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Distracted auditors, audit effort, and earnings quality

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ABSTRACT

In this paper, we explore the implications of audit office distraction for audit effort and quality. We hypothesise that an audit office with financially distressed clients (i.e. a distracted auditor) faces greater time pressures and pays less attention to the audits of the remaining non-distressed clients in their portfolio. If an audit office is distracted, they will have less bargaining power over their audit fees; and non-distressed clients will have greater incentives to engage in earnings management given the reduced expected intensity of professional skepticism. We use the ratio of audit fees derived from financially distressed clients to total audit fees of the audit office to provide strong support for these hypotheses in a sample of US firms over the period 2000–2019. Specifically, we find that distracted auditors have longer delays in issuing audit reports and lower audit fees. When the level of distraction is high, non-distressed clients engage more in accrual and real earnings management and have relatively lower earnings response coefficients. Our results are robust to using entropy balancing, audit firm fixed effects, alternative measures of distraction, and a placebo test addressing mechanical bias and randomness effects. Further analysis indicates that audit firm tenure, and audit office size and industry specialisation reduce the negative effects of distraction on audit fees and audit delay. Overall, our results provide new insights on how auditor distraction affects clients' earnings quality due to reduced effort.

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1. Introduction

A growing body of auditing literature examines how the characteristics of the audit office influence their clients' reporting environment (see e.g. Beck et al., 2019; Bills et al., 2016; Francis & Michas, 2013; Whitworth & Lambert, 2014). We extend this literature by examining how the level of distraction of the audit office that results from limited attention and time pressures influences their audit effort and their clients' earnings quality. We argue that when an audit office has a subset of clients that require a significant amount of attention and resources, their capability to effectively audit their other clients is hindered. Our focus is on a subset of clients within the same audit office that distracts auditors and generates time pressures. Specifically, we contend that financially

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distressed clients necessitate greater attention and professional skepticism from auditors and therefore constitute a potential group of clients that can temporarily stress the audit office resources. The literature on corporate financial distress supports this argument and shows that managers engage in deceptive reporting during times of financial difficulties to avoid violating debt covenants or to maximise their short-term compensation (Efendi et al., 2007; Sweeney, 1994).

Since financially distressed clients are more prone to using complex earnings management methods, auditors must exercise a greater degree of professional skepticism and audit effort to ensure that audits are effective and audit risk is at a tolerable level. However, an audit office typically reserves an economically optimal level of resources for the audits of a portfolio of clients that means that their staff risks being distracted and their resources being spread too thin when allocating more attention to distressed clients. Consequently, non-distressed clients are more likely to be affected by reduced earnings quality due to less effort by auditors. We also hypothesise that given increased time pressure and lower bargaining power, distracted auditors take longer to issue audit reports and charge lower audit fees to their non-distressed clients. The confounding effect of lower attention and audit effort from auditors results in client firms engaging in more income-increasing earnings management.

Empirically, we create our measure of distraction by using the level of exposure of the audit office to financially distressed clients. Specifically, we measure distraction at the office level as the ratio of audit fees derived from financially distressed clients to total audit fees. We define audit clients as financially distressed if their financial distress score based on Kaplan & Zingales' (1997) index (hereafter, KZ index) is in the top quintile among all Compustat firms in a given year.[1] There are two advantages to using the KZ index. First, non-distressed clients of an audit office are highly unlikely to affect the financial position of distressed clients. The non-distressed clients, therefore, experience the audit office's distraction largely exogenously. Second, clients in the top quintile of the KZ index must either overcome financial hardship or file for bankruptcy. In either case, our measure of distraction changes, introducing meaningful variability.

To test our hypotheses, we use a sample of publicly listed US firms from 2000–2019. We delete financially distressed firms and only concentrate on non-financially distressed ones. Following prior research, we control for several client, auditor, and audit office characteristics and estimate our regressions using audit firm, industry, and year fixed effects. Consistent with our predictions, distracted auditors pay less attention to the audits of non-financially distressed clients. Specifically, we find that distraction is associated with longer audit delays and lower audit fees. The results are also economically significant. All else being equal, when auditors are distracted, they tend to take 3.3 percent more time to issue audit reports than in the previous year. Similarly, when audit offices are distracted, they receive 1.5 percent lower audit fees than in the prior year. In the entropy-balanced sample, distracted audit offices take 0.7 percent more time and receive 1.9 percent lower audit fees.

We next examine whether the distraction of audit offices increases the probability of engaging in income-increasing earnings management by clients. Following prior

[1]In Table 7, we also use the Altman's (1968) Z-score and use 1.81 as the cut-off point to measure financial distress. Using this measure does not alter our main inferences.

evidence, we measure discretionary accruals using the Jones (1991) model as modified by Dechow et al. (1995) and the Dechow and Dichev (2002) as modified by McNichols (2002). To measure real earnings management, we rely on a measure of abnormal discretionary expenses introduced by Roychowdhury (2006). Our analysis shows that across all three models, distracted audit offices are positively associated with income-increasing earnings management by clients. In distracted years, client firms tend to inflate their earnings by 0.2–0.3 percent of total assets. Further, they reduce discretionary expenses by approximately 0.6 percent of total assets when compared to non-distracted years. Lastly, we analyze how stock prices react to earnings contingent on distraction. To implement this test, we follow Hackenbrack and Hogan (2002) and rely on annual earnings announcements and calculate earnings surprises as the difference between current and previous year earnings deflated by the previous year's stock price. Our results show that auditor distraction lowers the non-distressed clients' earnings response coefficients. Keeping all else equal, for a typical earnings surprise of 0.016 relative to the stock price in the previous year, the cumulative abnormal returns around the earnings announcement date are 2.69 percent lower for clients of distracted audit offices compared to clients of non-distracted audit offices. This result is consistent with the idea that the market perceives the earnings quality of non-distressed clients as relatively less informative.

Our results are robust to several different specifications addressing measurement error and endogeneity. Since observable firm characteristics may be correlated with audit effort and the earnings quality of clients, our results could be driven by the endogenous matching of a distracted audit office and a client that possesses those characteristics. To mitigate this concern, we use entropy balancing to achieve covariate balances that are virtually identical in the first and second moments (i.e. mean and variance). Using this technique, we re-estimate our main results. Our findings remain qualitatively unchanged. We also implement a placebo test to address mechanical bias and randomness effects. To do this, we randomly assign distraction scores to audit offices annually and re-estimate our models using 1,000 simulations. The coefficients obtained from this analysis are different and statistically insignificant compared to our main results. This process indicates that our results are not driven by mechanical bias or randomness in the data.

Our findings also indicate that distraction is temporary, and once the audit office can allocate more resources to the remaining clients, the negative implications disappear. In cross-sectional analyses, we test three variables that can potentially mitigate the negative effects of distraction on the audit effort and the earnings quality of clients. First, we test the effects of audit office size. Since large offices have more resources and better quality audits in general (Francis & Yu, 2009), we expect them to be less prone to time pressures and have more bargaining power. Consistent with this argument, we find that audit office size reduces the negative effect of distraction on audit fees but does not affect the relation between distraction and audit delay. Second, based on the previous literature (e.g. Casterella et al., 2004; Fung et al., 2012), we argue that the industry specialisation of audit offices can help them overcome some of the challenges presented by distraction. Our results indicate that industry specialisation helps reduce audit report delay when the audit offices are distracted, but it does not affect audit fees. Finally, we test the effects of audit firm tenure on audit effort and find that tenure helps reduce audit report delay and increase audit fees. Overall, these findings are consistent with prior evidence on audit office characteristics and audit effort.

We make several contributions to the literature. First, we extend the literature on audit office characteristics that affect audit quality. Prior research shows that audit office size (Francis et al., 2013; Francis & Yu, 2009), industry specialisation (Casterella et al., 2004; Fung et al., 2012), solvency and client visibility (Gaeremynck et al., 2008), growth (Bills et al., 2016), client deadline concentration (Czerney et al., 2019), geographical decentralisation (Beck et al., 2019), and labour market proximity (Lee et al., 2022) affect audit quality. We find that auditor distraction resulting from clients' financial constraints compels an audit office to allocate more effort to the audits of certain clients and to, consequently, pay less attention to the audits of the remaining clients. As a result, the audit office takes longer to issue its audit report and charges lower audit fees, non-distressed clients engage more in income-increasing earnings management, and investors react less intensely to earnings information.

Our findings also relate to the literature on workload compression (López & Peters, 2012), auditor busyness (Goodwin & Wu, 2016), and audit time pressure (Lambert et al., 2017). However, unlike studies on workload compression and busyness, we define distraction using a subset of clients of the audit office and show that even after controlling for these traditional measures of busyness, the effect of distraction on audit effort and the earnings quality of the clients is incremental. Similarly, our study differs from Lambert et al. (2017) because we do not rely on a single event that temporarily stresses auditors. Instead, our measure of distraction has meaningful variation over time, and we show that this variation is related to the earnings quality of clients and the response of investors.

The remainder of the paper proceeds as follows: In the next section, we discuss the available theory and formulate hypotheses. After that, we present our sample and research design. There then follows a section in which we present our results. The concluding section summarises our findings, and the appendix has definitions of the variables.

2. Related literature and hypothesis development

2.1. Time pressure and audit quality

Experimental and survey-based evidence indicates that auditors may not apply a critical mindset and evaluate evidence thoroughly when they face increased time pressure during audits. For instance, in an experimental setting, McDaniel (1990) finds that time pressure increases audit efficiency but decreases audit effectiveness. Other studies show that time budget constraints result in more premature sign-offs – signing off on an audit program step without fully completing all the required audit tasks (Alderman & Deitrick, 1982; Otley & Pierce, 1996; Willett & Page, 1996). Similarly, Asare et al. (2000) find that time pressures negatively affect the extent (number of tests to conduct) and depth (number of potential hypotheses to test) of testing. In an experimental study, Braun (2000) shows that under time pressure, auditors are likely to focus on the quantitative aspects of misstatements while paying less attention to the qualitative indicators that could signal fraudulent financial reporting.

Consistent with this evidence, Nelson (2009) argues that time pressure can negatively affect auditors' professional skepticism by motivating them to prioritise efficiency over

effectiveness and altering the types of decision-making that an auditor uses when approaching a task. More recently, Lambert et al. (2017) exploit a change in a rule of the Securities and Exchange Commission (SEC) that imposes time pressure on audits of registered firms and find that exogenous shocks resulting in more time pressures on auditors impair the quality of the audits of treated firms. Lambert et al. (2017) also survey retired audit partners to provide further evidence on the challenges of increased time pressure in the auditing process. Oversight bodies also recognise the impeding effects of time constraints on professional skepticism (e.g. PCAOB, 2012).

2.2. Limited attention and the framework for auditor distraction

Researchers in cognitive psychology put forth the limited attention hypothesis, which posits that human attention is a finite resource with limited capacity. Since humans can only attend to a limited amount of information at any given time, they must selectively focus their attention on a subset of information while ignoring or filtering out other information (Cherry, 1953; Kahneman, 1973). Studies in auditing rely on this framework and argue that audit offices have limited attention, effort, and resources to devote to their clients. Consequently, audit partners and offices perform poorly when they audit many clients (Gul et al., 2017; López & Peters, 2012; Sundgren & Svanström, 2014). Researchers also show that growth in a local office and concentrated client deadlines temporarily stress the resources of audit offices, resulting in lower audit quality (Bills et al., 2016; Czerney et al., 2019). Overall, this evidence shows that limited attention due to increased workload can constrain the resources of audit offices and lower audit quality.

We rely on this framework and argue that when an audit office has clients requiring more attention and resources, their ability to audit the rest of their clients effectively is reduced. Therefore, we focus on a subset of clients within the same audit office that distracts the audit offices and increases time pressures. Specifically, we argue that distressed clients require more attention and greater professional skepticism from the audit offices that constitute a potential subset of clients that can temporarily stress the resources of the audit office. This argument is supported by the literature on corporate financial distress which has demonstrated that during times of financial difficulties, managers engage in dishonest financial reporting to avoid violating debt covenants or to maximise their short-term compensation (Efendi et al., 2007; Sweeney, 1994).

Since financially distressed clients are more likely to use complex earnings management methods, auditors must exercise a greater degree of professional skepticism and audit effort to ensure effective audits and reduce their risks to tolerable levels (Beasley et al., 2010; Brazel et al., 2016).[2] However, an audit office generally reserves an economically optimal level of resources for the audits of their portfolio of clients. Accordingly, an audit office risks its resources being spread too thinly and their staff being distracted when it must pay more attention to the audits of distressed clients at the expense of the less risky, non-distressed clients. Therefore, it is plausible to expect that non-distressed clients will be more exposed to reduced effort by audit offices and have lower quality earnings.

[2]Consistent with this evidence, Gaeremynck et al. (2008) study a sample of distressed Belgian firms and find that audit firms with clients that have weaker financial positions supply higher quality audits to manage their overall audit risk.

We build our framework for auditor distraction at the audit office-level. It is plausible that distraction caused by distressed clients is more visible at the audit-team level. However, we argue that the audit office is primarily responsible for allocating resources, dealing with clients, and monitoring audit teams' activities to ensure the timely fulfilment of their project objectives (Czerney et al., 2019; Francis, Stokes, et al., 1999). The audit office could also reassess the situation and allocate more resources to audit teams in an effort to reduce the negative implications of auditor distraction. With the lack of data availability at the audit-team level, the audit office serves as a reliable unit of analysis.

2.3. Auditor distraction and audit effort

We focus on two important aspects of audit effort concerning auditor distraction – audit delay and audit fees. Audit delay or audit report lag is the length of time between the firm's fiscal year-end and the completion of its audit report and plays a vital role in determining the timeliness of annual reports (Givoly & Palmon, 1982). Studies show that the timeliness of financial reporting is associated with accurate valuations (Bamber et al., 1993; Givoly & Palmon, 1982). Timeliness, in general, improves the usefulness of reported financial statements for decision-making, while a delay could trigger information uncertainty related to decisions based on financial statements.

Evidence from previous research suggests that financial reporting is a technical process that thus requires continuous effective information exchange between the client and the auditor (Beasley et al., 2009). To deliver timely and accurate financial statements, review the contents of the financial statements and the audit process, and determine the effectiveness of internal control, the audit committee of the client firm regularly meets with the auditor. A distracted auditor would potentially be unable to allocate sufficient time and resources to actively engage with the client's audit committee and management. This lack of communication between the client and the auditor and excessive time pressure may impede information processing and curb coordination, thus preventing the client from delivering timely financial statements. We, therefore, express our first hypothesis as follows:

> **H1**: Auditor distraction increases an audit office's workload and is positively associated with audit report delay.

On the one hand, previous research defines audit pricing as a function of audit effort corresponding to the level of risk and complexity in the audit (Abbott et al., 2003; Francis, 2011; Moon et al., 2019; Simunic & Stein, 1996). On the other hand, studies have also shown that clients with better bargaining power pay lower audit fees (Casterella et al., 2004). We argue that distraction can affect audit fees in two major ways. First, if auditor distraction is observable before the audit agreement, the audit office may have less bargaining power. Given the economic importance of a client, the management of an audit office may be more inclined to offer lower fees than risk losing the client altogether. Second, given the inadequacy of resources and time, the management may feel fee pressure and resort to lower fees at the expense of the audit's quality (Ettredge et al., 2014). This discussion leads to our second hypothesis:

> **H2**: Auditor distraction decreases an audit office's bargaining power and is negatively associated with audit fees.

In contrast, the industry specialisation literature concludes that audit firms and their offices organise by industry (e.g. Francis et al., 2005; Hogan & Jeter, 1999). Recently, Goldman et al. (2022) learn from interviewing auditors that offices develop task-specific knowledge for auditing income tax accounts. Further, regional managing partners monitor offices of their geographic region for staffing and client portfolios (Beck et al., 2019). To ensure consistent quality and avoid distraction, regional partners will try to allocate work equitably to offices with sufficient staffing and industry expertise. Moreover, audit offices under the umbrella of a single national audit firm have the ability to share personnel and distribute resources whenever there is a shortage in one of the offices (Francis & Yu, 2009). Audit firms also have quality control systems in place, which the PCAOB closely monitors. These arguments will work against us finding a negative association between auditor distraction and audit effort.

2.4. Auditor distraction and earnings quality

An audit office's distraction can impede the clients' earnings quality through several different channels. First, given that audit quality is the joint probability that an auditor detects and reports a material misstatement (DeAngelo, 1981), this probability will likely decrease as auditors pay less attention when distracted. It may be further reduced if doing so significantly increases the audit office's workload. For example, a distracted audit office under time constraints may also avoid modification of the standard audit report, as that process often requires time-consuming discussions with the client firm's management, the audit firm's in-house counsel, or the quality review partner. Similarly, audit offices may increase instances of signing off on a step in the audit program without fully completing all the required audit tasks.

Srinidhi and Gul (2007) argue that curbing earnings management is critical to audit quality. An auditor that charges higher audit fees presumably exerts more effort to gather audit evidence that allows the auditor to evaluate the errors in accruals estimations. After identifying inconsistencies or factors affecting the true and fair view of the financial statements, the auditor requires managers to correct their estimates, modify their accounting methods, and increase the quality of the accruals. Consistent with these arguments, Hoitash et al. (2007) find a negative association between audit fees and abnormal accruals. In a similar study, Caramanis and Lennox (2008) use audit hours to measure audit effort and find that audit effort is negatively related to discretionary accruals. While auditors may not directly express their opinion about real earnings management, Commerford et al. (2016) provide interview evidence indicating that auditors are aware of managers' use of real earnings management and try to mitigate their discomfort by increasing skepticism and changing audit procedures and risk assessments of their audits. A distracted audit office, which lacks time and resources, may simply overlook earnings management activities that would normally require additional effort.

Second, auditors play a crucial role in financial reporting by providing an independent and objective assessment of a client's financial statements. This process often involves professional skepticism, where the auditors approach their work with a critical mindset by using their professional knowledge, skills, and abilities to gather and

objectively evaluate evidence, neither assuming management's dishonesty nor unquestioned honesty (Nelson, 2009). However, to the extent that distraction is observable, client firms may expect the lower intensity of professional skepticism from a distracted auditor. In such instances of lower external monitoring, managers may manipulate earnings to maximise their own and/or their shareholders' wealth. Since managers are more likely to overstate earnings than understate them and given that auditors are generally more concerned about income-increasing earnings management (Becker et al., 1998; Nelson et al., 2002), we primarily focus on the association between distraction and income-increasing earnings management. Since managers use both accruals and real activities to manipulate earnings (see e.g. Ali & Zhang, 2015), we state our third hypothesis as follows:

> **H3**: Auditor distraction is positively associated with income-increasing accrual and real earnings manipulations.

Prior evidence also suggests that the precision of reported earnings significantly affects the magnitude of the stock prices' reactions during earnings announcements. This precision of reported earnings is influenced by various features of financial reporting, such as estimation procedures, assumptions, and judgments made in arriving at the estimates (Collins & Salatka, 1993; Hong Teoh & Wong, 1993). The accuracy of earnings is not always certain and can fluctuate over time with changes in a firm's financial reporting (Subramanyam, 1996). When earnings are more precise, investors better understand a firm's activities, resulting in greater stock price reactions (Hackenbrack & Hogan, 2002). Given that an audit office's distraction is likely to result in lower earnings quality, we formulate our final hypothesis as follows:

> **H4**: Auditor distraction is negatively associated with the magnitude of stock price reaction to earnings announcements.

Prior research suggests that clients demand higher quality auditors based on accounting information uncertainty (Francis, Maydew, et al., 1999), financial reporting quality (DeFond & Zhang, 2014), profitability, and auditor industry specialisation (Minutti-Meza, 2013). Furthermore, audit clients, particularly ones with greater capital market visibility, may switch their auditors if they deem audit reports issued by the existing auditors as low quality (Barton, 2005). Therefore, in contrast to the theorising above, clients' demand for higher quality may influence the auditor to exert more effort and produce better-quality audit reports. In such a case, we may not find any relationship between auditor distraction and earnings quality.

3. Data and research methodology

3.1. Measuring auditor distraction

In Section 2, we predict that clients' financial wellbeing is critical to determining the workload of an audit office and the extent to which audit offices are distracted. To identify firms in financial distress, we rely on the KZ index. The literature in economics and finance has extensively used this index as a measure of financial constraint (e.g. Almeida et al., 2004; Baker et al., 2003; Bakke & Whited, 2010; Lamont et al., 2001). Specifically, for each Compustat firm-year, we follow Baker et al. (2003) and estimate the KZ index with

Equation (1).

$$KZ\ Index_{it} = -1.002\frac{CF_{it}}{A_{it-1}} - 39.368\ \frac{DIV_{it}}{A_{it-1}} - 1.315\frac{C_{it}}{A_{it-1}} + 3.139LEV_{it} + 0.283Q_{it} \quad (1)$$

where CF_{it} is cash flow; DIV_{it} is cash dividends; C_{it} is cash balances; LEV is the sum of long-term and short-term debt divided by assets; Q is the market value of equity plus assets minus the book value of equity all divided by assets; and $A_{it\text{-}1}$ is the lagged assets. The subscripts i and t denote the firm and year, respectively.

After creating this index, we divide firms into annual quintiles based on the KZ index. We next retain only the top quintile of each year and merge these data with Audit Analytics. Then, we measure *Distraction* at the audit office level as the percentage of audit fees of an office stemming from financially distressed clients.[3] Our measure of *Distraction* has a continuous distribution; a higher (lower) value signifies that the audit office is more (less) distracted. The extent to which a client's audit office is distracted depends on the proportion of audit fees obtained from distressed clients. Therefore, our measure of distraction is exogenous to healthier clients of an audit office because neither these clients nor the office are likely to affect the financial position of distressed clients.[4] Further, distressed firms must either overcome their financial problems or file for bankruptcy. In either case, our measure of distraction changes, introducing meaningful variation throughout the sample period.[5]

3.2. Measuring audit effort and clients' earnings quality

We follow the prior literature (Zhang, 2018) and use audit delay and audit fees as our two main measures of audit effort. We define audit delay as the natural logarithm of the difference between the completion date of the client's audit report and its fiscal year-end date, and we define audit fees as the natural logarithm of audit fees based on information obtained from Audit Analytics. To capture earnings quality, we rely on two measures of discretionary accruals (accruals earnings management) and one measure of abnormal discretionary expenses (real earnings management). Specifically, we estimate the Jones (1991) model as modified by Dechow et al. (1995) and the

[3]Our results are robust if we use clients' total assets instead of audit fees.

[4]One concern might be that our measure of distraction is similar to the "contagion effect" documented in Francis and Michas (2013). However, the "contagion effect" speaks to the inherent systematic audit-quality problems of the audit office that persists over long periods of time. We make no such assumptions in our setting. An audit office, regardless of its inherent audit-quality problems, may become distracted at any point if a significant number of its clients are financially distressed. To further address this issue with inherent office quality, we exclude all audit offices for which at least 10 percent of all clients report a materially adverse restatement in the current or prior two years. Our sample size drops slightly but our main inferences remain unchanged after excluding these cases. These exclusions mitigate the concern that systematic differences in audit-quality at the office level are driving our results.

[5]Another concern related to our measure of distraction may be that we are measuring a form of overall portfolio risk. To mitigate this concern, we define *Portfolio Risk* similarly as in Francis and Michas (2013). The correlation between our measure of distraction and *Portfolio Risk* is 0.207. We also repeat our analysis using *Portfolio Risk* as our main measure instead of distraction and find no evidence that it affects audit delay, audit fees, or the clients' earnings quality in the same way as distraction. Additionally, we repeat our analysis using *Portfolio Risk* as an additional control variable. Its inclusion does not affect our main inferences. We, therefore, conclude that the two measures are significantly different and capture different aspects of audit office characteristics. These results are available on request.

Dechow and Dichev (2002) model as modified by McNichols (2002). Similarly, to capture real earnings management, we follow Ali and Zhang (2015) and use the discretionary expenses model introduced by Roychowdhury (2006).[6] Empirically, we estimate Equations. (2)-(4) for each industry and year separately and obtain the residual terms.[7] Since we focus on income-increasing earnings management, we use signed residuals instead of using the absolute values.

$$\frac{TACC_{it}}{AT_{it-1}} = \beta_0 + \beta_1 \frac{1}{AT_{it-1}} + \beta_2 \frac{(\Delta REV_{it} - \Delta AR_{it})}{AT_{it-1}} + \beta_3 \frac{PPE_{it}}{AT_{it-1}} + \varepsilon_{it} \tag{2}$$

where *TACC* is the total accruals calculated as the difference between income before extraordinary items and operating cash flows; *AT* is total assets; *ΔREV* is the change in revenue; *ΔAR* is the change in accounts receivable; and *PPE* is gross property, plant, and equipment.

$$\frac{\Delta WC_{it}}{AT_{it-1}} = \beta_0 + \beta_1 \frac{CFO_{it-1}}{AT_{it-2}} + \beta_2 \frac{CFO_{it}}{AT_{it-1}} + \beta_3 \frac{CFO_{it+1}}{AT_{it}} + \beta_4 \frac{\Delta REV_{it}}{AT_{it-1}} + \beta_5 \frac{PPE_{it}}{AT_{it-1}} + \varepsilon_{it} \tag{3}$$

where *ΔWC* is the change in working capital (measured as current assets less cash and cash equivalents minus current liabilities plus debt in current liabilities); and *CFO* is cash flows from operations. All other variables are as defined previously.

$$\frac{DISEXP_{it}}{AT_{it-1}} = \beta_0 + \beta_1 \frac{1}{AT_{it-1}} + \beta_2 \frac{REV_{it-1}}{AT_{it-1}} + \varepsilon_{it} \tag{4}$$

where *DISEXP* is the discretionary expenses that is defined as the sum of R&D, advertising, and selling, and general and administrative expenses. If data for selling and general and administrative expenses are available, and data for R&D and advertising expenses are missing, then we set these two expenses to zero. All other variables are as defined previously.

3.3. Sample selection

We base our empirical analysis on a sample of publicly listed firms in the US from 2000 to 2019. We obtain accounting data from Compustat, stock data from the Centre for Research in Security Prices (CRSP), and audit data from Audit Analytics. Our sample selection criteria are as follows. First, we consider all publicly listed firms in the US from 2000 to 2019 and remove firm-year observations with missing audit fees or unknown auditor information. Second, we exclude firm-year observations where audit offices are located outside the US, have less than three clients, or have only one office across the country in the given year. Third, we omit observations with missing

[6]Prior literature extensively employs earnings restatements as a measure of earnings quality. We test whether clients of distracted auditors are more likely to restate their earnings and find some evidence of a higher likelihood of earnings restatement. However, these results are not robust to the inclusion of audit firm fixed effects. These findings may suggest that while clients engage in income-increasing earnings management, they are less likely to materially inflate their earnings that could lead to an accounting restatement.

[7]Following common practice in the literature, we require at least 10 observations in a given industry and year and winsorize all the inputs of the model at the 1st and 99th percentile.

accounting data to calculate our measure of audit office distraction and other necessary dependent and control variables. Finally, we exclude firms in the utilities (SIC codes 4900–4999) and financial (SIC codes 6000–6999) industries because these industries tend to be regulated. Our final sample size for the main tests comprises 42,470 firm-year observations.

3.4. Regression model

After calculating the distraction measure, we merge these data with Compustat and Audit Analytics to get a firm-year sample. We delete all financially distressed firms in the fifth quintile of the KZ index. To test the association between distraction and audit effort (hypothesis 1 and 2), we use the following regression equation:

$$\begin{aligned}\ln(\textit{Audit Delay}) or \ln(\textit{Audit Fee})_{it} = {} & \beta_0 + \beta_1 \textit{Distraction}_{it} \\ & + \beta_2 \textit{Firm Size}_{it} + \beta_3 \textit{Book to Market}_{it} \\ & + \beta_4 \textit{Segments}_{it} + \beta_5 \textit{Leverage}_{it} + \beta_6 \textit{Sales Growth}_{it} \\ & + \beta_7 \textit{Return on Assets}_{it} + \beta_8 \textit{Loss}_{it} + \beta_9 \textit{Std. Sales}_{it} \\ & + \beta_{10} \textit{Std. CFO}_{it} + \beta_{11} \textit{InvRec}_{it} + \beta_{12} \textit{Sqrt. Employees}_{it} \\ & + \beta_{13} \textit{New Financing}_{it} + \beta_{14} \textit{Extraordinary Items}_{it} \\ & + \beta_{15} \textit{Foreign Operations}_{it} + \beta_{16} \textit{Going Concern}_{it} \\ & + \beta_{17} \textit{Office Size}_{it} + \beta_{18} \textit{Industry Specialist}_{it} \\ & + \beta_{19} \textit{Industry Leader}_{it} + \beta_{20} \textit{Busy Season}_{it} \\ & + \textit{Audit Firm FE} + \textit{Industry FE} + \textit{Year FE} + \varepsilon_{it}\end{aligned} \tag{5}$$

where the natural logarithm of *Audit Delay* or *Audit Fee* is the dependent variable and *Distraction* is the main independent variable. The control variables are adopted from the prior literature (e.g. Choi et al., 2010; Zhang, 2018) and are client size (*Firm Size*), book-to-market ratio (*Book to Market*), the number of business segments (*Segments*), financial leverage (*Leverage*), sales growth rate (*Sales Growth*), profitability (*Return on Assets*), loss or profit (*Loss*), sales volatility (*Std. Sales*), cash flow volatility (*Std. CFO*), ratio of inventory plus receivables to total assets (*InvRec*), square root of number of employees (*Sqrt. Employees*), and financing need (*New Financing*) as well as indicator variables for whether the client reports extraordinary items (*Extraordinary Items*), pays any foreign income tax (*Foreign Operations*), and receives a going concern opinion (*Going Concern*) or not. We also add several audit office controls, such as its size (*Office Size*) and industry specialisation (*Industry Specialist*) as well as indicators for whether the audit firm is an industry leader (*Industry Leader*) and whether the client is audited during the busy audit season (*Busy Season*) or not. Appendix A provides more detailed definitions of all variables. Following Cameran et al. (2022), we add audit firm fixed effects to control for unobservable and time-invariant audit office characteristics.[8] We also add industry (two-digit SIC code) and year fixed effects and report the heteroscedasticity-robust

[8]Cameran et al. (2022) also find that audit office fixed effects have an incremental effect on audit quality. However, our results are not robust to the inclusion of audit office or client fixed effects.

standard errors clustered at the client level.[9] Based on hypotheses 1 and 2, we predict a positive (negative) association between distraction and audit delay (audit fees).

To test the relationship between distraction and income-increasing earnings management (hypothesis 3), we follow Francis, Maydew, et al. (1999) and Choi et al. (2010) and estimate the following regression equation:

$$\begin{aligned} Earnings\ Management_{it} = \beta_0 + \beta_1 Distraction_{it} + \beta_n Controls_{it} + Audit\ Firm\ FE \\ + Industry\ FE + Year\ FE + \varepsilon_{it} \end{aligned} \tag{6}$$

where *Earnings Management* is the signed residuals from Equation (2), (3), or (4) that is denoted as *Abnormal Accruals MJ*, *Abnormal Accruals DD*, and *Abnormal Disc. Expenses*, respectively. We add the same set of control variables (*Controls*) and fixed effects as in Equation (5). Based on hypothesis 3, we predict a positive (negative) and statistically significant relationship between distraction and income-increasing accruals (real) earnings management.

Finally, to test the association between distraction and the magnitude of the stock price's reaction to earnings, we follow Hackenbrack and Hogan (2002) and estimate the following regression equation:

$$\begin{aligned} CAR_{it} = \beta_0 + \beta_1 Distract\ Year_{it} + \beta_2 Surprise_{it} + \beta_3 Distracted\ Year_{it} \\ \times Surprise_{it} + \beta_n Controls_{it} + Firm\ FE + Year\ FE + \varepsilon_{it} \end{aligned} \tag{7}$$

where *CAR* is the cumulative abnormal return for days −1 and 0, where 0 is the earnings announcement date; *Surprise* is the unexpected earnings; and *Distracted Year* is an indicator variable that equals 1 if the audit office receives at least 10 percent of its fees from distressed clients in that year, and 0 otherwise. We add the same set of control variables (*Controls*) and fixed effects as in Equation (5).[10] We predict that the interaction term between *Distracted Year* and *Surprise* will be negative and statistically significant (hypothesis 4).

3.5. Entropy balancing

To ensure that our results are not driven by endogenous matching between firms with observable characteristics that contribute towards lower audit effort and clients' earnings quality and a distracted audit office, we use a multivariate matching technique named entropy balancing developed by Hainmueller (2012). Several recent studies have utilised the matching technique to address endogeneity concerns (see e.g. Chahine et al., 2020; Chapman et al., 2019; McMullin & Schonberger, 2020). Entropy balancing uses a weighting scheme such that post-weighting, the distribution of each matching variable is virtually identical between the control and treatment samples. To implement this, we use the dichotomous *Distracted Year* and require an entropy-balanced sample across the first two moments (mean and variance) for each control variable specified in Equation (5).[11]

[9] Our results are robust to clustering standard errors at the audit firm level and audit office level. However, since client-level clustering produces the most conservative *t*-statistics, we tabulate our results using clustering at the client level.

[10] Interacting the control variables with *Surprise* produces similar results. For brevity, we report the results without the additional interactions. These results are available on request.

[11] Untabulated results indicate that after implementing entropy balancing, there are no statistically significant differences between distraction and non-distraction years.

4. Results

4.1. Descriptive statistics and univariate analysis

Table 1 presents our final sample's cross-sectional descriptive statistics and mean differences based on *Distracted Year*. The table shows that the mean (median) of *Distraction* is 0.120 (0.084) and indicates that audit offices of the sample firms obtain, on average, 12.0 percent of their total audit fees from financially distressed clients. The mean (median) of audit delay is 4.087 (4.111), or approximately 60 (61) calendar days. The mean (median) of the natural logarithm of audit fees is 13.545 (13.566), which translates to approximately $762,990 ($779,182). These numbers are similar to those in other studies (e.g. Zhang, 2018). The mean differences indicate that audit offices issue reports with a delay during the distracted years and receive lower fees. Similarly, the descriptive statistics for accruals and real earnings management indicate that on average, clients manage their earnings upwards through accruals and real activities. The difference between distracted and non-distracted years is statistically significant and positive for accruals earnings management and negative and statistically significant for real activities manipulation. These results are consistent with our hypotheses and provide some empirical backing to our theoretical arguments. The descriptive statistics for other variables are similar to other studies (e.g. Choi et al., 2010; Zhang, 2018).

4.2. Multivariate analysis

Table 2 provides the results of the OLS regressions for the pooled and entropy-balanced samples. In column (1), when the dependent variable is the natural logarithm of audit delay, the coefficient for *Distraction* is positive and statistically significant at the 5 percent level [$\beta = 0.032^{**}$, t-statistic = 2.34]. In column (2), our dependent variable is the natural logarithm of audit fees, and the coefficient for *Distraction* is negative and statistically significant at the 1 percent level [$\beta = -0.103^{***}$, t-statistic = −3.49]. The results are similar when we use the entropy-balanced sample. In columns (3) and (4), the coefficient for *Distracted Year* is positive and negative, respectively. These results are consistent with the idea that when audit offices are distracted, they face greater time pressure and delay their audit reports. Similarly, because the client has more bargaining power given the excessive workload of the audit office, it also charges a lower fee to the client.

The coefficients for control variables are largely consistent with the literature. For instance, *Firm Size* and *Profitability* are associated with shorter audit delays, while *Book to Market*, *Segments*, *Leverage*, *Loss*, *Foreign Operations*, *Going Concern*, *Busy Season*, and *Office Size* are associated with larger delays. Larger clients with greater profitability will likely pay higher fees to accelerate the audit process and to avoid delays. Similarly, clients with fewer growth opportunities, many segments, more leverage, and foreign operations; and clients with losses and that are a going concern have longer audit delays. Large audit offices take longer to issue audit reports, particularly when the client's fiscal year ends in December. In contrast, *Firm Size*, *Segments*, *Leverage*, *Loss*, *Sqrt. Employees*, *Extraordinary Items*, *Foreign Operations*, *Going Concern*, *Busy Season*, *Industry Specialist*, and *Office Size* are positively associated with audit fees. This effect is likely because large firms with several segments and many employees,

Table 1. Descriptive statistics and univariate analysis.

Variables	Obs.	Mean	Std. Dev.	P25	Median	P75	Mean *Distracted Year* = 1	Mean *Distracted Year* = 0	Difference
Distraction measures									
Distraction	42,470	0.120	0.133	0.020	0.084	0.170	.	.	.
Distracted Year	42,470	0.446	0.497	0.000	0.000	1.000	.	.	.
Audit effort measures									
ln (Audit Delay)	42,470	4.087	0.352	3.951	4.111	4.304	4.096	4.080	0.016***
ln (Audit Fee)	42,470	13.545	1.299	12.581	13.566	14.437	13.523	13.563	−0.040***
Audit Delay Alt.	42,470	−10.452	17.215	−18.000	−6.000	−1.000	−10.203	−10.652	0.450***
ln (Audit Fee Alt.)	42,470	13.345	1.252	12.425	13.345	14.191	13.319	13.366	−0.047***
Earnings quality measures									
Abnormal Accruals MJ	39,531	0.104	0.280	−0.003	0.102	0.216	0.108	0.101	0.006**
Abnormal Accruals DD	39,531	0.018	0.280	−0.094	0.005	0.110	0.023	0.013	0.009***
Abnormal Disc. Expenses	38,582	−0.030	0.359	−0.206	−0.055	0.073	−0.035	−0.026	−0.009**
Earnings response variables									
CAR (market-adjusted)	39,751	0.342	7.209	−2.427	0.117	2.815	0.332	0.350	−0.018
CAR (factor-adjusted)	39,751	0.297	7.187	−2.449	0.057	2.734	0.289	0.303	−0.015
Surprise	39,751	0.016	0.305	−0.024	0.004	0.032	0.014	0.018	−0.004
Firm characteristics									
Firm Size	42,470	6.065	2.083	4.601	6.036	7.493	6.024	6.098	−0.074***
Book to Market	42,470	0.598	0.619	0.268	0.463	0.767	0.597	0.599	−0.002
Segments	42,470	2.332	1.864	1.000	1.000	3.000	2.304	2.353	−0.049***
Leverage	42,470	0.174	0.173	0.004	0.140	0.291	0.182	0.168	0.015***
Sales Growth	42,470	0.134	0.469	−0.035	0.067	0.194	0.138	0.130	0.008*
Return on Assets	42,470	−0.024	0.234	−0.045	0.036	0.085	−0.035	−0.016	−0.019***
Loss	42,470	0.339	0.473	0.000	0.000	1.000	0.357	0.325	0.032***
Std. Sales	42,470	0.319	0.431	0.094	0.184	0.356	0.321	0.317	0.004
Std. CFO	42,470	0.129	0.257	0.032	0.058	0.112	0.137	0.123	0.015***
InvRec	42,470	0.256	0.184	0.107	0.225	0.365	0.250	0.261	−0.011***
Sqrt. Employees	42,470	2.006	2.345	0.528	1.183	2.492	1.990	2.020	−0.029
New Financing	42,470	0.896	0.305	1.000	1.000	1.000	0.889	0.902	−0.013***
Extraordinary Items	42,470	0.179	0.384	0.000	0.000	0.000	0.183	0.176	0.006*
Foreign Operations	42,470	0.290	0.454	0.000	0.000	1.000	0.289	0.290	−0.001
Going Concern	42,470	0.035	0.185	0.000	0.000	0.000	0.041	0.031	0.010***
Audit office characteristics									
Industry Specialist	42,470	0.032	0.056	0.003	0.011	0.034	0.036	0.028	0.007***
Industry Leader	42,470	0.042	0.202	0.000	0.000	0.000	0.059	0.029	0.030***
Busy Season	42,470	0.683	0.465	0.000	1.000	1.000	0.703	0.667	0.037***
Office Size	42,470	16.866	1.623	15.727	17.086	18.120	17.014	16.746	0.267***

Notes: This table presents the summary statistics and univariate analysis for all the variables used in the study. *Distraction* is the ratio of an audit office's audit fees stemming from financially distressed clients to total audit fees the office obtains in the given year. See subsection 3.1 for more details. *Distracted Year* equals one if the audit office receives at least 10 percent of its fees from financially distressed clients, and zero otherwise. *ln (Audit Delay)* is the natural logarithm of the difference between the completion date of the client's audit report and the fiscal year-end date. *ln (Audit Fee)* is the natural logarithm of audit fees. Appendix A has the definitions of all other variables.

Table 2. Auditor distraction and audit effort.

Model:	Pooled OLS		Entropy-Balanced Sample	
Dependent variable:	*ln (Audit Delay)*	*ln (Audit Fee)*	*ln (Audit Delay)*	*ln (Audit Fee)*
	(1)	(2)	(3)	(4)
Distraction / Distracted Year	0.032**	−0.103***	0.007**	−0.019***
	(2.34)	(−3.49)	(1.98)	(−2.63)
Firm Size	−0.056***	0.415***	−0.058***	0.411***
	(−22.47)	(61.01)	(−22.39)	(60.06)
Book to Market	0.048***	−0.046***	0.045***	−0.046***
	(12.34)	(−5.97)	(11.01)	(−6.02)
Segments	0.005***	0.033***	0.006***	0.032***
	(4.05)	(10.24)	(4.11)	(9.80)
Leverage	0.185***	0.077**	0.183***	0.071**
	(13.25)	(2.38)	(12.18)	(2.23)
Sales Growth	0.017***	−0.037***	0.016***	−0.033***
	(4.71)	(−6.27)	(4.31)	(−5.72)
Return on Assets	−0.046***	−0.234***	−0.033***	−0.228***
	(−3.65)	(−9.65)	(−2.59)	(−9.49)
Loss	0.034***	0.119***	0.035***	0.118***
	(6.17)	(11.58)	(6.30)	(11.34)
Std. Sales	0.009	0.081***	0.010*	0.077***
	(1.42)	(7.03)	(1.68)	(6.75)
Std. CFO	−0.028**	−0.034*	−0.025**	−0.036**
	(−2.56)	(−1.95)	(−2.29)	(−2.10)
InvRec	0.120***	0.479***	0.111***	0.482***
	(7.07)	(10.54)	(6.58)	(10.66)
Sqrt. Employees	−0.003*	0.065***	−0.003	0.066***
	(−1.68)	(10.58)	(−1.29)	(10.61)
New Financing	−0.030***	0.026*	−0.028***	0.025
	(−4.50)	(1.69)	(−3.95)	(1.60)
Extraordinary Items	0.043***	0.160***	0.041***	0.157***
	(8.95)	(15.66)	(8.46)	(15.33)
Foreign Operations	0.030***	0.209***	0.032***	0.208***
	(5.96)	(15.72)	(6.49)	(15.72)
Going Concern	0.132***	0.213***	0.122***	0.209***
	(10.91)	(10.94)	(9.75)	(10.83)
Industry Specialist	0.019	0.370***	0.011	0.278***
	(0.52)	(5.10)	(0.31)	(3.86)
Industry Leader	0.011	−0.021	0.017*	−0.021
	(1.18)	(−1.29)	(1.72)	(−1.25)
Busy Season	0.028***	0.110***	0.028***	0.107***
	(4.90)	(7.73)	(4.91)	(7.60)
Office Size	0.006***	0.060***	0.008***	0.064***
	(2.82)	(11.74)	(3.64)	(12.67)
Constant	4.013***	8.554***	4.002***	8.488***
	(97.57)	(46.42)	(98.70)	(47.34)
Audit Firm Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.346	0.863	0.341	0.869
Observations	42,470	42,470	42,470	42,470

Notes: This table shows the regression results for examining the effect of audit offices' distraction on audit delay and audit fees. *Distraction* (used in columns (1) and (2)) is the ratio of an audit office's audit fees stemming from financially distressed clients to total audit fees the office obtains in the given year. See subsection 3.1 for more details. *Distracted Year* (used in columns (3) and (4)) equals one if the audit firm receives at least 10 percent of its audit fees from financially distressed clients, and zero otherwise. *ln (Audit Delay)* is the natural logarithm of the difference between the completion date of the client's audit report and the fiscal year-end date. *ln (Audit Fee)* is the natural logarithm of audit fees. The standard errors are clustered at the firm level, and *t*-statistics are reported in parentheses. Levels of significance are indicated by *, **, and *** for the 10%, 5%, and 1% levels, respectively. Appendix A has the definitions of all variables.

higher debt, foreign operations, and extraordinary items pay larger audit fees due to more hours required to manage the workload. Industry specialists and large offices charge a fee premium, particularly when auditing clients during a busy season.

Table 3 presents the regression results from testing the relationship between an audit office's distraction and earnings quality. In columns (1) and (2), we use signed abnormal accruals obtained from estimating Equations. (2) and (3). The coefficient for *Distraction* is positive and statistically significant. This result indicates that clients increasingly use accruals to manage earnings upwards as the distraction increases. Similarly, in column (3), the negative and statistically significant sign on *Distraction* indicates that clients use real activities to reduce costs and manage earnings upwards. These results are consistent with our expectations in hypothesis 3. The results obtained from an entropy-balanced sample in columns (4)–(6) are qualitatively similar. Overall, this evidence shows that when the auditors in an audit office are distracted, the earnings quality of their clients decreases.

The results in Tables 2 and 3 are also economically significant. When audit offices are distracted, *ceteris paribus*, they take 3.3 percent (or two calendar days) more time to issue an audit report than in the previous year. Similarly, when audit offices are distracted, they receive 1.5 percent lower audit fees than in the prior year.[12] In Table 3, the coefficients indicate that on average, firms manage their earnings upwards by approximately 0.3 and 0.2 percent of total assets during distracted years. Similarly, they decrease discretionary expenses by about 0.6percent of total assets compared to non-distracted years.

We next test whether the market perceives the earnings quality of distracted audit offices' clients as less informative and reacts less intensely to earnings surprises (hypothesis 4). Specifically, we estimate Equation (7) for our full sample. The results reported in Table 4 show that the cumulative abnormal returns around the earnings announcement date are positively and statistically significant for the magnitude of unexpected (surprise) earnings. The interaction term between *Distracted Year* and *Surprise* is negative and statistically significant. This result indicates that when the audit office is distracted, clients' earnings quality declines, and earnings become less informative, leading to a lower market response. The results are similar if we calculate *CAR* using factor-adjusted returns. These empirical findings support our theorising and indicate that distracted audit offices affect the earnings quality of their clients.[13]

4.3. Additional analyses

4.3.1. Alternative measures of audit delay and audit fees

We test whether our results are robust to alternative measures of audit effort. First, we follow Hoitash and Hoitash (2018) and redefine our audit delay measure to consider the SEC's rule change in 2006 which stipulated new deadlines for audit reports based on clients' public float.[14] Therefore, we define an alternative measure of audit delay as

[12]We derive these economic significances by comparing all client-years when the audit office is distracted (at least 10 percent of audit fees derived from distressed clients) with one-year prior to distraction. Our sample size shrinks, but we are able to derive meaningful insights.

[13]Based on the estimates in column (4) and summary statistics in Table 1, keeping all else equal, when a firm has a *Surprise* of 0.016 relative to the stock price in the previous year, clients of distracted audit offices (*Distracted Year* = 1) have a CAR of approximately 1.984 [2.028–0.041 + (0.693 × 0.016) – (0.864 × 0.016)] and clients of non-distracted audit offices (*Distracted Year* = 0) have a CAR of approximately 2.039 [2.028 + 0.693(0.016)]. These CARs indicate an absolute difference of 5.5 basis points [2.039–1.984] or a relative decrease of around 2.69 percent [(2.039–1.984) / 2.039 × 100] for clients of distracted audit offices. These findings highlight the economically significant effect of distracted audit offices on the earnings response coefficient.

[14]We thank an anonymous reviewer for pointing this out.

Table 3. Auditor distraction and clients' earnings quality.

Model:	Pooled OLS			Entropy-Balanced Sample		
Dependent variable:	*Abnormal Accruals MJ* (1)	*Abnormal Accruals DD* (2)	*Abnormal Disc. Expenses* (3)	*Abnormal Accruals MJ* (4)	*Abnormal Accruals DD* (5)	*Abnormal Disc. Expenses* (6)
Distraction / Distracted Year	0.026***	0.023**	−0.057***	0.003***	0.002***	−0.006***
	(2.61)	(1.96)	(−3.32)	(3.86)	(2.63)	(−4.64)
Firm Size	−0.018***	−0.029***	−0.051***	−0.018***	−0.030***	−0.052***
	(−6.75)	(−9.59)	(−12.37)	(−5.32)	(−7.36)	(−11.17)
Book to Market	0.018***	0.020***	−0.096***	0.020***	0.022***	−0.093***
	(5.89)	(5.63)	(−18.17)	(5.08)	(4.87)	(−13.17)
Segments	−0.001	0.001	−0.012***	−0.001	0.000	−0.013***
	(−0.76)	(0.60)	(−7.45)	(−1.09)	(0.47)	(−5.82)
Leverage	0.101***	0.113***	−0.171***	0.092***	0.106***	−0.160***
	(6.85)	(7.02)	(−6.74)	(4.81)	(6.49)	(−5.02)
Sales Growth	0.026***	0.046***	0.133***	0.021***	0.040***	0.130***
	(3.27)	(5.15)	(14.66)	(2.79)	(5.82)	(18.99)
Return on Assets	0.558***	−0.044	−0.525***	0.570***	−0.048	−0.562***
	(19.17)	(−1.30)	(−14.68)	(11.71)	(−1.11)	(−14.33)
Loss	0.013**	−0.026***	−0.011	0.015	−0.029***	−0.021*
	(2.07)	(−3.68)	(−1.34)	(1.29)	(−2.89)	(−1.94)
Std. Sales	−0.023***	−0.051***	−0.004	−0.026***	−0.053***	−0.002
	(−3.37)	(−7.05)	(−0.25)	(−3.53)	(−8.55)	(−0.16)
Std. CFO	0.024	0.133***	0.137***	0.025	0.137***	0.139***
	(1.27)	(6.10)	(4.63)	(1.11)	(5.60)	(3.42)
InvRec	−0.037**	−0.002	−0.166***	−0.049*	−0.013	−0.152***
	(−2.41)	(−0.11)	(−5.84)	(−1.73)	(−0.41)	(−4.59)
Sqrt. Employees	0.003**	0.007***	0.009***	0.003	0.008***	0.009**
	(2.20)	(4.80)	(3.36)	(1.62)	(3.71)	(2.23)
New Financing	0.031***	0.039***	0.086***	0.030***	0.040***	0.090***
	(5.60)	(6.12)	(8.08)	(4.18)	(4.84)	(9.43)
Extraordinary Items	−0.001	0.011***	−0.038***	−0.001	0.010***	−0.036***
	(−0.27)	(2.63)	(−6.76)	(−0.42)	(2.71)	(−12.84)
Foreign Operations	−0.005	−0.001	0.029***	−0.007**	−0.004	0.031***
	(−1.64)	(−0.37)	(3.89)	(−2.53)	(−1.03)	(3.96)
Going Concern	0.062***	0.146***	−0.059**	0.055**	0.141***	−0.057*
	(3.22)	(6.49)	(−2.53)	(2.00)	(4.81)	(−1.72)
Industry Specialist	0.051	0.063	−0.053	0.041	0.045	−0.070
	(1.50)	(1.59)	(−1.37)	(1.00)	(0.98)	(−1.42)
Industry Leader	−0.005	−0.009	−0.008	−0.002	−0.001	−0.005
	(−0.42)	(−0.71)	(−0.87)	(−0.21)	(−0.08)	(−0.33)
Busy Season	0.006*	0.008**	0.024***	0.006*	0.009***	0.028***
	(1.71)	(1.98)	(2.71)	(1.76)	(2.66)	(3.25)
Office Size	−0.004***	−0.002	0.006*	−0.005***	−0.002	0.006*
	(−2.76)	(−0.98)	(1.66)	(−3.87)	(−1.62)	(1.83)
Constant	0.131**	0.134**	0.285***	0.174***	0.180***	0.254***
	(2.14)	(2.47)	(3.24)	(4.80)	(7.39)	(3.59)
Audit Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.286	0.105	0.304	0.279	0.104	0.313
Observations	39,531	39,531	38,582	39,531	39,531	38,582

Notes: This table shows the regression results for examining the effect of audit offices' distraction on clients' income-increasing earnings management. *Distraction* (used in columns (1)-(3)) is the ratio of an audit office's audit fees stemming from financially distressed clients to total audit fees the office obtains in the given year. See subsection 3.1 for more details. *Distracted Year* (used in columns (4)-(6)) equals one if the audit firm receives at least 10 percent of its audit fees from financially distressed clients, and zero otherwise. The standard errors are clustered at the firm level and *t*-statistics are reported in parentheses. Levels of significance are indicated by *, **, and *** for the 10%, 5%, and 1% levels, respectively. Appendix A has the definitions of all variables.

Table 4. Auditor distraction and market response to unexpected earnings.

	CAR (market-adjusted)		*CAR (factor-adjusted)*	
Dependent variable:	(1)	(2)	(3)	(4)
Distracted Year	−0.039	−0.024	−0.056	−0.041
	(−0.44)	(−0.25)	(−0.71)	(−0.48)
Surprise	0.936***	0.852***	0.721***	0.693**
	(4.51)	(3.59)	(3.16)	(2.58)
Distracted Year × Surprise	−0.898**	−0.871**	−0.887**	−0.864**
	(−2.25)	(−2.16)	(−2.09)	(−2.00)
Firm Size		−0.724***		−0.635***
		(−7.57)		(−6.90)
Book to Market		1.125***		1.340***
		(5.61)		(6.28)
Segments		0.029		0.028
		(0.97)		(0.81)
Leverage		0.891*		0.995*
		(1.82)		(1.91)
Sales Growth		0.196		0.166
		(1.49)		(1.20)
Return on Assets		0.290		0.258
		(0.46)		(0.37)
Loss		−0.358**		−0.290*
		(−2.42)		(−1.93)
Std. Sales		0.156		0.193
		(0.67)		(0.74)
Std. CFO		0.525		0.466
		(1.44)		(1.19)
InvRec		3.526***		3.278***
		(5.45)		(5.18)
Sqrt. Employees		0.070		0.081
		(1.53)		(1.59)
New Financing		−0.127		−0.056
		(−0.47)		(−0.21)
Extraordinary Items		0.270**		0.241**
		(2.60)		(2.39)
Foreign Operations		−0.040		−0.080
		(−0.48)		(−1.01)
Going Concern		−0.844*		−0.660
		(−1.66)		(−1.38)
Constant	0.559***	3.407***	0.092	2.028**
	(3.16)	(4.56)	(0.60)	(2.63)
Audit Office Controls	No	Yes	No	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.054	0.060	0.052	0.058
Observations	39751	39751	39751	39751
$P\ (\beta 1 + \beta 3 = 0)$	0.017	0.023	0.021	0.028

Notes: This table shows the regression results for examining the effect of audit offices' distraction on the market response to earnings surprises. *Distracted Year* equals one if the audit firm receives at least 10 percent of its audit fees from financially distressed clients, and zero otherwise. *CAR* is the percentage cumulative abnormal return for days −1 and 0, where 0 is the earnings announcement date. *Surprise* is a measure of unexpected earnings. The standard errors are clustered at the firm level, and *t*-statistics are reported in parentheses. Levels of significance are indicated by *, **, and *** for the 10%, 5%, and 1% levels, respectively. Appendix A has the definitions of all variables.

the number of days between the fiscal year-end date and the audit report date minus the SEC's filing deadline requirement (60, 75, and 90 days for large accelerated, accelerated, and non-accelerated, respectively). Similarly, we alternatively measure audit fees as the natural logarithm of inflation-adjusted fees and express the fees in constant 2000 dollars. Table 5 shows that using these alternative measures does not change our inferences. We continue to find a positive (negative) and statistically significant

Table 5. Auditor distraction and audit effort: Alternative measures of audit delay and audit fees.

Model:	Pooled OLS		Entropy-Balanced Sample	
Dependent variable:	*Audit Delay Alt.* (1)	*ln (Audit Fee Alt.)* (2)	*Audit Delay Alt.* (3)	*ln (Audit Fee Alt.)* (4)
Distraction / Distracted Year	1.804***	−0.103***	0.452**	−0.019***
	(2.64)	(−3.49)	(2.53)	(−2.59)
Firm Size	1.496***	0.414***	1.396***	0.411***
	(11.74)	(60.93)	(10.86)	(59.96)
Book to Market	−1.500***	−0.046***	−1.467***	−0.046***
	(−7.16)	(−6.00)	(−6.82)	(−6.04)
Segments	0.227***	0.033***	0.240***	0.032***
	(3.36)	(10.25)	(3.49)	(9.81)
Leverage	3.805***	0.078**	3.933***	0.073**
	(5.38)	(2.42)	(5.36)	(2.27)
Sales Growth	1.308***	−0.037***	1.222***	−0.034***
	(7.16)	(−6.34)	(6.55)	(−5.79)
Return on Assets	−1.497**	−0.233***	−1.189*	−0.226***
	(−2.29)	(−9.60)	(−1.76)	(−9.44)
Loss	0.959***	0.119***	0.928***	0.118***
	(3.48)	(11.58)	(3.29)	(11.34)
Std. Sales	0.713**	0.081***	0.772**	0.077***
	(2.39)	(7.06)	(2.54)	(6.79)
Std. CFO	−0.842	−0.033*	−0.697	−0.035**
	(−1.58)	(−1.89)	(−1.31)	(−2.03)
InvRec	2.550***	0.479***	2.326***	0.481***
	(2.85)	(10.53)	(2.58)	(10.64)
Sqrt. Employees	−0.898***	0.066***	−0.877***	0.067***
	(−10.22)	(10.65)	(−10.01)	(10.69)
New Financing	−0.381	0.026*	−0.218	0.024
	(−1.09)	(1.66)	(−0.61)	(1.57)
Extraordinary Items	1.795***	0.159***	1.777***	0.156***
	(7.28)	(15.62)	(7.08)	(15.27)
Foreign Operations	1.496***	0.209***	1.621***	0.207***
	(5.85)	(15.70)	(6.32)	(15.68)
Going Concern	6.403***	0.214***	6.137***	0.209***
	(9.09)	(11.02)	(8.69)	(10.89)
Constant	−36.299***	8.552***	−36.727***	8.486***
	(−14.67)	(46.44)	(−14.58)	(47.37)
Audit Office Controls	Yes	Yes	Yes	Yes
Audit Firm Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.292	0.853	0.286	0.860
Observations	42,470	42,470	42,470	42,470

Notes: This table shows the regression results for examining the effect of audit offices' distraction on alternative measures of audit delay and audit fees. *Distraction* (used in columns (1) and (2)) is the ratio of an audit office's audit fees stemming from financially distressed clients to total audit fees the office obtains in the given year. See subsection 3.1 for more details. *Distracted Year* (used in columns (3) and (4)) equals one if the audit firm receives at least 10 percent of its audit fees from financially distressed clients, and zero otherwise. *Audit Delay Alt* is an alternative measure of audit delay, measured as the number of days between the completion date of the client's audit report and the fiscal year-end date minus the SEC's filing deadline requirement (60, 75, and 90 days for large accelerated, accelerated, and non-accelerated, respectively). *ln (Audit Fee Alt)* is an alternative measure of audit fees, defined as the natural logarithm of inflation-adjusted audit fees. The standard errors are clustered at the firm level, and *t*-statistics are reported in parentheses.

coefficient for *Distraction* when we use audit delay (audit fee) as our dependent variable. These results further mitigate concerns that our results are driven by measurement error.[15]

[15]Lambert et al. (2017) find that the SEC's rule change affected audit delays and increased the time pressures on audit offices in the initial year of compliance. We use the 2006 rule change to test whether the effect of distraction on delays

4.3.2. Auditor distraction and future audit effort

We argue that auditor distraction is a temporary phenomenon, and once the audit office can reallocate resources, its effects should largely disappear. Consequently, in the years after the distraction, we would expect no differences in audit delay and audit fees. We formally test this expectation and report the results in Table 6. Except for the one-year-ahead audit delay, we find that the coefficients for *Distraction* in all other specifications are statistically insignificant. This result supports the idea that distraction is temporary, and once the audit office can allocate resources more optimally, it can issue the reports on time and have more bargaining power in setting audit fees.

4.3.3. Alternative measure of auditor distraction

Subsection 3.1 defines the audit office's distraction as the proportion of audit fees derived from distressed clients. To define distressed clients, we rely on the KZ index. To illustrate that our results are robust to alternative measures of financial distress, we recreate our measure of distraction using Altman's (1968) *Z*-score index. We define financially distressed clients as those with a score below 1.81 and measure distraction at the office level. The results in Table 7 indicate that our findings remain robust to using this alternative measure of distraction. We find that distraction is positively associated with audit delay and income-increasing earnings management and negatively related to audit fees. These findings further support our hypotheses and reduce any concerns for measurement error.

4.3.4. Placebo test

We estimate a placebo test to reduce concerns related to randomness and mechanical bias in the data. Figure 1 illustrates the results of the placebo test that randomly assigns *Distraction* to a year. We repeat this random assignment 1,000 times and estimate our models in Equations. (5) and (6) for each sample. The distribution of the estimated coefficients for *Distraction* from these regressions, reported in Figure 1, shows that the estimated coefficients are significantly different from the dotted line that represents the true coefficient estimates from Tables 2 and 3. Furthermore, only a handful of these estimated coefficients are statistically significant at the conventional levels. These findings indicate that our results are unlikely to be driven by mechanical bias or randomness in the data. In Figure 1, we also provide the mean coefficients from each placebo test and test whether the mean is statistically different than zero. The *p*-values associated with the *t*-tests indicate that only the mean coefficient in Figure 1b is statistically different than zero at the 10 percent level. However, the mean coefficient in Figure 1b is positive and the corresponding actual coefficient in Table 2 is negative, indicating that there is no systematic bias. These results further strengthen our confidence in the robustness of our findings and support the validity of the estimated coefficients presented in Tables 2 and 3.

is stronger prior to the rule change. We find consistent evidence of a stronger effect. The coefficient for *Distraction* is economically and statistically more significant before 2006 than in the period after 2006. This significance indicates that the SEC's rule change may have limited audit offices in how much time they could take to issue audit reports.

Table 6. Auditor distraction and future audit effort and audit fees.

Dependent variable:	One-year-ahead *ln (Audit Delay)* (1)	Two-years-ahead *ln (Audit Delay)* (2)	Three-years-ahead *ln (Audit Delay)* (3)	One-year-ahead *ln (Audit Fee)* (4)	Two-years-ahead *ln (Audit Fee)* (5)	Three-years-ahead *ln (Audit Fee)* (6)
Distracted Year	0.005*	0.002	0.001	−0.012	−0.006	−0.006
	(1.74)	(0.70)	(0.28)	(−1.51)	(−0.75)	(−0.67)
Firm Size	−0.057***	−0.056***	−0.052***	0.427***	0.436***	0.442***
	(−23.46)	(−22.14)	(−20.83)	(57.86)	(56.00)	(53.83)
Book to Market	0.054***	0.049***	0.045***	−0.078***	−0.113***	−0.138***
	(13.87)	(12.64)	(11.53)	(−8.65)	(−11.51)	(−12.37)
Segments	0.005***	0.005***	0.002**	0.034***	0.033***	0.030***
	(4.25)	(3.69)	(1.98)	(10.20)	(9.53)	(8.33)
Leverage	0.147***	0.103***	0.071***	0.040	0.001	−0.029
	(10.91)	(7.80)	(5.48)	(1.08)	(0.04)	(−0.67)
Sales Growth	0.015***	0.005	0.001	0.002	0.020***	0.025***
	(4.49)	(1.50)	(0.18)	(0.27)	(2.76)	(3.00)
Return on Assets	−0.045***	−0.041***	−0.037***	−0.231***	−0.217***	−0.213***
	(−3.77)	(−3.43)	(−3.29)	(−8.37)	(−7.03)	(−6.08)
Loss	0.013***	0.013***	0.017***	0.089***	0.064***	0.040***
	(2.86)	(2.83)	(3.81)	(8.06)	(5.44)	(3.10)
Std. Sales	0.001	0.006	0.009	0.085***	0.096***	0.099***
	(0.18)	(0.99)	(1.60)	(6.51)	(6.58)	(6.09)
Std. CFO	−0.011	−0.021**	−0.020**	−0.033	−0.036	−0.026
	(−1.09)	(−2.07)	(−2.09)	(−1.60)	(−1.59)	(−1.00)
InvRec	0.091***	0.069***	0.055***	0.490***	0.483***	0.458***
	(5.70)	(4.32)	(3.44)	(9.48)	(8.74)	(7.63)
Sqrt. Employees	−0.002	−0.002	−0.003	0.061***	0.057***	0.055***
	(−0.95)	(−1.08)	(−1.36)	(9.53)	(8.68)	(8.18)
New Financing	−0.025***	−0.010	−0.003	0.057***	0.094***	0.117***
	(−4.03)	(−1.60)	(−0.49)	(3.23)	(4.93)	(5.45)
Extraordinary Items	0.023***	0.019***	0.006	0.120***	0.099***	0.069***
	(5.34)	(4.49)	(1.42)	(11.13)	(8.74)	(5.75)
Foreign Operations	0.019***	0.013***	0.010**	0.194***	0.179***	0.169***
	(4.15)	(2.84)	(2.11)	(13.79)	(12.18)	(10.82)
Going Concern	0.065***	0.035***	0.028**	0.117***	0.095***	0.032
	(5.05)	(2.77)	(2.30)	(4.94)	(3.61)	(1.01)
Constant	4.030***	4.045***	4.166***	8.547***	8.727***	8.979***
	(105.61)	(94.12)	(100.52)	(40.32)	(39.85)	(40.13)
Audit Office Controls	Yes	Yes	Yes	Yes	Yes	Yes
Audit Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.372	0.357	0.351	0.858	0.847	0.831
Observations	36,729	33,383	29,414	36,743	33,397	29,426

Notes: This table shows the regression results for examining the effect of audit offices' distraction on future audit delay and audit fees. *Distracted Year* equals one if the audit firm receives at least 10 percent of its audit fees from financially distressed clients, and zero otherwise. The standard errors are clustered at the firm level, and *t*-statistics are reported in parentheses. Levels of significance are indicated by *, **, and *** for the 10%, 5%, and 1% levels, respectively. Appendix A has the definitions of all variables.

4.3.5. The effects of office size, industry specialisation, and auditor tenure

We examine the moderating effects of audit office size, industry specialisation, and auditor tenure on the negative effects of distraction on audit effort. Consistent with the prior evidence on audit office size, we argue that large audit offices have more

Table 7. Auditor distraction, audit effort, and earnings quality: Alternative measure of distraction.

Dependent variable:	*ln (Audit Delay)* (1)	*ln (Audit Fee)* (2)	*Abnormal Accruals MJ* (3)	*Abnormal Accruals DD* (4)	*Abnormal Disc. Expenses* (5)
Distracted Year	1.537**	−0.104***	0.024***	0.028***	−0.033**
	(2.34)	(−3.62)	(2.80)	(3.04)	(−2.07)
Firm Size	1.322***	0.433***	−0.013***	−0.020***	−0.048***
	(8.99)	(53.57)	(−4.37)	(−6.11)	(−9.75)
Book to Market	−1.934***	−0.046***	0.028***	0.033***	−0.148***
	(−5.88)	(−3.32)	(5.37)	(6.09)	(−18.06)
Segments	0.265***	0.030***	−0.000	0.002*	−0.012***
	(3.70)	(8.54)	(−0.33)	(1.69)	(−6.47)
Leverage	2.415***	0.137***	0.122***	0.116***	−0.187***
	(3.09)	(3.40)	(9.13)	(8.56)	(−8.55)
Sales Growth	2.053***	−0.046***	0.053***	0.080***	0.182***
	(7.65)	(−4.87)	(4.16)	(5.98)	(15.25)
Return on Assets	−2.275**	−0.208***	0.520***	−0.165***	−0.401***
	(−2.55)	(−5.06)	(14.57)	(−3.98)	(−7.66)
Loss	0.815**	0.093***	0.003	−0.033***	0.039***
	(2.55)	(7.61)	(0.45)	(−4.67)	(4.55)
Std. Sales	0.843**	0.099***	−0.010	−0.034***	−0.025
	(2.52)	(6.77)	(−1.52)	(−4.55)	(−1.56)
Std. CFO	−2.067**	−0.097***	−0.009	0.133***	0.392***
	(−2.28)	(−2.74)	(−0.30)	(4.17)	(7.88)
InvRec	0.745	0.481***	0.002	0.057***	−0.181***
	(0.77)	(9.13)	(0.17)	(3.92)	(−6.04)
Sqrt. Employees	−0.797***	0.057***	0.001	0.004***	0.009***
	(−8.63)	(8.65)	(0.70)	(2.63)	(3.05)
New Financing	−0.219	0.034*	0.019***	0.025***	0.056***
	(−0.55)	(1.67)	(3.55)	(4.23)	(4.39)
Extraordinary Items	1.471***	0.151***	0.001	0.011**	−0.026***
	(4.56)	(10.58)	(0.30)	(2.45)	(−3.87)
Foreign Operations	1.374***	0.197***	−0.006	0.000	0.030***
	(5.04)	(13.26)	(−1.59)	(0.02)	(3.55)
Going Concern	9.256***	0.203***	−0.114*	−0.063	0.056
	(5.95)	(4.52)	(−1.76)	(−1.03)	(1.27)
Constant	−36.461***	8.496***	0.013	0.019	0.315***
	(−13.33)	(40.57)	(0.21)	(0.33)	(3.17)
Auditor Office Controls	Yes	Yes	Yes	Yes	Yes
Audit Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.323	0.861	0.313	0.122	0.292
Observations	33,767	33,768	31,673	31,673	31,207

Notes: This table shows the regression results for examining the effect of audit offices' distraction on audit effort and their clients' earnings quality using an alternative measure of distraction based on the Altman's Z-score. *Distraction* is the ratio of an audit office's audit fees stemming from financially distressed clients to total audit fees the office obtains in the given year. See subsection 3.1 for more details. The standard errors are clustered at the firm level, and *t*-statistics are reported in parentheses. Levels of significance are indicated by *, **, and *** for the 10%, 5%, and 1%, respectively. Appendix A has the definitions of all variables.

resources and may be less prone to the negative implications of distraction.[16] The results in columns (1) and (2) of Table 8 show that the audit office size only mitigates the negative implications of distraction on audit fees. This finding is likely because large audit offices

[16]Alternatively, we also consider the effects of Big4 and non-Big4 audit offices on the negative association between audit offices' distraction and audit effort and earnings quality. While we find that non-Big4 clients are more exposed to the effects of distraction, we find no evidence to suggest that our results are driven by non-Big4 clients.

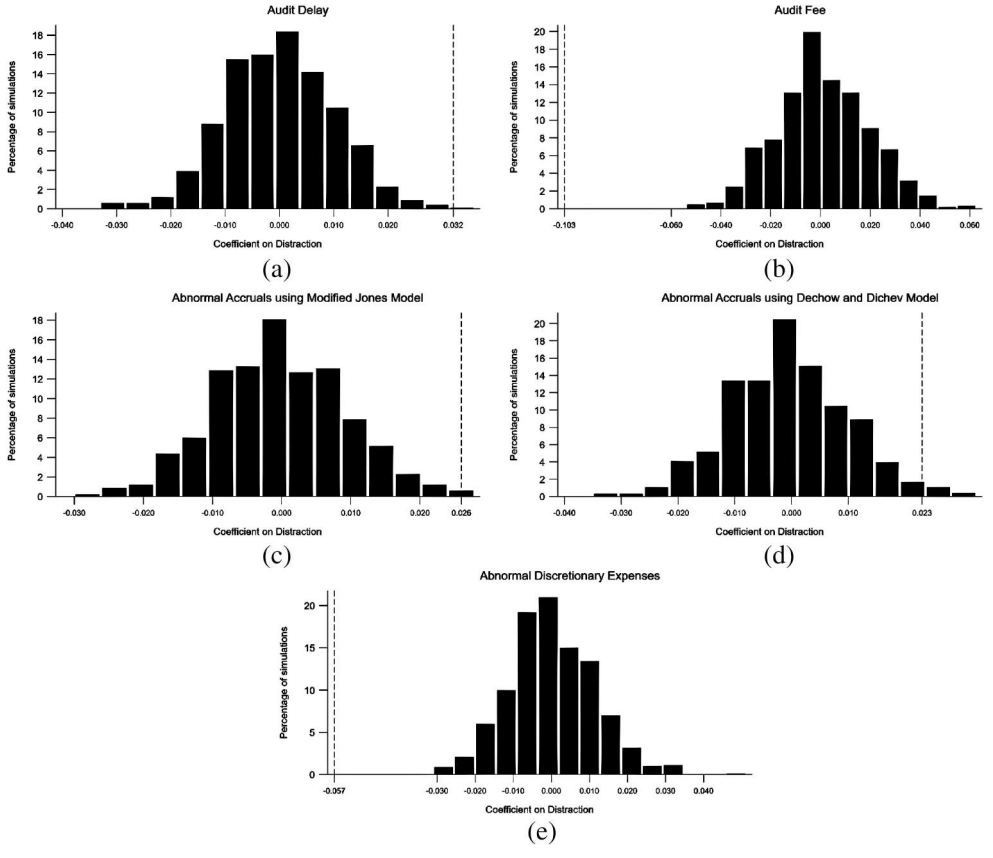

Figure 1. Auditor distraction, audit effort, and clients' earnings quality: Placebo test.

Notes: This figure illustrates the results of a placebo test that randomly assigns *Distraction*. This procedure is repeated 1,000 times and the distribution of the estimated coefficients for *Distraction* from the regressions are reported. The dotted line represents the true coefficient estimates from Tables 2 and 3. *Distraction* is the ratio of an audit office's audit fees stemming from financially distressed clients to total audit fees the office obtains in the given year. See subsection 3.1 for more details. *ln (Audit Delay)* is the natural logarithm of the difference between the completion date of the client's audit report and the fiscal year-end date. *ln (Audit Fee)* is the natural logarithm of audit fees. Appendix A has the definitions of all other variables.

may have more bargaining power than smaller ones. Similarly, we expect industry specialization to reduce the negative effects of the audit office's distraction. The results in columns (3) and (4) indicate that the audit office's industry specialisation only helps reduce audit delay but does not help the audit office charge higher audit fees. Finally, we predict that an auditor with more experience with the client (captured by auditor tenure) will have the necessary expertise to generate a timelier audit report and may also have a better client-auditor relationship that enables the audit office to have more bargaining power. The results in columns (5) and (6) are consistent with these arguments. The auditor's tenure reduces the negative implications of distraction on audit report delay and audit fees. These findings provide further insights into how the characteristics of audit offices influence the relationship between distraction and audit effort.[17]

[17]In untabulated results, we find no consistent evidence to suggest that these variables mitigate the positive association between audit offices' distraction and income-increasing earnings management. Furthermore, we also do not find any

Table 8. Auditor distraction and audit effort: The effects of office size, industry specialisation, and audit firm tenure

Dependent variable:	*ln (Audit Delay)* (1)	*ln (Audit Fee)* (2)	*ln (Audit Delay)* (3)	*ln (Audit Fee)* (4)	*ln (Audit Delay)* (5)	*ln (Audit Fee)* (6)
Distracted Year	−0.009	−0.211***	0.013***	−0.018**	0.036***	−0.050***
	(−0.25)	(−2.94)	(3.55)	(−2.35)	(3.35)	(−2.84)
Office Size	0.005**	0.055***	0.006***	0.060***	0.006***	0.060***
	(2.24)	(10.17)	(2.75)	(11.71)	(2.81)	(11.72)
Distracted Year × Office Size	0.001	0.011***				
	(0.50)	(2.67)				
Industry Specialist	0.021	0.354***	0.092**	0.365***	0.020	0.356***
	(0.57)	(4.89)	(2.03)	(4.28)	(0.55)	(4.91)
Distracted Year × Industry Specialist			−0.148***	−0.009		
			(−2.81)	(−0.09)		
Auditor Tenure					−0.018***	−0.038***
					(−3.68)	(−3.56)
Distracted Year × Auditor Tenure					−0.016***	0.018*
					(−3.04)	(1.87)
Constant	4.024***	8.636***	4.012***	8.552***	4.020***	8.588***
	(90.28)	(46.12)	(97.27)	(46.35)	(97.18)	(46.60)
Client Controls	Yes	Yes	Yes	Yes	Yes	Yes
Audit Office Controls	Yes	Yes	Yes	Yes	Yes	Yes
Audit Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.346	0.863	0.346	0.863	0.347	0.863
Observations	42,470	42,470	42,470	42,470	42,470	42,470

Notes: This table shows the regression results for examining the moderating effects of audit office size, industry specialisation, and auditor tenure on the negative association between audit offices' distraction and their effort. *Distracted Year* equals one if the audit firm receives at least 10 percent of its audit fees from financially distressed clients, and zero otherwise. *Office Size* is the natural logarithm of total audit fees obtained by the audit office in a given year. *Industry Specialist* is the ratio of the audit fees obtained from the client's industry (2-digit SIC) divided by total audit fees obtained by the audit office in a given year. *Auditor Tenure* is the difference between the fiscal year and the first year the audit firm was appointed. The standard errors are clustered at the firm level, and *t*-statistics are reported in parentheses. Levels of significance are indicated by *, **, and *** for the 10%, 5%, and 1% levels, respectively. Appendix A has the definitions of all variables.

5. Conclusion

In this study, we examine how auditor distraction resulting from limited attention and time pressures influences audit effort and clients' earnings quality. Specifically, we argue that financially distressed clients constitute a potential group that can temporarily stress the resources of an audit office, leading to longer audit delays and reduced audit effort on the audits of non-distressed clients that can affect their earnings quality. We find evidence consistent with our predictions using a sample of publicly listed US firms over the period from 2000 to 2019. Our results show that distracted audit offices have longer audit delays and lower fees for their audits and their non-distressed clients have a higher likelihood of engaging in income-increasing earnings management. Moreover, we find that distraction lowers the non-distressed clients' earnings response

differences in our results among distressed and non-distressed firms. This is likely because we have already excluded the highly distressed clients (top quintile of the KZ-index) from our sample. The remaining sample is largely non-distressed, so we do not expect any statistically significant differences between the remaining firms based on the level of distress.

coefficient. Our findings suggest that distraction is temporary and that the audit office eventually regains focus in one to two years.

Our results have important implications for the auditing literature, audit offices, and audit oversight bodies. First, our study extends the literature on how audit office characteristics influence the clients' reporting environment by highlighting the role of audit offices' distraction. This distraction can lead to longer delays and reduced audit effort by auditors and reduced earnings quality in clients, negatively affecting the reliability and credibility of financial reporting. Second, audit offices may use our findings as motivation to enhance their existing quality improvement initiatives, particularly in reallocating audit resources when encountering newly distressed clients. Third, audit oversight bodies may consider our findings in managing their existing audit inspection criteria. Regulators may also implement policies encouraging audit offices to manage their resources effectively and to prioritise allocating attention to financially distressed and non-distressed clients.

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Appendix A. Definitions of variables.

Variables	Definitions
Distraction measures	
Distraction	Ratio of an audit office's audit fees stemming from financially distressed clients to total audit fees the office obtains in the given year. See subsection 3.1 for more details.
Distracted Year	Equals one if the audit firm receives at least 10 percent of its audit fees from financially distressed clients, and zero otherwise.
Audit effort measures	
ln (Audit Delay)	Natural logarithm of the difference between the date of completion of the client's audit report and its fiscal year-end date.
ln (Audit Fee)	Natural logarithm of audit fees.
Audit Delay Alt.	An alternative measure of audit delay based on Hoitash and Hoitash (2018), measured as the number of days between the audit report date and the fiscal year-end date minus the SEC's filing deadline requirement (60, 75, and 90 days for large accelerated, accelerated, and non-accelerated, respectively).
ln (Audit Fee Alt.)	An alternative measure of audit fees, defined as the natural logarithm of inflation-adjusted audit fees.
Earnings quality measures	
Abnormal Accruals MJ	A measure of accruals earnings management based on the Jones (1991) model as modified by Dechow et al. (1995) and measured as residuals obtained from Equation (2).
Abnormal Accruals DD	A measure of accruals earnings management based on the Dechow and Dichev (2002) model as modified by McNichols (2002) and measured as residuals obtained from Equation (3).
Abnormal Disc. Expenses	A measure of real earnings management based on the discretionary expenses model introduced by Roychowdhury (2006) and measured as residuals obtained from Equation (4).
Earnings response variables	
CAR (market-adjusted)	Percentage cumulative abnormal return for days −1 and 0 in which 0 is the earnings announcement date, and the abnormal returns are measured based on the market-adjusted model.
CAR (factor-adjusted)	Percentage cumulative abnormal return for days −1 and 0 in which 0 is the earnings announcement date, and the abnormal returns are measured based on the four-factor-adjusted model.
Surprise	A measure of unexpected earnings defined as the difference between earnings per share in the current year minus earnings per share in the previous year all divided by the stock price at the end of the previous year.
Firm characteristics	
Firm Size	Natural logarithm of total assets.
Book to Market	Book-to-market ratio, defined as the book market of equity divided by market value of equity (price times number of shares outstanding).
Segments	Number of business segments based on Compustat segments data.
Leverage	Long-term debt plus short-term debt divided by total assets.

(*Continued*)

Continued.

Variables	Definitions
Sales Growth	Year-over-year percentage growth in sales.
Return on Assets	Earnings before extraordinary items divided by lagged total assets.
Loss	Equals one if the earnings before extraordinary items is negative, and zero otherwise.
Std. Sales	Standard deviation of sales divided by lagged assets over the previous five years.
Std. CFO	Standard deviation of cash flows from operations divided by lagged assets over the previous five years.
InvRec	Inventory plus accounts receivables divided by total assets.
Sqrt. Employees	Square root of number of employees.
New Financing	Equals one if the sum of sale of common or preferred stock and long-term debt issuance is greater than five percent, and zero otherwise.
Extraordinary Items	Equals one if the client reports any extraordinary gains or losses, and zero otherwise.
Foreign Operations	Equals one if the client pays any foreign income tax, and zero otherwise.
Going Concern	Equals one if the audit office's opinion for the fiscal year includes a going-concern qualification, and zero otherwise.
Audit office characteristics	
Industry Specialist	Ratio of the audit fees obtained from the client's industry (2-digit SIC) divided by total audit fees obtained by the audit office in a given year.
Industry Leader	Equals one if the audit office obtains the highest audit fees from the client's industry in a given year, and zero otherwise.
Busy Season	Equals one if the fiscal year end month of the client is in December, and zero otherwise.
Office Size	Natural logarithm of total audit fees obtained by the audit office in a given year.
Auditor Tenure	The difference between the fiscal year and the first year the audit firm was appointed.