kannan et al., 2014; Kim et al., 2014), they often overlook the role of competitive dynamics within industries in shaping CEOs' incentives to engage in risky financial practices. An emerging stream of research has focused on tournament incentives (Jia, 2017; Ge et al., 2020; Tan, 2021), but notably, these studies primarily use audit fees as a proxy for auditor effort. This approach makes it unclear whether higher fees reflect increased audit quality or merely a risk premium against potential litigation (Kinney et al., 2004; DeFond & Zhang, 2014; Seetharaman et al., 2002).

Therefore, unlike prior tournament studies, our research provide direct evidence on how industry tournament incentives influence auditors' effort by examining key audit matters (*KAM*) and materiality thresholds (*MAT*). Our findings indicate that industry tournament incentives are positively associated with the depth of auditors' professional judgment (*MAT*) but negatively associated with its scope (*KAM*). Additionally, we provide the first evidence that this relationship depends on the CEO's financial expertise, which affects their ability to manipulate financial statements. These results remain robust across various model specifications and after addressing potential endogeneity concerns.

Our study underscores the importance of considering executive pay gaps and financial expertise in external audit planning and pricing decisions, particularly in the context of UK international standards on auditing. Our findings enrich and complement the findings of Tan (2021) by providing evidence of industry tournament incentives influencing external auditors' judgment. Further, our findings contribute to the broader literature on audit planning. Practically, our results highlight important considerations for compensation committees and boards of directors, emphasising the need to manage potential agency risks arising from tournament incentives. Additionally, auditors should incorporate potential CEO tournament prizes into their risk assessment, as these incentives influence audit scope and effort, ultimately affecting audit fees.

Nevertheless, our study has several limitations. First, our emphasis is on industry tournament incentives, as they may be considered an insightful indicator in management labour market competition. Yet, the measurement of industry tournament incentives may not fully capture the competitive dynamics among CEOs and it is unlikely to be the sole characteristic that influences external auditors. Future research could develop measures of other prior experience or characteristics relevant to labour market competition that can influence external audit planning

and professional judgment. Second, while we have taken steps to mitigate endogeneity, we cannot entirely rule out the possibility that some endogeneity concerns remain. Finally, our study's sample is only based on UK companies and therefore the UK's stringent corporate governance and disclosure framework may influence the observed relationships in our study. As such, this could limit the generalisability of our findings to jurisdictions with weaker governance structures or different regulatory environments. Future research could extend this analysis to other countries with varying levels of governance quality or expanding to a global context, and thereby enjoy greater generalizability.

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Tables

Table 1: Sample description

Panel A: Sample Selection		
Selection Criteria		No. of Firms
Initial FTSE 350 firms from BoardEx		2481 firm-year observations (341 unique firms)
Less: Financial, real estate and insurance firms (i.e., Banks, insurance, life Assurance, real estate, private Equity, Investment companies, and speciality & other finance).		(1032) firm-year observations (144 unique firms)
		1449 firm-year observations (197 unique firms)
Less: observations missing data for CEOs compensation		(48) firm-year observations
Less: observations missing data for auditor judgment and annual reports		(361) firm-year observations
Final Sample		1040 firm-year observations (150 unique firms)
Panel B: Sample distribution by year		
Year	Frequency	Percentage
2013	81	8%
2014	125	12%
2015	130	12.5%
2016	138	13.3%
2017	137	13.2%
2018	142	13.7%
2019	143	13.8%
2020	144	13.8%
Total	1040	
Note: Panel A of this table summarises the sample description in terms of sample size. Panel B shows the distribution across the sample’s period.		

Table 2: Descriptive Statistics

	Mean	Median	Std. Dev.	p25	p75
KAM	3.925	4.000	1.564	3.000	5.000
MAT	0.648	0.456	0.781	0.295	0.699
Indgap1	6.399	7.847	3.327	6.410	8.519
LAFEE	3.478	3.079	2.057	2.699	3.531
BIG4	0.968	1.000	0.175	1.000	1.000
ACIndep	0.988	1.000	0.059	1.000	1.000
BoDIndep	0.636	0.667	0.117	0.556	0.727
Leverage	1.443	1.237	4.362	0.697	2.208
LOSS	0.131	0.000	0.337	0.000	0.000
CurrentR	1.517	1.305	0.936	0.907	1.891
ROA	6.740	5.596	9.598	2.370	9.949
Employees	30661.342	9693.500	62966.071	2966.500	33436.500
CEOR	4.359	3.400	3.860	1.300	6.400
CEOGender	0.060	0.000	0.237	0.000	0.000
Retire	0.063	0.000	0.242	0.000	0.000
Insider	0.437	0.000	0.496	0.000	1.000

Notes:. All variables are defined in Appendix 1.

Table 3: Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) KAM	1.000										
(2) MAT	-0.176***	1.000									
(3) Indgap1	-0.167***	0.069**	1.000								
(4) LAFEE	0.050*	-0.126***	-0.044	1.000							
(5) BIG4	-0.023	-0.014	-0.043	-0.230***	1.000						
(6) ACIndep	0.045	-0.061*	-0.051*	0.077**	-0.006	1.000					
(7) BoDIndep	0.203***	-0.172***	-0.201***	0.237***	0.037	0.309***	1.000				
(8) Leverage	0.008	-0.082***	-0.050*	0.046	0.091***	0.028	0.041	1.000			
(9) LOSS	0.170***	-0.100***	0.052*	-0.009	-0.044	-0.060*	0.045	0.030	1.000		
(10) CurrentR	-0.205***	0.138***	0.126***	-0.150***	0.010	0.074**	-0.108***	-0.081***	-0.047	1.000	
(11) ROA	-0.233***	0.455***	-0.040	-0.085***	0.001	0.022	-0.125***	-0.112***	-0.531***	0.229***	1.000
(12) Employees	0.246***	-0.132***	-0.208***	0.069**	0.039	0.044	0.188***	0.041	0.033	-0.259***	-0.113***
(13) CEOR	-0.040	-0.012	-0.047	-0.001	-0.089***	0.080***	-0.053*	0.061*	-0.071**	0.000	0.027
(14) CEOGender	0.004	-0.057*	-0.009	-0.048	0.046	0.051*	0.025	-0.042	-0.025	-0.128***	-0.017
(15) Retire	0.020	-0.049	0.034	-0.036	0.024	0.036	0.006	0.005	-0.041	-0.057*	-0.027
(16) Insider	0.051*	0.040	-0.053*	0.080***	0.060*	0.064**	-0.078**	0.029	-0.019	0.017	0.058*

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 3 (continued)

Variables	(12)	(13)	(14)	(15)	(16)
(12) Employees	1.000				
(13) CEOR	-0.025	1.000			
(14) CEOGender	0.055*	-0.092***	1.000		
(15) Retire	0.022	0.082***	-0.015	1.000	
(16) Insider	-0.038	0.111***	-0.041	0.029	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4: Effect of CEO industry tournament incentives on auditors' professional judgment

	(1) KAM	(2) MAT
Indgap	-0.049*** (0.017)	0.013** (0.005)
LAFEE	-0.001 (0.022)	-0.022*** (0.007)
BIG4	-0.321 (0.232)	-0.008 (0.187)
ACIndep	0.089 (0.868)	-0.174 (0.588)
BoDIndep	1.687*** (0.461)	-0.456** (0.201)
Leverage	-0.019 (0.015)	-0.002 (0.005)
LOSS	0.179 (0.180)	0.315*** (0.074)
CurrentR	-0.153*** (0.059)	-0.020 (0.030)
ROA	-0.027*** (0.006)	0.038*** (0.005)
Employees	0.000*** (0.000)	-0.000*** (0.000)
CEOR	-0.000 (0.012)	-0.012** (0.006)
CEOGender	-0.110 (0.161)	-0.138** (0.063)
Retire	0.203 (0.175)	-0.074* (0.040)
Insider	0.134 (0.097)	0.020 (0.039)
_cons	4.617*** (0.900)	0.767 (0.734)
<i>Year FE</i>	Yes	Yes
<i>Industry FE</i>	Yes	Yes
R^2	0.258	0.379
F	7.680	10.826
N	1040	1040

This table reports regression results for Model 1, the sample consists of 1040 firm-year observations between 2013 and 2020. The dependent variable is auditors' professional judgment, namely KAM and MAT. MAT is the materiality amount (£) for the financial statements as a whole, scaled by total assets as at year-end, and multiplied by 100. KAM is the number of significant audit risks, or areas of focus, reported by the auditor in the audit report. The independent variable is the industry tournament incentive (Indgap) measures the compensation gap between the CEO under consideration and the highest-paid CEO in the same industry. LAFEE is the natural logarithm of audit fees. BIG4 is an indicator variable equal to 1 if the audit firm is one of the Big four auditing firms, and 0 otherwise. ACIndep is the percentage of independent members of the audit committee. BoDIndep is the percentage of independent members of the board of directors. Leverage is a firm's total liabilities scaled by total shareholders' equity. LOSS is an indicator variable equal to 1 if the firm report a loss for the year; 0 Otherwise. CurrentR is current assets divided by current liabilities. ROA is

earnings scaled by total assets. Employees is the number of employees. CEOR is the number of years of the CEO in the role. CEOGender is an indicator variable equal to 1 if the CEO man, 0 Otherwise. Retire is an indicator variable equals 1 if the CEO is at least 62 years old and 0 otherwise. Insider is a dummy indicating 1 if the CEO arrived at the firm within two years prior to becoming CEO, 0 otherwise. Regressions are estimated using robust standard errors. Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Bold numbers indicate significance for variables of interest.

Table 5: CEO's financial background and CEO industry tournament-auditors' judgement nexus

	CEO Financial Experience		CEO Accounting Experience		Overall CEO Financial Experience	
	(1) KAM	(2) MAT	(3) KAM	(4) MAT	(5) KAM	(6) MAT
Indgap	-0.046*** (0.016)	0.012** (0.005)	-0.050*** (0.016)	0.011** (0.005)	-0.047*** (0.016)	0.012** (0.005)
FinExp	-0.169 (0.118)	0.041 (0.046)				
Indgap*FinExp	0.036 (0.030)	-0.016 (0.010)				
AccExp			0.144 (0.127)	0.013 (0.043)		
Indgap*AccExp			-0.007 (0.035)	-0.030*** (0.009)		
Fin-AccExp					-0.209* (0.113)	0.025 (0.042)
Indgap*Fin-AccExp					0.024 (0.029)	-0.021** (0.009)
LAFEE	0.005 (0.023)	-0.022*** (0.008)	-0.001 (0.022)	-0.021*** (0.007)	0.009 (0.023)	-0.021*** (0.008)
BIG4	-0.349 (0.237)	0.001 (0.188)	-0.313 (0.230)	-0.003 (0.188)	-0.338 (0.238)	0.003 (0.190)
ACIndep	0.086 (0.868)	-0.167 (0.592)	0.193 (0.873)	-0.133 (0.581)	-0.035 (0.879)	-0.142 (0.591)
BoDIndep	1.687*** (0.460)	-0.461** (0.198)	1.638*** (0.459)	-0.477** (0.205)	1.686*** (0.461)	-0.474** (0.200)
Leverage	-0.019 (0.014)	-0.002 (0.005)	-0.019 (0.015)	-0.002 (0.005)	-0.019 (0.014)	-0.002 (0.005)
LOSS	0.200 (0.180)	0.310*** (0.073)	0.178 (0.180)	0.311*** (0.073)	0.197 (0.180)	0.310*** (0.073)
CurrentR	-0.155*** (0.059)	-0.019 (0.030)	-0.154*** (0.059)	-0.019 (0.030)	-0.154*** (0.059)	-0.018 (0.030)
ROA	-0.026*** (0.006)	0.038*** (0.005)	-0.026*** (0.006)	0.038*** (0.005)	-0.026*** (0.006)	0.038*** (0.005)
Employees	0.000*** (0.000)	-0.000*** (0.000)	0.000*** (0.000)	-0.000*** (0.000)	0.000*** (0.000)	-0.000*** (0.000)
CEOR	0.001 (0.012)	-0.012** (0.006)	-0.001 (0.012)	-0.012** (0.006)	0.001 (0.012)	-0.012** (0.006)
CEOGender	-0.044	-0.152**	-0.118	-0.145**	-0.034	-0.142**

	(0.173)	(0.066)	(0.161)	(0.063)	(0.170)	(0.066)
Retire	0.175	-0.065	0.225	-0.071*	0.165	-0.065
	(0.178)	(0.041)	(0.176)	(0.041)	(0.178)	(0.041)
Insider	0.136	0.018	0.128	0.018	0.137	0.016
	(0.098)	(0.039)	(0.097)	(0.040)	(0.098)	(0.039)
_cons	4.284***	0.849	4.228***	0.829	4.378***	0.826
	(0.890)	(0.734)	(0.892)	(0.720)	(0.899)	(0.732)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.260	0.380	0.259	0.381	0.261	0.380
F	7.421	11.040	7.518	10.896	7.415	11.043
N	1040	1040	1040	1040	1040	1040

This table reports regression results for *Model 2*, the sample consists of 1040 firm-year observations between 2013 and 2020. The dependent variable is auditors' professional judgment, namely *KAM* and *MAT*. *MAT* is the materiality amount (£) for the financial statements as a whole, scaled by total assets as at year-end, and multiplied by 100. *KAM* is the number of significant audit risks, or areas of focus, reported by the auditor in the audit report. The independent variable is the industry tournament incentive (*Indgap*) measures the compensation gap between the CEO under consideration and the highest-paid CEO in the same industry. *LAFEE* is the natural logarithm of audit fees. *BIG4* is an indicator variable equal to 1 if the audit firm is one of the Big four auditing firms, and 0 otherwise. *ACIndep* is the percentage of independent members of the audit committee. *BoDIndep* is the percentage of independent members of the board of directors. *Leverage* is a firm's total liabilities scaled by total shareholders' equity. *LOSS* is an indicator variable equal to 1 if the firm report a loss for the year; 0 Otherwise. *CurrentR* is current assets divided by current liabilities. *ROA* is earnings scaled by total assets. *Employees* is the number of employees. *CEOR* is the number of years of the CEO in the role. *CEOGender* is an indicator variable equal to 1 if the CEO man, 0 Otherwise. *Retire* is an indicator variable equals 1 if the CEO is at least 62 years old and 0 otherwise. *Insider* is a dummy indicating 1 if the CEO arrived at the firm within two years prior to becoming CEO, 0 otherwise. Financial expertise's variables are defined in Appendix 2. Regressions are estimated using robust standard errors. Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Bold numbers indicate significance for variables of interest.

Table 6: The effect of CFO incentives and intra-firm tournament incentives on auditors professional judgment

	(1) KAM	(2) MAT	(3) KAM	(4) MAT	(5) KAM	(6) MAT
<i>Indgap</i>	–	–	–	–	-0.074*** (0.023)	0.016** (0.008)
<i>CFOIT</i>	-4.757 (3.433)	-0.374 (1.328)	–	–	-2.755 (3.662)	-1.130 (1.512)
<i>CEO_CFOGAP</i>	–	–	0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
<i>LAFEE</i>	0.028 (0.025)	-0.037*** (0.008)	0.031 (0.024)	-0.031*** (0.008)	0.034 (0.026)	-0.038*** (0.009)
<i>BIG4</i>	-1.202*** (0.303)	-0.249 (0.428)	-1.031*** (0.268)	-0.004 (0.386)	-1.219*** (0.314)	-0.269 (0.439)
<i>ACIndep</i>	-1.841* (1.109)	-0.613 (0.968)	-2.066* (1.065)	-0.178 (0.958)	-1.810* (1.096)	-0.602 (0.956)
<i>BoDIndep</i>	3.452*** (0.624)	-0.461* (0.269)	3.242*** (0.557)	-0.774*** (0.295)	3.182*** (0.633)	-0.396 (0.275)
<i>Leverage</i>	-0.016 (0.013)	0.002 (0.007)	-0.017 (0.013)	0.001 (0.006)	-0.019 (0.013)	0.002 (0.007)
<i>LOSS</i>	0.119 (0.222)	0.262*** (0.100)	0.070 (0.215)	0.378*** (0.102)	0.081 (0.222)	0.273*** (0.100)
<i>CurrentR</i>	-0.116 (0.074)	-0.046 (0.038)	-0.090 (0.069)	-0.072* (0.042)	-0.108 (0.074)	-0.048 (0.037)
<i>ROA</i>	-0.021*** (0.008)	0.031*** (0.006)	-0.023*** (0.007)	0.041*** (0.006)	-0.023*** (0.008)	0.031*** (0.006)
<i>Employees</i>	0.000 (0.000)	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)	0.000 (0.000)	-0.000** (0.000)
<i>CEOR</i>	-0.018 (0.018)	-0.013** (0.007)	-0.027* (0.016)	-0.012 (0.008)	-0.020 (0.018)	-0.013** (0.007)
<i>CEOGender</i>	-0.327* (0.171)	-0.134* (0.070)	-0.277* (0.168)	-0.196** (0.082)	-0.328* (0.175)	-0.135** (0.069)
<i>Retire</i>	0.319 (0.267)	-0.079 (0.054)	0.353 (0.225)	-0.178*** (0.063)	0.365 (0.273)	-0.084 (0.054)
<i>Insider</i>	0.116 (0.129)	0.041 (0.049)	0.172 (0.117)	-0.008 (0.053)	0.112 (0.129)	0.042 (0.050)
<i>_cons</i>	27.915* (15.661)	3.312 (6.407)	6.460*** (1.020)	1.109 (1.229)	19.484 (16.653)	6.611 (7.289)
<i>Year FE</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry FE</i>	Yes	Yes	Yes	Yes	Yes	Yes

R^2	0.361	0.391	0.354	0.385	0.367	0.395
F	8.930	10.293	8.882	9.659	8.657	9.583
N	636	636	708	708	633	633

This table reports regression results for *Model 1*, the sample consists of 1040 firm-year observations between 2013 and 2020. The dependent variable is auditors' professional judgment, namely *KAM* and *MAT*. *MAT* is the materiality amount (£) for the financial statements as a whole, scaled by total assets as at year-end, and multiplied by 100. *KAM* is the number of significant audit risks, or areas of focus, reported by the auditor in the audit report. The independent variable is the industry tournament incentive (*Indgap*) measures the compensation gap between the CEO under consideration and the highest-paid CEO in the same industry. *CFOIT* is the natural log of the compensation gap between the CFO under consideration and the second-highest-paid CFO in the same industry. *CEO_CFOGAP* is the difference between the total CEO compensation and the total compensation of the CFO in the firm. *LAFEE* is the natural logarithm of audit fees. *BIG4* is an indicator variable equal to 1 if the audit firm is one of the Big four auditing firms, and 0 otherwise. *ACIndep* is the percentage of independent members of the audit committee. *BoDIndep* is the percentage of independent members of the board of directors. *Leverage* is a firm's total liabilities scaled by total shareholders' equity. *LOSS* is an indicator variable equal to 1 if the firm report a loss for the year; 0 Otherwise. *CurrentR* is current assets divided by current liabilities. *ROA* is earnings scaled by total assets. *Employees* is the number of employees. *CEOR* is the number of years of the CEO in the role. *CEOGender* is an indicator variable equal to 1 if the CEO man, 0 Otherwise. *Retire* is an indicator variable equals 1 if the CEO is at least 62 years old and 0 otherwise. *Insider* is a dummy indicating 1 if the CEO arrived at the firm within two years prior to becoming CEO, 0 otherwise. Regressions are estimated using robust standard errors. Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Bold numbers indicate significance for variables of interest.*

Table 7: Regression estimates of auditors' professional judgment and industry tournament incentives (Controlling for Endogeneity; 2SLS IV)

	1 st stage	2 nd stage	
	(1) Indgap	(1) KAM	(2) MAT
<i>Indgap</i>		-0.070*** (0.025)	0.030** (0.012)
<i>LAFEE</i>	0.046 (0.029)	-0.006 (0.021)	-0.022*** (0.007)
<i>BIG4</i>	-0.670* (0.373)	-0.326 (0.231)	-0.010 (0.191)
<i>ACIndep</i>	0.058 (1.005)	0.061 (0.834)	-0.138 (0.575)
<i>BoDIndep</i>	-1.196* (0.718)	1.636*** (0.465)	-0.354* (0.191)
<i>LeverageDE</i>	-0.008 (0.014)	-0.019 (0.014)	-0.002 (0.005)
<i>LOSS</i>	-0.088 (0.244)	0.123 (0.180)	0.322*** (0.073)
<i>CurrentR</i>	0.170** (0.082)	-0.123** (0.059)	-0.033 (0.030)
<i>ROA</i>	-0.018** (0.009)	-0.030*** (0.006)	0.039*** (0.005)
<i>Employees</i>	-3.45** (1.70)	0.000** (0.000)	-0.000 (0.000)
<i>CEOR</i>	-0.005 (0.017)	-0.012 (0.012)	-0.011* (0.006)
<i>CEOGender</i>	-0.450 (0.295)	-0.131 (0.164)	-0.159** (0.065)
<i>Retire</i>	0.843*** (0.256)	0.243 (0.177)	-0.077* (0.040)
<i>Insider</i>	0.013 (0.143)	0.175* (0.096)	0.020 (0.039)
<i>SUM_CEO_COMP-IND</i>	0.528*** (0.173)		
<i>NO_HIGHER_PAID_IND_CEOS</i>	2.579*** (0.137)		
<i>_cons</i>	4.804*** (0.892)	4.009*** (0.771)	0.825 (0.701)
<i>R²</i>		0.159	0.263
<i>F</i>		8.324	8.061
<i>N</i>		980	980
<i>Year FE</i>	Yes	Yes	Yes
<i>Industry FE</i>	Yes	Yes	Yes
<i>Kleibergen-Paap Wald rk F statistic</i>	169.154***		
<i>F Test of excluded instruments</i>	210.88***		
<i>Cragg-Donald Wald F statistic</i>	313.96***		
<i>Sargan-Hansen statistic</i>		2.295	0.006
<i>Sargan-Hansen statistic [χ^2 (1) P-value]</i>		0.938	0.1298

This table reports table presents the endogeneity test (2SLS IV), the sample consists of 1040 firm-year observations between 2013 and 2020. The dependent variable is auditors' professional judgment, namely *KAM* and *MAT*. *MAT* is the materiality amount (£) for the financial statements as a whole, scaled by total assets as at year-end, and multiplied by 100. *KAM* is the number of significant audit risks, or areas of focus, reported by the auditor in the audit report. The independent variable is the industry tournament incentive (*Indgap*) measures the compensation gap between the CEO under consideration and the highest-paid CEO in the same industry. *SUM_CEO_COMP-IND* is the natural logarithm of the total compensation received by all CEOs in the same

industry. *NO_HIGHER_PAID_IND_CEOs* is the natural logarithm of the number of CEOs in the same industry with higher-paid CEOs in the same industry. *Ind #CEO* represents the number of CEOs in an industry. *LAFEE* is the natural logarithm of audit fees. *BIG4* is an indicator variable equal to 1 if the audit firm is one of the Big four auditing firms, and 0 otherwise. *ACIndep* is the percentage of independent members of the audit committee. *BoDIndep* is the percentage of independent members of the board of directors. *Leverage* is a firm's total liabilities scaled by total shareholders' equity. *LOSS* is an indicator variable equal to 1 if the firm report a loss for the year; 0 Otherwise. *CurrentR* is current assets divided by current liabilities. *ROA* is earnings scaled by total assets. *Employees* is the number of employees. *CEOR* is the number of years of the CEO in the role. *CEOGender* is an indicator variable equal to 1 if the CEO man, 0 Otherwise. *Retire* is an indicator variable equals 1 if the CEO is at least 62 years old and 0 otherwise. *Insider* is a dummy indicating 1 if the CEO arrived at the firm within two years prior to becoming CEO, 0 otherwise. Regressions are estimated using robust standard errors. Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. ***Bold numbers indicate significance for variables of interest.***

Table 8: Regression estimates of auditors' professional judgment and industry tournament incentives (Controlling for Endogeneity; Entropy Balancing)

	(1) KAM	(2) MAT
Indgap	-0.033** (0.013)	0.023*** (0.006)
LAFEE	-0.012 (0.024)	-0.025** (0.011)
BIG4	-0.384 (0.256)	-0.052 (0.114)
ACIndep	-0.846 (0.748)	-0.024 (0.334)
BoDIndep	2.264*** (0.413)	-0.256 (0.185)
Leverage	-0.018* (0.010)	-0.002 (0.005)
LOSS	0.177 (0.151)	0.331*** (0.068)
CurrentR	-0.175*** (0.057)	-0.052** (0.026)
ROA	-0.022*** (0.006)	0.036*** (0.003)
Employees	0.000*** (0.000)	-0.000** (0.000)
CEOR	0.019 (0.012)	-0.012** (0.005)
CEOGender	-0.167 (0.197)	-0.247*** (0.088)
Retire	0.169 (0.172)	-0.091 (0.077)
Insider	0.238** (0.093)	0.001 (0.042)
_cons	4.012*** (0.773)	0.725** (0.346)
R^2	0.305	0.352
F	10.271	17.852
N	1040	1040

This table reports table presents the endogeneity test (Entropy Balancing), the sample consists of 1040 firm-year observations between 2013 and 2020. The dependent variable is auditors' professional judgment, namely KAM and MAT. MAT is the materiality amount (£) for the financial statements as a whole, scaled by total assets as at year-end, and multiplied by 100. KAM is the number of significant audit risks, or areas of focus, reported by the auditor in the audit report. The independent variable is the industry tournament incentive (Indgap) measures the compensation gap between the CEO under consideration and the highest-paid CEO in the same industry. LAFEE is the natural logarithm of audit fees. BIG4 is an indicator variable equal to 1 if the audit firm is one of the Big four auditing firms, and 0 otherwise. ACIndep is the percentage of independent members of the audit committee. BoDIndep is the percentage of independent members of the board of directors. Leverage is a firm's total liabilities scaled by total shareholders' equity. LOSS is an indicator variable equal to 1 if the firm report a loss for the year; 0 Otherwise. CurrentR is current assets divided by current liabilities. ROA is earnings scaled by total assets. Employees is the number of employees. CEOR is the number of years of the

CEO in the role. CEOGender is an indicator variable equal to 1 if the CEO man, 0 Otherwise. Retire is an indicator variable equals 1 if the CEO is at least 62 years old and 0 otherwise. Insider is a dummy indicating 1 if the CEO arrived at the firm within two years prior to becoming CEO, 0 otherwise. Regressions are estimated using robust standard errors. Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Bold numbers indicate significance for variables of interest.

Appendices

Appendix 1: Variable definitions

Audit Firm	Definition	Data Source
The main dependent variable (<i>Auditor_judgment</i>)		
<i>KAM</i>	Number of significant audit risks, or areas of focus, reported by the auditor in the audit report	Hand-collection from audit report
<i>MAT</i>	MAT is the materiality amount (£) for the financial statements as a whole, scaled by total assets as at year-end, and multiplied by 100	Hand-collection from audit report
Main independent variable		
<i>Indgap</i>	The natural log of the compensation gap between the CEO under consideration and the second-highest-paid CEO in the same industry	BoardEx
<i>Financial experience</i>	To measure the CEO's financial background, we employ three distinct proxies. First, we use financial experience (FinExp), which equals 1 if the CEO has held a prior financial role—such as banker, analyst, loan officer, investment/asset/fund manager, treasurer, finance director, or vice president of finance—and 0 otherwise. Second, we define accounting experience (AccExp) as equal to 1 if the CEO has worked as a public auditor, certified public accountant, chartered accountant, or in a role with specific accounting responsibilities (e.g., CFO, treasurer, controller, head of accounting, chief accountant, or accounting officer), and 0 otherwise. Third, we construct a broader measure of financial expertise, Fin-AccExp, which captures the CEO's overall financial and accounting experience.	Hand-collection from annual reports
Control variables		
<i>LAFEE</i>	Logarithm of audit fees	Fame

<i>BIG4</i>	Indicator variable equal to 1 if the audit firm is one of the Big Four auditing firms, and 0 otherwise	Fame
<i>ACIndep</i>	Percentage of independent members of the audit committee	BoardEx
<i>BoIndep</i>	Percentage of independent members of the board of directors	BoardEx
<i>Leverage</i>	Total liabilities divided by total equity	DataStream
<i>Loss</i>	Equal to 1 if the firm reports a loss for the year, and 0 otherwise	DataStream
<i>CurrentR</i>	Current assets divided by current liabilities	DataStream
<i>ROA</i>	Return on Assets	DataStream
<i>Employee</i>	The number of employees	DataStream
<i>CEOR</i>	Number of years the CEO has been in the role	BoardEx
<i>CEOGender</i>	Equal to 1 if the CEO is a man, and 0 otherwise	BoardEx
<i>Retire</i>	Indicator variable that equals 1 if the CEO is at least 62 years old and 0 otherwise.	BoardEx
<i>Insider</i>	A dummy indicating if the CEO was an outside hire, defined as having arrived at the firm within two years prior to becoming CEO: equal to 1 if the CEO was an inside hire, and 0 otherwise	BoardEx

Appendix 2: Industry Classifications

We used the industry classification from the BoardEx database to identify non-financial industry categories. These include: Aerospace & Defence; Automobiles & Parts; Beverages; Business Services; Chemicals; Clothing & Personal Products; Construction & Building Materials; Containers & Packaging; Diversified Industrials; Electricity; Electronic & Electrical Equipment; Engineering & Machinery; Food & Drug Retailers; Food Producers & Processors; Forestry & Paper; General Retailers; Health; Household Products; Information Technology Hardware; Leisure & Hotels; Leisure Goods; Media & Entertainment; Mining.