Does an Audit Office's Quality Control System Impact Audit Quality? Evidence from Audit Report Errors

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ABSTRACT

Although practitioner literature asserts a link between an auditor's quality control system and engagement-level audit outcomes, prior archival evidence has struggled to identify observable indicators in support of this claim. We identify an observable failure that is unambiguously attributable to the auditor – an error in the audit report – as an office-level proxy for poor quality controls. Audit report errors suggest a breakdown in the engagement's quality review process, which we expect to reveal broader quality control problems and lower audit quality in the respective office. Consistent with this hypothesis, we find that clients of a Big Four office with an audit report error display greater abnormal accruals than do clients of offices not cited for errors. We document the pattern in non-adverse restatements and going concern explanatory paragraphs, as well. The findings suggest that audit firms' internal quality mechanisms impact the quality of their clients' financial reporting processes. Furthermore, audit report errors may be used as a proxy for an office's audit quality independent of its clients' pre-audit inputs.

Keywords: audit quality, audit report errors, SEC comment letters, auditor quality control

JEL Codes: M42, M48

I. INTRODUCTION

Audit Standard 1110 (AS 1110) states that an audit firm has a responsibility to adopt a system of quality control in conducting an audit practice (PCAOB 2002a). A quality control system is broadly defined as the "process to provide the firm with reasonable assurance that its personnel comply with applicable professional standards and the firm's standards of quality" (PCAOB 2002a). A quality control system encompasses five elements, most notably engagement performance and monitoring.[1] Within engagement performance, Audit Standard 1220 states the engagement quality reviewer must (a) be an audit partner or equivalent, (b) possess the requisite knowledge and competence related to accounting, auditing, and financial reporting, and (c) review and evaluate all of the key judgements and documents prepared by the audit team personnel, including the audit report (PCAOB 2009).

Audit regulators also acknowledge that there is likely to be office-level, intra-firm variation in the efficacy of quality control systems. More specifically, Quality Control (QC) Section 20 notes that there are likely to be "inherent limitations that can reduce [quality control system] effectiveness. Variance in…performance and understanding of (a) professional requirements or (b) the firm's quality control policies and procedures affect…the effectiveness of the system" (PCAOB 2002b). Thus, professional standards recognize both the importance of quality control as it relates to audit quality and the potential for discrepancies in their implementation. Nonetheless, there is a paucity of large sample, empirical evidence linking office-level quality control efficacy and audit quality, most likely due to data limitations. In particular, most prior archival research focuses on PCAOB-identified, firm-wide quality control

[1] Per the PCAOB's Quality Control Section 20 (PCAOB 2002b), the five elements of an audit firm's quality control system include: independence, integrity and objectivity, personnel management, acceptance and continuance of clients and engagements, engagement performance and monitoring.

deficiencies (Aodbia 2020). We seek to fill this void by examining the relation between an observable failure in an audit office's quality review control and the outcome-based measures of audit quality.

To address our research question, we examine Big Four audit offices that commit *errors in their audit report*s. Audit report errors involve clerical errors such as citing the incorrect set of audit standards or misdating the audit report. They represent precisely measured, *ex post* failures in an office's quality review process, since auditing standards explicitly require the engagement partner and engagement quality reviewer to read the audit report. Moreover, this error is unambiguously attributable to the auditor, as it does not pertain to any financial statement account prepared by the client.

While an audit report error represents an unambiguous failure of a given engagement quality review (EQR), there are multiple, interrelated reasons why it may not be associated with office-level audit quality. First, audit report errors are clerical in nature and do not represent variation in auditor judgment. Second, the errors do not involve financial statement accounts, and therefore, do not have valuation implications for clients. Third, they are unlikely to elicit litigation against the auditor, an important determinant of audit quality. Thus, it may be tempting to regard audit report errors as isolated, inconsequential and innocuous events.

Conversely, an audit report error is indisputable evidence that an office has failed to comply with professional auditor reporting standards. In addition, the audit report constitutes the auditor's sole observable output and opportunity to communicate the quality of the work performed to capital market participants (DeFond and Zhang 2014). Moreover, audit reports themselves are generally viewed as 'boilerplate' and correctly reviewing one does not require a high degree of processing acumen. Consequently, an audit report error represents a very public

and egregious display of a lack of due professional care. Due professional care is a cornerstone of auditor competence and the profession's role in public trust (DeFond and Zhang 2014). Thus, the potential importance of an audit report error as an indicator of office-level quality controls and the lack of empirical, archival evidence on this matter motivates our study.

Our analysis begins with identifying Big Four audit offices that exhibit a quality control breakdown as evinced by an audit report error. There are two primary sources for this identification process. First, we start with a sample of Securities and Exchange Commission (SEC) comment letters in Audit Analytics referencing errors in the audit report. Second, we augment this sample by performing a search in DirectEDGAR and Audit Analytics for audit report errors similar to those referenced by the SEC. Combined, this identification process yields 583 audit report errors across our sample period of 2003-2019. This corresponds to 160 unique Big Four offices.[2]

For each identified Big Four audit office, we then examine the audit quality of its *other* audit engagements completed around the same time. That is, we use audit engagements with audit report errors to identify offices with defective quality control systems, but then eliminate those specific, contaminated audit engagements from our analyses. We define the treatment group this way in order to determine if there exists a quality control contagion effect for those offices committing audit report errors. We create an office-level test variable coded one in instances where the client is served by an audit office committing an audit report error and zero otherwise. The control group comprises clients of Big Four offices that did *not* exhibit

[2] We restrict the sample to Big Four firms for two reasons. First, our treatment group consists of the other clients in the same office. Most offices of Tier Two and triennially inspected auditors have only one or two publicly traded clients. Second, most Tier Two and triennially inspected auditors have a limited number of partners that are qualified to audit publicly traded companies, resulting in little expected variation between the audit office and engagement partner.

breakdowns in their quality control systems via audit report errors. We then regress an engagement-level audit quality proxy – abnormal accruals – against a set of client-related and auditor-related control variables and our test variable. If audit report errors signal a breakdown in the EQR control at the office level, we expect clients of this office to display lower financial reporting quality than do clients of offices without audit report errors.

Our results are consistent with this expectation; clients served by offices with audit report errors have higher absolute abnormal accruals than those served by offices with no report error. The magnitude of the difference is economically meaningful; absolute abnormal accruals as a percentage of pre-tax income are 2.4% higher for the clients of audit offices with audit report errors. The results hold for both subsets of income-increasing and income-decreasing accruals but are slightly stronger for the latter. Our conclusion also holds under three different matched-pair designs: matching each treatment observation with (1) a client of another Big Four office within the same city, (2) a client of another office within the same Big Four firm, or (3) the treatment client firm itself in the year prior to the audit report error.

To strengthen inferences, we conduct additional analyses along the following dimensions. First, we examine the pervasiveness of quality control breakdown effects. Given that practitioners routinely emphasize the importance of a well-functioning quality control system, we expect that a quality control breakdown would have not only a contemporaneous association with audit quality, but a lingering impact, as well. To examine this possibility, we test the association between our test variable and future abnormal accruals. As predicted, we find that the effect persists into the following year, suggesting that quality control failures are relatively slow to remediate. We then investigate whether the occurrence of errors over multiple years signals audit offices with systematically worse quality controls. To do so, we identify a group of

'habitual offender' offices who have error-years above the mean during our sample period. Consistent with an interpretation that such offices are indicative of relatively poorer office-level audit culture, we find that the clients of 'habitual offender' audit offices have incrementally larger abnormal accruals than the clients of 'low level offender' audit offices over the sample period. Finally, we conduct a similar set of regressions using two other outcome-based measures of audit quality, non-adverse restatements and going concern explanatory paragraphs. The evidence provided by these alternate proxies is consistent with our abnormal accruals evidence.

Our paper contributes to the literature in three ways. First, we provide original empirical evidence on the frequency, type, and nature of audit report errors within the Big Four audit firms, as well as the profile of a Big Four audit office that experiences this type of quality control deficiency. The two most common audit report errors are the incorrect reference to the "auditing standards" of the PCAOB and the incorrect dating of the auditor consent form; together they comprise approximately 85% of the sample audit report errors.[3] There are several other, different error types as well. Perhaps most importantly, EQR control failures are relatively common in Big Four offices. All Big Four firms have a non-trivial number of audit offices with at least one EQR breakdown, and 43% of all Big Four offices experienced at least one audit report error during our sample period.[4] Further illustrating the pervasiveness of our measure, we find that on an annual basis, *approximately 20% of Big Four audit engagements are audited by an office with an audit report error*. This is a particularly important property of our test variable since it exhibits only a modest correlation with office-level characteristics used in prior research such as office size and office industry expertise.

[3] The PCAOB issues both auditing and financial accounting related standards, and the audit report is designed to communicate compliance with both sets of standards.
[4] The number of unique U.S.-based offices (|Deloitte| (EY) [KPMG] {PwC}) with a breakdown in quality control as evinced by an audit report error is |34| (41) [40] {45}.

Second, we provide empirical evidence on the impact of an audit office-specific process on post-audit financial reporting quality. Outcome-based measures of audit quality are a joint product of both the financial reporting process and the audit process (Gaynor, Kelton, Mercer, and Yohn 2016). Consequently, researchers using these measures have difficulty in detangling these two factors and their relative contributions to post-audit financial reporting quality.[5] Our research design allows us to simultaneously isolate and estimate the effects of an audit quality determinant that is solely the province of the auditor and unaffected by client characteristics. In doing so, our study provides insights into the 'black box' of the audit process. The evidence provided herein indicates a substantial, economically meaningful impact of quality control breakdowns on audit quality. Moreover, it indicates that an EQR failure has a more severe impact on audit quality in audit areas more easily shirked by a reviewing partner: areas relying on more professional judgment (accruals and going concern explanatory paragraphs) and areas where the legal and reputational cost of failure is lower (income-decreasing accruals and non-adverse restatements). This provides relevant information to regulators on the specific channels of the relationship between EQR and audit quality.

Our conclusions complement those of Aobdia (2020), who examines the association between audit quality measures and quality control deficiencies identified by the PCAOB. Two differences between the papers are notable. First, Aobdia (2020) examines quality control issues at the audit firm level, whereas our results suggest that quality control practices vary from office to office. Second, Aobdia (2020) relies on proprietary data obtained from the PCAOB, whereas our measure is publicly available.

[5] If a company has high pre-audit financial reporting quality, the observable outcome will be high quality regardless of the quality of the audit. On the other hand, if a company has low pre-audit financial reporting quality but high audit quality, then the audit will improve the quality of the financial reporting and the observable outcome will be high quality (Gaynor et al. 2016).

Third, we add to the literature on factors that drive audit quality. The PCAOB (2015) and Center for Audit Quality (2014) have expressed a desire to better understand the determinants of audit quality as a means of improving it. The paucity of large-sample evidence on auditors' quality controls, especially office-level controls and observable indicators (Francis 2011), underscores the relevance of our findings. Our measure is a publicly available signal that regulators, academics, and other capital market participants can use to evaluate the quality of an auditor at the office level. The measure also contains little, if any, measurement error and, as previously discussed, consistently impacts the audits of a substantial cross-section of firms across time. Given that the PCAOB is budgetarily constrained to inspect an extremely small percentage of Big Four audit engagements, it may wish to focus on the more problematic offices as identified by our methodology.

Importantly, our test variable exhibits at least three other desirable properties for researchers and regulators investigating audit quality determinants. First, our measure possesses time-series variation, unlike office size and industry specialization which are quite stable over time. This allows us to examine the impact of a change in a specific – albeit rarely studied – audit production factor on outcome-based audit quality. Second, the variation in our measure is wholly exogenous to any client characteristic or office-level, client portfolio aspects. This is an important consideration given that audit quality outcomes can be driven by client characteristics (Lawrence, Minutti-Meza and Zhang 2011) and that higher quality clients may self-select certain auditors that do not experience financial restatement (Swanquist and Whited 2015). These two properties of audit report errors combine to dramatically reduce any potential identification issues and create what is essentially a 'changes' test setting. Third, while we test office-level contagion effects similar to Francis and Michas (2013), the cause of the contagion cannot be

attributable to materially large, client financial reporting choices and our measure is not highly correlated with the incidence of an office-level restatement.[6] Moreover, unlike restatements, engagement quality review is an essential audit process component for all audit engagements as per professional standards. Finally, unlike Francis and Michas (2013), our evidence is unlikely to be a function of client portfolio considerations.[7] We make this claim as we fail to find evidence of significantly different client dismissal rates across our test and control samples.

The remainder of this paper is organized as follows. In Section II, we review the prior literature on audit reports and auditors' quality controls. Section III develops our hypothesis. Section IV discusses the research design and data. Section V (VI) reports the primary (supplemental) results, and Section VII concludes.

II. PRIOR RESEARCH

Effects of Quality Control on Audit Quality

An auditor's system of quality control refers to the policies and procedures in place to ensure "reasonable assurance that its personnel comply with applicable professional standards and the firm's standards of quality" (PCAOB 2002a). Academics, practitioners, and regulators consistently emphasize the importance of these controls, including review procedures, in ensuring high-quality audit outcomes (AICPA 1989; Bacsik and Rizzo 1983). For example, standards for the audits of private and public companies explicitly require auditors to maintain minimum controls (AICPA 2012; PCAOB 2002b). However, because researchers do not have access to audit firms' policy manuals, audit programs, staffing decisions, or quality review

[6] Restatements requiring an 8-K disclosure (i.e., those used in Francis and Michas 2013) are, by definition, material enough to warrant a separate filing. Audit report errors, in contrast, do not require a separate 8-K filing.
[7] More specifically, Swanquist and Whited (2015) document higher client dismissal rates for offices experiencing a restatement. Swanquist and Whited (2015) also find that clients dismissing the 'contaminated' office replace their auditor with a higher quality office. Since abnormal accruals are a joint function of auditee financial reporting choices and the audit process, there is a possibility that the evidence of Francis and Michas (2013) is client-driven, rather than auditor- and/or audit process-driven.

procedures, limited archival research exists on the relationship between the elements of a quality control system and audit quality (Francis 2011; DeFond and Zhang 2014).

Due to these data limitations, prior archival research utilizes proprietary data to investigate the impact of quality controls on audit quality. For example, Aobdia (2020) documents a negative association between firm-level PCAOB quality control deficiencies and engagement-level audit quality. Aobdia, Choudhary, and Newberger (2021) use proprietary PCAOB data to analyze engagement team and production characteristics – client-specific expertise and year-round auditing – on audit effectiveness. They find that when an EQR partner has greater client expertise, there are fewer engagement-level PCAOB Part I findings. Interestingly, Aobdia et al. (2021) emphasize that while the time spent by the EQR partner on an audit engagement is limited, the EQR can still significantly influence the audit process. As described in AS 1220, the EQR partner's role is to evaluate the significant judgments made by the engagement team, and the related documentation, supporting the conclusion reached – including the audit report (PCAOB 2009). In fact, Aobdia et al. (2021) find that an EQR's influence on engagement-level audit effectiveness can exceed that of lead engagement partners. However, since the research relies on proprietary PCAOB data, stakeholders cannot utilize the authors' methodology to assess the quality of auditors in practice.

Overall, research understanding quality control measures and their impact on audit quality is limited. Given (1) the very small percentage of Big Four audit engagements inspected by the PCAOB, (2) the confidential nature of its inspection process, (3) the lack of publicly available office-level indicators of quality control efficacy, and (4) the general lack of evidence relating office-level quality controls to audit quality, we suggest that the identification of audit report errors can potentially fill this gap.

Audit Reports

The outcome of the audit process is a report issued in the name of the accounting firm alongside the client's audited financial statements. The former is the sole responsibility of the auditor, whereas the latter is a joint outcome of client inputs and proposed auditor adjustments (Antle and Nalebuff 1991). Thus, the audit report represents one opportunity to isolate an auditor's contribution from that of its client. However, the academic literature suggests that, historically, the audit report provides symbolic value (i.e., it represents the auditor's work), but little communicative value absent variation from boilerplate norms (Church, Davis, and McCracken 2008). As a result of the relatively small communicative value of the audit report, recent regulatory efforts aim to increase variation in the audit report by requiring additional disclosures (e.g., lead engagement partner name, auditor tenure, and critical audit matters) (PCAOB 2016; 2017a).

To date, academic research on audit reports largely focuses on the voluntary inclusion of explanatory language to highlight client risks (e.g., Czerney, Schmidt, and Thompson 2014). For example, a client's management usually perceives a going concern modification in the audit report negatively. Thus, its addition for risky clients is frequently interpreted as a signal of a higher-quality auditor (Xu and Kalelkar 2020). However, evidence on explanatory language is subject to limitations. First, auditors only deviate from the standard audit report in a fairly narrow set of circumstances (e.g., distressed clients), which reduces generalizability. Second, explanatory language may communicate more about auditor independence than competence (DeFond and Zhang 2014). Finally, some research suggests that the market is slow to incorporate relevant information found in explanatory language about the auditor (Czerney, Schmidt, and Thompson 2019). Thus, prior research generally provides limited evidence that the audit report

provides a strong signal of auditor competence. To this end, we suggest that an error in the audit report represents a novel avenue to uncover incremental information. Since an error can only communicate a failure on the part of the auditor, it may serve as a useful signal of the auditor's quality to audit market participants.

Office-level Effects on Outcome-based Audit Quality Measures

Prior research has consistently documented a "Big N effect," whereby the large, deep-pocketed Big N firms have more at stake than their smaller counterparts, and therefore, greater incentive to maintain their reputation via better audit quality (DeFond and Zhang 2014). A more recent research stream investigates whether there exists intra-Big Four audit firm variation in audit quality. These studies have focused on observable, office-level characteristics such as office size and industry specialization. These offices are argued to offer higher audit quality because their resources provide them with greater in-house expertise. Francis and Yu (2009) find that large audit offices provide higher quality, as measured by abnormal accruals and going concern opinions. Reichelt and Wang (2010) find that audit offices that are both national and local industry specialists provide higher quality, also measured by abnormal accruals.

A closely related literature examines whether there exists a contagion effect of poor audit quality at the office level. Beardsley, Imdieke and Omer (2021) examine whether a greater office-level emphasis on providing non-audit services (NAS) impairs tone at the top and distracts from the audit function, thus reducing audit quality. These authors find evidence of an office-level NAS effect, where a greater emphasis on NAS results in more client restatements, even after controlling for client-specific NAS. Francis and Michas (2013) test whether the presence of one low-quality audit (defined as an income-decreasing restatement in excess of 10% of pre-tax income) conveys negative information about the quality of other concurrent audits conducted by

the same office. They document evidence consistent with this expectation in the form of abnormal accruals. Notably, the authors conjecture that the lack of office-level quality controls may be a contributing factor towards their evidence: "a 'contagion' of low-quality audits could occur in an auditor office location due to office-specific characteristics including personnel and quality-control procedures," (Francis and Michas 2013).

A review of the prior office-level research yields three implications germane to our research question. First, office-level factors are of the requisite magnitude to allow researchers to empirically demonstrate their effects incremental to the Big N/non-Big N dichotomy. Second, there are office-level contagion effects that can broadly impact an office's portfolio of publicly held clients, independent of the engagements used to identify the treatment offices. Third, the literature has relied extensively on outcome-based measures of audit quality to investigate and measure the hypothesized relation between observable, office-level properties and audit quality.

III. HYPOTHESIS

Our research question asks whether and to what extent an audit report error proxies for a failure of the EQR control, signaling broader office-level quality control problems and resulting in lower-quality financial reporting outcomes for the office's clients. If such is the case, we expect to find that clients of these offices display lower post-audit financial reporting quality than do clients of audit offices unassociated with report errors. Alternatively, if audit report errors represent haphazard or arbitrary events, we should find no systematic variation between these two groups of clients. Our hypothesis is predicated on three precepts.

First, the engagement quality review process is an essential part of all audit engagements and an office's system of quality control. PCAOB standards require the engagement partner to evaluate whether (1) the work papers properly document the procedures performed, (2) the

objectives of those procedures were achieved, and (3) the results support the opinion reached (PCAOB 2017b). Standards for EQR partners are similar and specifically require the partner to review the financial statements and audit report (PCAOB 2009). This includes the detection and correction of errors committed by less experienced auditors (Asare and McDaniel 1996; Nelson and Tan 2005). Relatedly, EQR is relevant enough to impact outcome-based audit quality in a material and measurable manner. The evidence of Aobdia et al. (2021) provides support for this precept, but only for individual engagements and not at the office level.

Second, audit report errors reflect the skills and motivation of the individual reviewing the report. Prior research finds that there is diversity in partners' approach to the review process. Some reviewers limit their inspection to the most important work papers; others read all the work papers in detail (Bamber, Bamber, and Bylinski 1988; Bamber and Bylinski 1982). Verifying information in an audit report constitutes a low-complexity task, given that the information is easily verifiable and likely involves the use of a decision aid (e.g., checklist) to ensure accuracy.[8,9] Auditors who lack the necessary skills and motivation to complete simple tasks are likely to make worse decisions as task complexity increases (Bonner 1994). This suggests that partners who fail to catch errors in the audit report are more likely to miss other, more substantial errors or omissions in other areas of the audit.

Third, if a poorly executed EQR results in an audit report error, this is emblematic of an office-wide culture that does not adequately emphasize and promote the importance of quality control. Prior research suggests that audit offices have their own cultures, determine resource

[8] Information in the audit report is generally unambiguous and involves matching dates and names of the financial documents to the audit report.

[9] We spoke with a former principal and a former partner of an international audit firm on the subject. Both stated that there was an extensive checklist to ensure that information in the audit report is complete and accurate.

allocations, and vary in their emphasis on quality controls (Beardsley et al. 2021; Hux, Bedard, and Noga 2018; Jenkins, Deis, Bedard, and Curtis 2008; Mowchan, 2016).

To summarize, we argue that (1) the engagement quality review process is likely to affect the outcome of the audit in a material fashion, (2) audit report errors are indicative of the motivations of the partners reviewing the audit report and audit judgements made by the engagement team, and (3) these errors are suggestive of the norms of that audit office. In this case, we should see a negative relationship between an audit report error and office-level, outcome-based audit quality. This leads to our hypothesis (stated in the alternative form):

H_1: Clients of audit offices with audit report errors have lower-quality financial reporting than do clients of audit offices without audit report errors.

IV. RESEARCH METHODOLOGY AND SAMPLE SELECTION

Audit Report Errors

We identify audit report errors through a two-stage process. In the first stage, we identify errors flagged by the SEC using the Audit Analytics SEC comment letters database from July 30, 2002 (the date the Sarbanes-Oxley Act was enacted) to December 31, 2019. We eliminate (1) issuer responses to the SEC, (2) SEC comment letters that do not reference audited financial statements (10-K or 10-KSB filings), and (3) SEC comment letters that do not reference the word "audit" in the event disclosure field. We match the SEC comment letters to information in Audit Analytics and Compustat and eliminate issuers missing necessary data from either source. Finally, we eliminate issuers audited by non-U.S. offices or by Tier Two or triennially inspected firms. We restrict the sample to Big Four auditors for two reasons. First, most non-Big Four auditors have only a few publicly traded clients per office. Since our research question is interested in the audit office's client portfolio beyond the one associated with the error, our sample is automatically weighted toward the larger firms. Second, smaller audit firms have fewer

partners that conduct audits of public companies.[10] If we include small audit firms, we may capture the quality of partners who audit the few publicly traded clients, rather than a problem with the office's quality controls.

We manually review the remaining observations, including the issuers' responses, for evidence of an error committed in the audit report. Our goal is to ensure that those SEC comments included in our sample reflect *mistakes* committed by the audit engagement team. The SEC may reference the auditor in a comment letter for other reasons. For example, the SEC may require the issuer to restate its financial statements, and as part of the restatement, request that the auditor issue a revised opinion. Alternatively, the issuer may include an opinion from a predecessor auditor not currently registered with the PCAOB. We eliminate SEC comment letters such as these that are not direct evidence of report errors. After reviewing all of the observations, we further eliminate one commonly observed error, the omission of the auditor's signature or city and state from the audit report or consent form. When we reviewed issuers' responses to the SEC, most stated that this error was due to problems converting documents into the SEC EDGAR format, rather than an omission by the auditor. Thus, we view this error type as a client mistake, rather than an auditor mistake, and eliminate it from the sample.[11] The first stage of our collection process produces a sample of 115 audit reports containing errors committed by U.S. Big Four offices and identified in SEC comment letters from July 30, 2002 to December 31, 2019.

[10] For example, nine different partners in the Chicago office of Grant Thornton issued 15 audit opinions for publicly traded clients in 2019. In contrast, 111 different partners in the Deloitte office issued 181 audit opinions for publicly traded clients in 2019 (Form AP data).

[11] For example, from Dayton Power and Light Company's March 16, 2016 correspondence to the SEC, "We obtained signed original letters from our independent registered public accounting firm prior to making our filings. Due to an inadvertent oversight, conformed signatures were omitted on the reports of our independent auditors in our filings." (https://www.sec.gov/Archives/edgar/data/0000027430/000078725016000040/filename1.htm)

Appendix A provides examples of errors we found through our manual review (with the errors bolded and underlined). For example, General Electric's audit opinion is dated February 26, 2016, but the consent form states that the audit opinion is dated February 19, 2016. This constitutes a violation of Item 601(b)(23) of Form S-K.[12] Crucially, this represents an unambiguous mistake – not reasonable variation in judgment – easily identifiable by a skilled and motivated reviewing partner.

Given the lack of prior descriptive evidence on the nature of audit report errors, SEC comment letters provide a visible starting point for our analysis. Moreover, the inspection process arises outside the control of the issuer or auditor, and the errors flagged display little to no measurement error. However, we acknowledge that not all audit report errors will receive an SEC comment letter. Limited resources constrain the frequency and depth of inspections, which favor a selection process based on issuer risks (Cassell, Dreher, and Myers 2013). Consequently, other audit report errors are likely to exist in the population of issued annual reports. In the second stage of our collection process, we aim to collect these additional audit report errors *not* flagged by the SEC.

Since it would be impracticable to manually review the entire population of 10-Ks for audit report errors, we rely on our SEC sample to inform our search. Specifically, we identify three common sources of error in the SEC sample for which we can develop systematic search criteria in DirectEDGAR or Audit Analytics. These are: (1) misdated consent forms, (2) reports referring to the "auditing standards" of the PCAOB, and (3) audit reports dated prior to the fiscal year end. The examples in Appendix A correspond to each of these error types. For each one, we

[12] Item 601(b)(23) states that "Where the consent of an expert or counsel is contained in his report or opinion or elsewhere in the registration statement or document filed therewith, a reference shall be made in the index to the report, the part of the registration statement or document or opinion, containing the consent."

develop search criteria in DirectEDGAR or Audit Analytics and manually review all output reports to ensure the error actually exists as expected. This process produces another 468 audit reports containing errors. We combine the samples from the two stages of our collection process. As summarized in Table 1 Panel A, our final sample contains a total of 583 audit reports containing errors.

Table 1 Panel B provides an analysis of the audit report errors by year and by firm. The errors are spread rather evenly throughout the sample period with no year accounting for more than 15% of the total. The largest number of errors (86) occurred in 2005, which can likely be attributed to changes in the audit report following the establishment of the PCAOB. All four firms are well represented in the sample, although PricewaterhouseCoopers and KPMG have almost twice as many errors as Deloitte and Ernst & Young. Finally, we provide a breakdown of errors by office. Over our seventeen-year sample period, there were 368 Big Four offices that issued opinions for publicly traded companies. Roughly half of them committed no audit report errors.[13] The remaining offices committed one or more audit report errors, with the severest being KPMG Dallas, which had 31 errors over the sample period. Overall, the descriptive evidence suggests that the there is significant variation across time, audit firms, and audit offices.

Finally, we explore the office-level determinants of audit report errors and whether errors correspond with other measures of audit quality. Larger offices and offices with lower growth are expected to provide higher audit quality (Francis and Yu 2009; Bills, Swanquist, and Whited 2016). To capture size and growth factors, we include the number of clients audited in year *t*

[13] The number of offices includes those opened and closed during the sample period. Only 218 offices appeared in every year of our sample. When we restrict the sample to offices open throughout the entire period, only 80 of the 218 offices (36.7%) had no audit report errors.

(*OfficeSize*) and the percentage change in audit fees from the prior year (*OfficeGrowth)*.[14] Restatements may signal spillover of poor audit quality among an office's engagements (Francis and Michas 2013). Thus, we include an indicator variable equal to one if at least one of the office's clients subsequently reports an adverse restatement of its financial statements (i.e., revises downwards earnings or net assets (*OfficeRestate*)). Offices that emphasize non-audit services may become distracted from the audit function, leading to lower audit quality (Beardsley et al. 2021). Therefore, we include the ratio of total non-audit fees to total fees in year *t* (*OfficeNASRatio*). Reichelt and Wang (2010) suggest that industry specialization creates positive synergies through the increased opportunity to leverage expertise across clients. Thus, to capture client diversity, we include the number of industries audited by the office based on two-digit SIC code (*#Industries*). Finally, workload compression may impair audit quality (Lopez and Peters 2012). Thus, to capture time constraints, we include the percentage of clients that have a calendar year end *(%CalendarClient*) and the average change in the report lag from the prior year (*ΔReportLag)*. Finally, we include year and audit firm fixed effects to control for invariant factors.

The results are shown in Table 1 Panel C. Data are at the audit office-year level. In the first set of columns, the dependent variable (*ReportErrorOffice*) is an indicator variable equal to one if the office had at least one audit report error in year *t*. The only significant variables are office restatement (*OfficeRestate*) and number of industries audited by the office (*#Industies*). A potential problem with the *ReportErrorOffice* measure is that it may be capturing office size rather than likelihood of an audit report error since more audit clients provide more opportunities

[14] We use number of clients as our measure of office size because the coefficient is generally in the predicted direction and has the largest t-value of all the office size measures. None of our results change if we use alternative measures of office size including total offices audit fees (raw or logged), total assets audited by the office (raw or logged) or the natural logarithm of number of clients.

for mistakes. To address this concern, we scale the number of erroneous reports in year *t* by the total number of clients audited that year (*ReportErrors/Clients*). After scaling the dependent variable, we find that larger offices are less likely to commit an audit report error (*OfficeSize*), consistent with prior inferences of higher quality in larger offices. Additionally, offices serving clients that restate earnings (*OfficeRestate*) or more diverse client portfolios (*#Industries*) are positively associated with the propensity to commit audit report errors. On the other hand, the degree of office growth (*OfficeGrowth)* is marginally negatively associated with the propensity to commit audit report errors. The explanatory power of both models is modest. Taken as a whole, the results suggest that audit report errors are, at best, moderately correlated with some office-level attributes documented in the prior literature but appear to arise from a relatively distinct process. Nonetheless, we use these results to inform our set of control variables in our main analyses below.

[Insert Table 1 Here]

Description of Test Variable

Our research question addresses the quality control review of a given audit office. If (1) the audit report error signals an office-level breakdown in the quality control review and (2) quality control reviews affect engagement-level audit outcomes, we should observe spillover of lower audit quality to *other clients* of the same office around the same time. Consequently, as we turn to our main research design, we exclude each client directly associated with a given audit report error and focus instead on the office's other clients. To test our hypothesis, we specify an indicator variable *ReportError* that equals one for clients in the same office audited in the six months before or after the report error occurred. The control group (*ReportError* equal to zero)

comprises clients of audit offices not associated with an audit report error in the surrounding year.[15]

Audit Quality

We examine whether post-audit financial reporting quality is lower for clients of audit offices associated with report errors than for those of offices not associated with report errors. Since only the auditor (not management) is culpable for the audit report error, we can reasonably attribute the effect of our independent variable of interest to audit quality, rather than pre-audit financial reporting quality (DeFond and Zhang 2014). Abnormal accruals serve as our output-based measure of audit quality. This measure is perhaps the most widely known proxy for audit quality (Reichelt and Wang 2010). In a supplemental analysis, we also consider restatements and going concern report modifications.

We calculate performance-adjusted abnormal accruals based on the cross-sectional Jones (1991) model, adjusting for the prior year's operating performance (Kothari, Leone, and Wasley 2005). The error term from the Jones model represents a company's abnormal (or unexpected) accruals and is frequently interpreted as the portion of earnings that has been potentially distorted by management and unadjusted by the auditor. Accruals are also attractive to our setting because they involve management and auditor discretion. Subjective issues like these may be especially vulnerable to poor EQR controls if subjectivity provides a scapegoat for shirking due professional care. The absolute value of the abnormal accruals (|*AbnAccruals*|) is regressed on our test variable, control variables used in prior studies, and fixed effects by year, industry, and

[15] This design also mitigates endogeneity issues related to the SEC's inspection process, which is unlikely to be random (Cassell et al. 2013). For example, Section 408 paragraph (b) of the Sarbanes-Oxley Act states the SEC should consider material restatements in its selection of filers. Consequently, audit report errors from the first stage of our collection process may capture the SEC's decision to select the issuer, rather than the quality of the audit. Thus, we eliminate those clients directly associated with the SEC comment letters.

audit firm. We cluster standard errors by company in all models (Petersen 2009). The accruals model, using least squares regression, is as follows:

$$\begin{aligned}|AbnAccruals|_{i,t} = {} & \alpha_0 + \beta_1 ReportError_{j,t} + \beta_2 OfficeSize_{j,t} + \beta_3 OfficeGrowth_{j,t} + \\ & \beta_4 CitySpecialist_{j,t} + \beta_5 OfficeRestate_{j,t} + \beta_6 OfficeNASRatio_{i,t} + \beta_7 Ln(AT)_{i,t} + \\ & \beta_8 \sigma(CFO)_{i,t} + \beta_9 CFO_{i,t} + \beta_{10} Leverage_{i,t} + \beta_{11} Loss_{i,t} + \beta_{12} B/M_{i,t} + \beta_{13} AltmanZ_{i,t} + \\ & \beta_{14} Ln(Tenure)_{i,t} + \beta_{15} |AccrPY|_{i,t} + \beta_{16} Acq_{i,t} + \beta_{17} Fin_{i,t} + \beta_{18} YearEnd_{i,t} + \Sigma Year + \\ & \Sigma Industry + \Sigma AuditFirm + \varepsilon\end{aligned} \quad (1)$$

If an audit report error signals a lower-quality EQR and EQRs materially affect engagement outcomes, we expect to observe greater absolute abnormal accruals for clients audited by those offices ($\beta_1 > 0$). To control for alternative explanations of our findings, we include several control variables, of which we highlight the following. Francis and Yu (2009) suggest that larger offices with more clientele are less likely to compromise audit quality with respect to a particular client. Therefore, we include the number of clients (*OfficeSize*) to control for differences in office size. Bills et al. (2016) suggest that growth temporarily stresses office resources, so we include the change in total audit fees for the office from the prior year (*OfficeGrowth*).[16] Prior research suggests that local industry expertise contributes to audit quality (Reichelt and Wang 2010). Therefore, *CitySpecialist* is an indicator variable equal to one if the audit office is the market leader in the two-digit SIC, zero otherwise (Reichelt and Wang 2010).[17] Francis and Michas (2013) find that a client's subsequent restatement of its financial statements signals poorer office-level audit quality, evidenced in its other clients' financial reporting quality. Therefore, we control for *OfficeRestate*, an indicator variable equal to one if at least one of the office's clients (other than the one in question) subsequently restates net income or net assets downward. Finally, Beardsley et al. (2021) suggest that greater emphasis on

[16] None of our results are sensitive to alternative specifications of the *OfficeSize* measure (i.e., office audit fees and assets audited) or the *OfficeGrowth* measure (i.e., change in assets audited).

[17] Data and code necessary to calculate city industry specialists were obtained from the authors. We thank them for their assistance.

providing non-audit services (NAS) to audit clients can distract from the audit function, reducing audit quality. To control for any distraction effect, we control for the ratio of office NAS fees to total office fees (excluding the individual client's NAS/office fees). These control variables assist in isolating the office-level quality review control from other office-level determinants of audit quality. The remaining control variables follow standard calculations from prior research (Minutti-Meza 2013; Reichelt and Wang 2010). In the interest of brevity, we refer the reader to the detailed variable definitions in Appendix B.

Sample Selection

Table 2 summarizes the sample attrition process for our main analyses. We start with all observations in the Audit Analytics audit opinion database between July 30, 2002 and December 31, 2019. We eliminate companies audited by non-Big Four auditors and companies audited by foreign offices of the Big Four. The calculation of abnormal accruals and other control variables requires several variables from the Compustat database (e.g., cash flows from operations, income before extraordinary items, lagged total assets, etc.). We eliminate 67,779 observations with missing values upon merging with Audit Analytics. We exclude 24,103 observations in the financial service (SIC 6000-6999) or utilities (SIC 4900-4999) industries, due to their unique regulatory and reporting requirements (Krishnan, Wen, and Zhao 2011). We also eliminate industry-years with fewer than ten companies. Finally, as stated previously, we eliminate companies directly associated with audit report errors.[18] The final sample comprises 41,873 company-year observations. Of these, 8,404 (20.1%) are audited by offices that committed audit

[18] The 205 differs from the 583 reported earlier because some audit report errors related to companies already filtered out through our other criteria (e.g., not found in Compustat, in the financial services or utility industries, belonging to an industry with fewer than ten members, etc).

report errors in the surrounding year. This demonstrates the potential economic significance of spillover effects related to office-level quality control breakdowns.

[Insert Table 2 Here]

V. RESULTS

Descriptive Statistics

Descriptive statistics for the sample are reported in Table 3. In general, companies in our sample are large, multinational corporations audited by the same audit firm for several years. Mean (median) abnormal accruals are 0.0639 (0.0390), which is lower than the abnormal returns reported by prior studies (Minutti-Meza 2013; Reichelt and Wang 2010). This is likely due to the exclusion of clients audited by Tier Two or triennially inspected firms. On the righthand side, we compare observations in the errors sample to observations in the non-errors sample. Consistent with our hypothesis, absolute abnormal accruals are significantly higher for clients of offices with an audit report error than for clients of offices without one. On a bivariate basis, we find that audit offices with a report error tend to be larger, have lower growth, are more likely to be industry specialists and provide fewer non-audit services. Report error offices are also more likely to be associated with an adverse material misstatement. However, since report error offices audit more clients, there are likely more opportunities for a material misstatement to be missed. We also observe differences for a variety of client-specific factors, which likely relate to the other office-level characteristics. In a complement to our primary empirical model, we control for systematic differences across treatment and control groups using a pre/post design later in the study.

Table 4 presents the Pearson correlation matrix for the variables used in the study. Consistent with the bivariate results in Table 3, *ReportError* is positively correlated with

abnormal accruals. Control variables appear to be reasonably correlated in the predicted directions. Only two sets of variables are highly correlated (*Cashflow* and *Loss* and *Tenure* and *Age*), suggesting that multicollinearity is not a significant problem in our models.[19]

[Insert Tables 3 and 4 Here]

Abnormal Accruals

Table 5 Panel A presents the results of the regression estimation of Equation (1). We hypothesize that audit quality is lower for clients audited by offices with defective EQR controls, as evidenced by audit report errors. Consistent with this hypothesis, we find that these clients have significantly higher absolute abnormal accruals than clients audited by offices with no audit report error (β_1 = 0.0032; t-value = 3.17). We interpret this finding as evidence that audit report errors signal a broader control problem, which manifests itself through lower-quality financial reporting among clients of the office not directly linked to the error. In other words, our results are consistent with weaker systems of quality control impairing audit quality. The coefficient is equivalent to 2.4% of pre-tax income based on the sample mean.[20] Thus, the control problems that lead to the error appear to have both a statistically and economically significant effect on the client's financial statements.

Consistent with prior research, companies report higher abnormal accruals if they have larger fluctuations in cash flows (*σ(CFO)*), incurred a loss (*Loss*), had higher accruals in the prior year (|*AccrPY*|), recently completed a merger or acquisition (*Acq*) or issued new debt or stock (*Fin*). Larger companies (*Ln(AT)*), companies with more debt (*Leverage*), companies with a larger book-to-market ratio (*B/M*), and companies with low bankruptcy risk (*AltmanZ*) report

[19] Variance inflation factors (VIF) never exceed two in any of our models.
[20] Economic significance is computed by dividing the coefficient on *ReportError* by the mean pre-tax earnings scaled by lagged total assets (Reichelt and Wang 2010).

smaller discretionary accruals. Examining auditor characteristics, a longer history with a client (*Ln(Tenure)*) and a larger office (*OfficeSize*) reduce abnormal accruals, whereas other client restatements (*OfficeRestate*) and workload compression (*YearEnd*) increase them. Surprisingly, we find that companies audited by city specialists have higher abnormal accruals. We attribute this result to differences in sample selection. We restrict our sample to only clients of Big Four auditors, whereas prior research includes the clients of all auditors. Consequently, *CitySpecialist* may be capturing inter-tier differences in audit quality between Big Four/non-Big Four auditors, rather than audit quality variation within Big Four auditors.[21]

In the second and third columns of Table 5, we separate abnormal accruals into income-increasing accruals and (the absolute value of) income-decreasing accruals. Both types represent opportunities for management opportunism through subjectivity. However, income-decreasing accruals present fewer reputational or legal risks to the auditor, and thus, may especially influence a poor-quality reviewer to revert to heuristics like anchoring on a client's assumptions (Heninger 2001; Knechel, Krishnan, Pevzner, Shefchik, and Velury 2013). That is not to say that these audit failures are unimportant. Managers may use income-decreasing accruals advantageously to smooth earnings or incur a 'big bath' (Bens and Johnston 2009).

The coefficient on *ReportError* is positive and statistically significant in both models, suggesting that auditor quality control problems affect both types. However, economic and statistical significance appear slightly stronger, for income-decreasing accruals ($p = 0.06$; two-tailed). Thus, this robustness test provides insight into the inattention paid by poor-quality EQRs conditional on the potential cost of inadvertence and suggests that they are especially ineffective

[21] To verify that our *CitySpecialist* measure is accurate, we compared it to data used in the Reichelt and Wang (2010) study. Our measure has a correlation of 0.81. Differences were due to reclassification of SIC codes by Audit Analytics.

when the reputational and/or litigation cost is lower. Collectively, the results in Table 5 Panel A support our conclusion that audit report errors signal the failure of an office's EQR control. As such, we suggest that audit firms should diligently monitor variation in offices' execution of quality controls.[22]

[Insert Table 5 Here]

Sensitivity Analysis

We next address the concern that our proxy, an audit report error, captures something other than our construct of interest, a quality control breakdown. We address this selection risk from two perspectives: (1) the risk that the error is a symptom of firm or city characteristics, rather than office-level quality controls and (2) the risk that the error captures clients with low financial reporting quality who select the given audit office.

We employ two independent matching routines to address the first selection risk. To ensure the results are not driven by differences in firm-level quality controls, we match each report error office to a 'clean' office of the same Big Four firm based on year and office annual audit fees (without replacement). Hoopes, Merkley, Pacelli and Schroeder (2018) suggest that audit offices that pay lower salaries have lower audit quality. Another body of evidence suggests geographic proximity to the client influences audit quality (Choi, Kim, Qiu, and Zang 2012). Thus, to ensure that our measure is not simply capturing differences across metropolitan areas, we next match each report error office to a 'clean' office of a different Big Four firm in the same city based on year and office annual audit fees (without replacement). For each of these matching routines, we select the office with the closest annual audit fees in the same year.[23]

[22] Our conclusions remain unchanged when we calculate abnormal accruals using the McNichols (2002) methodology.
[23] We want the size of the control office to be reasonably close to the size of the treatment office. Therefore, we exclude any control office where the annual audit fees are more than 50% above or below the annual audit fees for the treatment office.

It is less apparent that our treatment group may suffer from the second selection risk. By construction, all of the clients in our sample have selected Big Four auditors, when presumably, Tier Two or triennially inspected auditors were available options. Thus, we do not believe that clients of report error offices systemically gravitate to low-quality auditors as evinced by an audit report error *ex ante*. Moreover, clients generally do not have control over their audit firm's office; firms typically assign the geographically closest office with adequate personnel. Finally, the average tenure of the auditors in our sample is fourteen years, suggesting that neither the current management of the company nor the current EQR partner was involved in the selection of the auditor. Nonetheless, we employ a third matching routine where each treatment observation is used as its own control. We compare the abnormal accruals in the year preceding the audit report error (t-1) to the year of the audit report error.[24]

The results of these matched designs are presented in Table 5 Panel B. The control variables are generally consistent with Table 5 Panel A, so for brevity, we have omitted them from the results. We continue to observe a significant positive relationship between audit report errors and the absolute value of abnormal accruals in all three specifications. This provides comfort that our conclusions are not driven by firm-level controls, geographic factors, or client-specific, self-selection issues.

Another alternate explanation relates to audit partners. A given partner may audit multiple clients, and our test variable may simply capture low-quality audit partners. In all of the matched designs above, matching on audit office size helps mitigate potential partner-level effects. Offices of similar size are expected to have a similar ratio of partners to public clients. To further address this possibility, we investigate whether our results hold after eliminating

[24] The audit offices in our sample must have no report error for period *t-1* and a report error for period t. We exclude offices where there is a report error office for period *t-1* and period *t*.

clients audited by the same partner, utilizing lead partner data in the Form AP directory. This analysis requires that we substantially restrict our sample to observations with fiscal year-ends after December 15, 2016, the effective date of Form AP. We eliminate any company audited by the partner named on an audit report containing an error and rerun our analysis. The coefficient on our test variable is positive but no longer statistically significant (β_1 = 0.034; t-value = 1.17; untabulated). However, this is likely to due to the low power of the test. Only 48 audit report errors were discovered during this narrower sample window, and only 19 partners associated with audit report errors audited multiple clients.[25]

VI. ADDITIONAL ANALYSES

Persistence and Recidivism in Quality Control Breakdowns

Next, we perform two analyses to better understand the pervasiveness of EQR breakdowns. First, we examine whether the observed effect persists into the following year. To test this supposition, we regress our dependent variable of interest in year *t+1* on our *ReportError* in year *t*. The new model is as follows:

$$\begin{aligned}|AbnAccruals|_{i,t+1} = {} & \alpha_0 + \beta_1 ReportError_{j,t} + \beta_2 OfficeSize_{j,t+1} + \beta_3 OfficeGrowth_{j,t+1} + \\ & \beta_4 CitySpecialist_{j,t+1} + \beta_5 OfficeRestate_{j,t+1} + \beta_6 OfficeNASRatio_{t+1} + \beta_7 Ln(AT)_{i,t+1} + \\ & \beta_8 \sigma(CFO)_{i,t+1} + \beta_9 CFO_{i,t+1} + \beta_{10} Leverage_{i,t+1} + \beta_{11} Loss_{i,t+1} + \beta_{12} B/M_{i,t+1} + \\ & \beta_{13} AltmanZ_{i,t+1} + \beta_{14} Ln(Tenure)_{i,t+1} + \beta_{15} |AccrPY|_{i,t+1} + \beta_{16} Acq_{i,t+1} + \beta_{17} Fin_{i,t+1} + \\ & \beta_{18} YearEnd_{i,t+1} + \Sigma Year + \Sigma Industry + \Sigma AuditFirm + \varepsilon\end{aligned} \quad (2)$$

Other than our *ReportError* measure, all other variables are measured contemporaneously with the dependent variable. To reflect this period change, we adjust our sample to observations between July 30, 2003 and December 31, 2020 (one-year ahead). Further, since some *ReportError* offices have errors in multiple years (i.e., repeat offenders), we eliminate any

[25] Inclusion of companies audited by partners associated with an audit report error does not substantially change the results (β_1 = 0.036; t-value = 1.25), suggesting that the insignificant finding is due to a lack of power rather than partner association.

observation that is within six months of a report error.[26] If we continue to observe an effect of *ReportError*, this suggests that audit offices generally fail to remediate EQR breakdowns in a swift manner. Table 6 Panel A presents the results. The coefficient on *ReportError* is positive and statistically significant (β_1 = 0.0020; t-value = 1.70). However, the magnitude of the coefficient is not as large as the one documented earlier, suggesting that the effect may diminish as we get further from the event. Overall, we document strong evidence that accruals remain abnormally elevated in the year following the error, consistent with poor quality reviews persisting beyond the year of the error.

Since Panel A suggests quality control breakdowns can take substantial time to identify and remediate, we next consider whether our main results vary based on their severity. For this test, we classify report error offices as 'low-level offenders' or 'habitual offenders' based on number of years with audit report errors. The average report error office in our sample has four separate years with at least one error, so we classify a report error office as a low-level offender if it has four or fewer calendar years with at least one report error. A habitual offender is a report error office with more than four calendar years with at least one report error. All other aspects of the model follow Equation (1). If repeat offenses indicate systematically worse quality controls, we expect this to produce more severe audit failures. Thus, we expect our results to be stronger for habitual offenders. Table 6 Panel B presents the results. Our overall conclusion – that EQR failures meaningfully impact audit quality – holds for both low-level and habitual offenders. Moreover, an F-test confirms that habitual offenders are associated with worse audit quality, evidenced by a significantly larger coefficient. These results support our interpretation of the

[26] Results are similar if we include both $ReportError_{j,t}$ and $ReportError_{j,t+1}$ in the model.

audit report error signaling an office-level EQR breakdown and demonstrates that the impairment to audit quality is increases with breakdown severity.

[Insert Table 6 Here]

Restatements

We supplement our main analyses with two alternate output-based proxies of audit quality: restatements and going concern explanatory paragraphs. In the first model, the dependent variable, *Restatement*, equals one if the client's financials are subsequently restated, zero otherwise. Our model, using logistic regression, is as follows:

$$\begin{aligned} Restatement_{i,t} = {} & \alpha_0 + \beta_1 ReportError_{j,t} + \beta_2 OfficeSize_{j,t} + \beta_3 OfficeGrowth_{j,t} + \\ & \beta_4 CitySpecialist_{j,t} + \beta_5 OfficeRestate_{j,t} + \beta_6 OfficeNASRatio + \beta_7 PriorRestate_{i,t} + \\ & \beta_8 Ln(AT)_{i,t} + \beta_9 \sigma(CFO)_{i,t} + \beta_{10} CFO_{i,t} + \beta_{11} Leverage_{i,t} + \beta_{12} Loss_{i,t} + \beta_{13} B/M_{i,t} + \\ & \beta_{14} AltmanZ_{i,t} + \beta_{15} Ln(Age)_{i,t} + \beta_{16} Ln(Tenure)_{i,t} + \beta_{17} |AccrPY|_{i,t} + \beta_{18} Acq_{i,t} + \\ & \beta_{19} Fin_{i,t} + \beta_{20} YearEnd_{i,t} + \Sigma Year + \Sigma Industry + \Sigma AuditFirm + \varepsilon \end{aligned} \quad (3)$$

The model largely follows Equation (1), with the addition of controls for restatements in the prior year (*PriorRestate*) and issuer age (*Age*). Along with abnormal accruals, restatements are one of the most common proxies of audit quality and reliably associated with PCAOB inspection findings related to audit quality (Aobdia 2019; DeFond and Zhang 2014). Thus, our hypothesis predicts a higher propensity for restatements among clients audited by offices that commit audit report errors ($\beta_1 > 0$). On the other hand, restatements represent overt failures by the auditor to detect a material misstatement, with significant reputational and legal costs. Thus, it is unclear *a priori* whether offices will allow EQR controls to become so lax that they exacerbate litigation exposure. Similar to our cross-sectional split of accruals, we also split restatements into adverse and non-adverse types. As coded by Audit Analytics, adverse restatements negatively impact net assets or income; non-adverse restatements do not. Both types are still material by definition, and even non-material error corrections can signal broad financial

reporting problems (Choudhary, Merkley, and Schipper 2020). Nonetheless, non-adverse restatements present substantially lower reputational and legal risks to the auditor (Hennes, Leone, and Miller 2014; Mande and Son 2013). Consequently, recent evidence suggests auditors are more likely to shirk their duties over non-adverse material misstatements (Pittman and Zhao 2021).

We report the results in Table 7. Overall, we find no evidence that a client's financial statements are more likely to contain a material misstatement when its auditor commits report errors. Thus, EQR breakdowns appear unlikely to significantly contribute to such overt audit failures. However, as presented in the third set of columns, we find that financial statements audited by offices with poor EQR controls are more likely to contain non-adverse restatements. This is further evidence of reviewing partners shirking due professional care when the cost of inattention is lower. Encouragingly, we do not find evidence that EQR breakdowns engender the most egregious audit failures: material misstatements that adversely affect the financial statements.

[Insert Table 7 Here]

Going Concern Opinions

Finally, we examine another outcome-based audit quality measure: going concern explanatory paragraphs. Like the audit of accruals, the assessment of an entity's ability to continue as a going concern requires subjectivity. For example, Feng and Li (2014) suggest that auditors rely too heavily on management earnings forecasts in this assessment, and thus, fail to apply professional skepticism. We expect such heuristics to occur more often when the audit office lacks strong internal controls, especially given prior evidence of modest reputational consequences for the failure to include a going concern explanatory paragraph prior to a client's

bankruptcy (Berglund 2020). Thus, if audit offices that commit audit report errors suffer from lower-quality reviews, we would expect this to manifest through lower professional skepticism and a lower propensity to issue a going concern explanatory paragraph. Our logistic regression model follows that of Abbott, Boland, Buslepp, and McCarthy (2021):

$$\begin{aligned} GoingConcern_{i,t} = {} & \alpha_0 + \beta_1 ReportError_t + \beta_2 OfficeSize_t + \beta_3 OfficeGrowth_t + \\ & \beta_4 CitySpecialist_t + \beta_5 OfficeRestate_t + \beta_6 OfficeNASRatio_{i,t} + \beta_7 PriorGC_{i,t} + \\ & \beta_8 NewAuditor_{i,t} + \beta_9 Ln(Tenure)_{i,t} + \beta_{10} AltmanZ_{i,t} + \beta_{11} Ln(AT)_{i,t} + \beta_{12} Leverage_{i,t} + \\ & \beta_{13} CLeverage_{,t} + \beta_{14} Liquidity_{i,t} + \beta_{15} B/M_{i,t} + \beta_{16} LLoss_{i,t} + \beta_{17} NegEquity_{i,t} + \\ & \beta_{18} CFO_{i,t} + \beta_{19} Default_{i,t} + \beta_{20} MatWeakness_{i,t} + \beta_{21} FeeRatio_{i,t} + \beta_{22} Return_{i,t} + \\ & \beta_{23} Volatility_{i,t} + \beta_{24} YearEnd_{i,t} + \Sigma Year + \Sigma Industry + \Sigma AuditFirm + \varepsilon \end{aligned} \quad (4)$$

where *GoingConcern* is an indicator variable equal to one if the auditor issued an explanatory paragraph expressing doubt over the client's ability to continue as a going concern, zero otherwise. Our hypothesis suggests that the coefficient on the *ReportError* variable should be less than zero ($\beta_1 < 0$). Control variables for the model are defined in Appendix B. Consistent with prior literature, we restricted the sample to companies with poor operating performance, proxied by negative income before extraordinary items and negative operating cash flows (Abbott et al. 2021). Among these observations, 1,001 (13%) received a going concern explanatory paragraphs.

Results are presented in Table 7. Consistent with our expectation, clients of offices that commit audit report errors are significantly less likely to receive a going concern opinion than clients of offices without errors. These results support our conclusion that audit report errors signal poor office-level quality controls, which lead to diminished professional skepticism. Moreover, they support our prior conclusion that relatively subjective areas of the audit are especially vulnerable to EQR breakdowns.

[Insert Table 8 Here]

VII. CONCLUSION

Auditing standards fundamentally assume that auditors' quality controls impact the financial reporting outcomes of their clients (AICPA 2012; PCAOB 2002b), yet archival evidence to this end is limited. In particular, prior evidence has largely failed to identify observable indicators of quality control breakdowns that can be used by the investing public. In this paper, we identify a new indicator of such a breakdown, an error in the audit report. Audit report errors may appear trivial on the surface, since they largely relate to clerical errors. Yet, performance on simple tasks such as these can indicate an individual's effort, which tends to represent the norms and culture of his or her workplace (Bonner 1994; Jenkins et al. 2008). Audit report errors are egregious because (1) the report constitutes the auditor's sole opportunity to communicate the quality of the work performed, (2) errors cannot be attributed to matters of professional judgment, and (3) reading the report is a fundamental requirement of the engagement and EQR partners' review.

If the complacency that leads to an error is symptomatic of broader control deficiencies, it can serve as a useful signal to stakeholders. Our results support this application; we document a spillover effect of lower audit quality to other clients served by an audit office cited for an audit report error, as compared to clients of offices not cited for errors. Moreover, the results suggest this problem is exacerbated for audit areas the reviewer can more easily shirk. Since the audit report is outside the responsibility of management, these findings can reasonably be attributed to audit quality, rather than the clients' pre-audit inputs.

Collectively, these results suggest that audit report errors are not isolated events. Rather, stakeholders can use these as indicators of an audit office's EQR control. Our results suggest that this breakdown is a signal of broader quality control deficiencies and negatively impacts the financial reporting outcomes of the office's clients. Thus, this paper contributes to the literature

examining the effect of quality controls on an auditor's clients, the spillover effect of regulatory scrutiny to related issuers, and the effectiveness of regulatory disclosure in influencing financial reporting quality through audit quality.

We acknowledge that constraints on our sampling process prevent us from capturing all audit report errors that exist in the population and bias against us observing an effect. Nonetheless, this analysis provides a starting point for determining their frequency and suggests that they occur at nontrivial rates with material consequences. Thus, it may encourage future research into the nature and frequency of audit report errors. More importantly, the results suggest that audit report errors are symptomatic of audit office-level quality control problems, even absent a sanction from the SEC, and as such, can serve as audit quality indicators to external stakeholders who observe them.

Appendix A: Examples of Audit Report Errors

This appendix provides three examples of audit reports containing errors flagged by our manual review process. Errors are highlighted in bold and underline.

Example 1: Consent Form Error

REPORT OF INDEPENDENT REGISTERED CERTIFIED PUBLIC ACCOUNTING FIRM

To Shareowners and Board of Directors
of General Electric Company:

We have audited the accompanying statement of financial position of General Electric Company and consolidated affiliates (the "Company") as of December 31, 2015 and 2014, and the related statements of earnings, comprehensive income, changes in shareowners' equity and cash flows for each of the years in the three-year period ended December 31, 2015. We also have audited the Company's internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express an opinion on these consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits….

…In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of General Electric Company and consolidated affiliates as of December 31, 2015 and 2014, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control – Integrated Framework (2013) issued by COSO.

Our audits of the consolidated financial statements were made for the purpose of forming an opinion on the consolidated financial statements taken as a whole. The accompanying consolidating information appearing on pages 129, 133 and 135 is presented for purposes of additional analysis of the consolidated financial statements rather than to present the financial position, results of operations and cash flows of the individual entities. The consolidating information has been subjected to the auditing procedures applied in the audits of the consolidated

financial statements and, in our opinion, is fairly stated in all material respects in relation to the consolidated financial statements taken as a whole.

/s/ KPMG LLP
New York, New York
February 26, 2016

Consent of Independent Registered Public Accounting Firm

The Board of Directors
General Electric Company:

We consent to the incorporation by reference in the registration statement on Form S-3 (Registration Nos. 33-50639, 333-59671, 333-177803, 333-186882 and 333-200003), on Form S-4 (Registration Nos. 333-72566, 333-107556, and 333-208604), and on Form S-8 (Registration Nos. 333-01953, 333-42695, 333-74415, 333-83164, 333-98877, 333-94101, 333-65781, 333-88233, 333-117855, 333-99671, 333-102111, 333-142452, 333-155587, 333-158069, 333-158071, 333-163106, 333-177805, 333-179688, 333-181177, 333-184792, 333-194243, and 333-202435) of General Electric Company of our report dated **February 19, 2016**, with respect to the statement of financial position of General Electric Company and consolidated affiliates as of December 31, 2015 and 2014, and the related statements of earnings, comprehensive income, changes in shareowners' equity and cash flows for each of the years in the three-year period ended December 31, 2015, and the effectiveness of internal control over financial reporting as of December 31, 2015, which report appears in the December 31, 2015 annual report on Form 10-K of General Electric Company.

/s/ KPMG LLP
New York, New York
February 26, 2016

Example 2: Conformity with the Standards of the PCAOB

REPORT OF INDEPENDENT REGISTERED CERTIFIED PUBLIC ACCOUNTING FIRM

To the Board of Directors
and Stockholder of
The Hertz Corporation

In our opinion, the consolidated financial statements listed in the index appearing under Item 15(a)1(B) present fairly, in all material respects, the financial position of The Hertz Corporation and its subsidiaries at December 31, 2016 and December 31, 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America…

... We conducted our audits in accordance with the **auditing** standards of the Public Company Accounting Oversight Board (United States) and in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions...

/s/ PricewaterhouseCoopers LLP
Miami, Florida
March 6, 2017

Example 3: Audit Reports Dated Prior to the Fiscal Year End

REPORT OF INDEPENDENT REGISTERED CERTIFIED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of PlayAGS, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of PlayAGS, Inc. and its subsidiaries as of **December 31, 2017 and 2016**, and the related consolidated statement of operations and comprehensive loss, of changes in stockholders' equity, and of cash flows for each of the two years in the period ended December 31, 2017, including the related notes and financial statement schedules listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of **December 31, 2017 and 2016**, and the results of their operations and their cash flows for the two years in the period ended December 31, 2017 in conformity with accounting principles generally accepted in the United States of America…

/s/ PricewaterhouseCoopers LLP
Las Vegas, Nevada
March 14, 2017

We have served as the Company's auditor since 2016.

Appendix B: Variable Definitions

These tables report definitions for variables used in our main regression analyses. Where applicable, Compustat variable names are shown in parentheses. Variables are presented in the order they appear in the paper.

Variable Name	Description
ReportErrorOffice	'1' if the audit office issued at least one audit report that contained an error in *year t* and '0' otherwise.
ReportErrors/Clients	Number of audit reports containing errors in year t scaled by the number of clients audited by that office in year t.
OfficeSize	Number of clients audited by the accounting office in year *t*.
OfficeGrowth	Percentage change in audit fees from period t-1.
OfficeRestate	'1' if the audit office had at least one client that had an adverse material misstatement in year *t* and '0' otherwise. For the audit quality tests, *it must be a separate audit client*.
OfficeNASRatio	Total non-audit service (NAS) fees earned by the office in a given year, divided by total fees earned by that office in the same year. For the audit quality regressions, we exclude NAS fees paid by the client from the numerator and total fees paid by the client from the denominator.
#Industries	Count of unique industries (based on two-digit SIC) served by the audit office in year *t*.
%CalendarClient	Percent of an audit office's clients that have December 31 fiscal year ends in year *t*.
ΔReportLag	The change in the report lag (number of days from the fiscal year end to the date the audit report is signed) from year *t-1* to *t*, averaged across all clients in that audit office.
|*AbnAccruals*|	Absolute performance-matched discretionary accruals calculated using the cross-sectional modified-Jones (1991) model adjusting for the prior year's operating performance.
ReportError	'1' if the client's audit office issued at least one audit report that contained a mistake in the surrounding year and '0' otherwise.
CitySpecialist	'1' if the client's auditor has the highest audit fees for the client's industry in the metropolitan statistical area (MSA) and the auditor's audit fees for that industry are more than 10% higher than the next largest auditor in the same MSA.
Ln(AT)	The natural logarithm of total assets (AT).
σ(CFO)	The standard deviation of operating cash flows scaled by total assets at the beginning of the fiscal year from *t-4* to *t* (OANCF ÷ AT_{t-1}).

Variable Name	Description
CFO	Cash flow from operating activities scaled by total assets ($OANCF/AT_{t-1}$).
Leverage	Total long-term debt divided by total assets ($(DLTT_t+DLC_t)/AT_t$).
Loss	'1' if the company reported a loss for the year ($IB < 0$) and '0' otherwise .
B/M	Book-to-market ratio at the end of the fiscal year, defined as: $(CEQ_t)/(PRCC\_F_t*CSHO_t)$. If $CEQ_t < 0$, then it is assigned a value of '0'.
AltmanZ	Altman's (1983) scores ((1.2*(ACT-LCT)/AT + 1.4*RE/AT + 3.3*(NI + XINT + TXT)/AT + 0.6*CSHO*PRCC_F/LT + 0.999*SALE/AT)
Ln(Tenure)	The natural logarithm of the number of years that the auditor has audited the firm's financial statements from Audit Analytics.
|AccrPY|	Absolute accruals from prior year, scaled by total assets at the beginning of fiscal year ($|(IB_{t-1} - (OANCF_{t-1} – XIDOC_{t-1}))| \div AT_{t-1}$)
Acq	'1' if the company had an acquisition that contributed to sales (SALE_FN = 'AA'; $AQS_t > 10$; $ABS(AI) > 10$) and '0' otherwise.
Fin	'1' if the sum of new long-term debt plus new equity exceeds 2% of lagged total assets ($(DLTIS_t + SSTK_t)/AT_{t-1} > 2\%$) and '0' otherwise. If *Acq* equals '1', Fin is assigned a value of '0'.
YearEnd	'1' if the company's fiscal year end is December 31 and '0' otherwise.
LowLevelOffender	'1' if the client is audited by a report error office and the office had four or fewer years with an audit report error, and '0' otherwise.
HabitualOffender	'1' if the client is audited by a report error office and the office has more than four years with an audit report error, and '0' otherwise.
Restatement	'1' if the company subsequently restated the financial statements of the given year and '0' otherwise (Audit Analytics). Includes both large restatements (revealed in an 8-K) and stealth restatements (revealed in a 10-K).
PriorRestate	'1' if the company reported a restatement of its financials during the fiscal year (from Audit Analytics).
Ln(Age)	The natural logarithm of the number of years the company is listed on Compustat.
GoingConcern	'1' if the company's audit opinion includes a going concern modification and '0' otherwise (from Audit Analytics).
PriorGC	'1' if the company's prior year audit opinion includes a going concern modification and '0' otherwise (from Audit Analytics).
NewAuditor	'1' if the company was audited by a different firm in the previous year (from Audit Analytics) and '0' otherwise.

Variable Name	**Description**
CLeverage	The change in leverage from the prior year ($Leverage_t$ - $Leverage_{t-1}$)
Liquidity	Current assets minus current liabilities scaled by total assets ((ACT – LCT)/AT).
LLoss	'1' if income before extraordinary items for year t-1 is less than zero and '0' otherwise.
NegEquity	'1' if the company's equity (SEQ) is less than zero and '0' otherwise.
Default	'1' if the company defaulted on its debt during the year (if the company had long-term debt in period t-1, zero long-term debt in period t, and an increase in long-term debt in current liabilities for period t), and '0' otherwise.
MatWeakness	'1' if the company or its auditor reported a material weakness in its internal control over financial reporting, and '0' otherwise.
FeeRatio	The ratio of non-audit fees to audit fees (from Audit Analytics).
Return	The buy-and hold raw return inclusive of dividends over the fiscal year (from CRSP if available otherwise Compustat).
Volatility	The standard deviation of the company's stock price over the fiscal year (from CRSP).

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Table 1
Audit Report Error Descriptive Statistics

Panel A: Categories of Audit Report Errors

Description	# of Errors
Auditor consent form is dated incorrectly	337
Refers to the "auditing standards," instead of all standards, of the PCAOB	157
Audit report is dated before the end of the fiscal year	17
Audit report lists the wrong names of the financial statements	11
Audit report does not list all the financial statements	9
Follows "auditing standards generally accepted in the United States"	9
Audit report lists the wrong dates for the financial statements	6
Audit report does not cover all periods presented in the financial statement	6
Other	31
Total errors	**583**

Panel B: Characteristics of Audit Report Errors

Errors by Year	# of Errors	Errors by Audit Firms	# of Errors
2003	3	Deloitte	84
2004	5	Ernst & Young	109
2005	86	KPMG	184
2006	72	PricewaterhouseCoopers	206
2007	59	**Total errors**	**583**
2008	49		
2009	35	**Errors per Office**	**# of Errors**
2010	36	Offices with no errors	208
2011	33	Offices with one error	52
2012	37	Offices with two errors	37
2013	40	Offices with three errors	20
2014	33	Offices with four errors	13
2015	22	Offices with five errors	13
2016	21	Offices with six errors	9
2017	32	Offices with seven errors	2
2018	10	Offices with eight errors	3
2019	10	Offices with more than eight errors	11
Total errors	**583**	**Total offices**	**368**

Table continues on the next page.

Panel C: Logistic Regression Model Predicting the Likelihood of an Audit Report Error

	ReportErrorOffice		*ReportErrors/Clients*	
	Coefficient	**t-value**	**Coefficient**	**t-value**
Intercept	-19.6220	-49.29***	0.0020	1.97**
OfficeSize	0.0022	1.36	-0.0000	-6.87***
OfficeGrowth	-0.0757	-0.72	-0.0000	-1.79*
OfficeRestate	0.4671	3.26***	0.0011	1.76*
OfficeNASRatio	-1.3826	-1.62	-0.0014	-0.98
#Industries	0.1187	7.95***	0.0002	4.40***
%CalendarClient	-0.2292	-0.78	-0.0012	-1.27
ΔReportLag	0.3005	1.50	0.0011	1.32
Control for Year	Yes		Yes	
Control for Audit Firm	Yes		Yes	
Pseudo/Adjusted R^2	0.270		0.387	
N	5,616		5,616	

*Panels A and B present descriptive information on the final manually reviewed audit report error sample. In Panel C, data are at the audit office-year level. ReportErrorOffice is coded 1 for offices with at least one audit report error in year t, 0 otherwise. ReportErrors/Clients is the number of audit report errors committed by the office in year t scaled by the number of clients audited in year t. See Appendix B for all other variable definitions. The models are estimated using logistic and least squares regressions, respectively, with standard errors clustered by office. ***, **, * indicate two-tailed p-value significance at the 0.01, 0.05, and 0.10 levels, respectively.*

Equation: $ReportErrorOffice(ReportErrors/Clients) = \alpha_0 + \beta_1 OfficeSize + \beta_2 OfficeGrowth + \beta_3 OfficeRestate + \beta_4 OfficeNASRatio + \beta_5 \#Industries + \beta_6 \%CalendarClient + \beta_7 \Delta ReportLag + \Sigma Year + + \Sigma AuditFirm + \varepsilon$

Table 2
Sample Selection

Sample Attrition	**Observations**
Observations with fiscal year ends between July 30, 2002 and December 31, 2019 in Audit Analytics' audit opinion file	267,829
Less: Companies audited by Non-Big Four auditors	(115,824)
Less: Companies audited by non-U.S. offices	(17,603)
Less: Companies without necessary data in Compustat	(67,779)
Less: Financial service companies and utilities	(24,103)
Less: Two-digit SIC codes with fewer than ten observations by year	(442)
Less: Companies with audit errors	(205)
Final Sample	**41,873**

This table presents descriptive information on the sample attrition. Data are at the company-year level.

Table 3
Descriptive Statistics

	Entire Sample				Comparison of Sample Means		
Variable	**Mean**	**Lower Quartile**	**Median**	**Upper Quartile**	**Errors Sample**	**Non-Errors Sample**	**Difference (t-value)**
|AbnAccruals|	0.0639	0.0180	0.0390	0.0800	0.0680	0.0631	4.92***
OfficeSize (Clients)	75.5959	15.0000	36.0000	83.0000	135.7401	65.9913	38.84***
OfficeGrowth	0.1952	-0.0350	0.0630	0.2600	0.1450	0.2079	13.95***
CitySpecialist	0.3273	0.0000	0.0000	1.0000	0.3569	0.3199	6.36***
OfficeRestate	0.6259	0.0000	1.0000	1.0000	0.8303	0.5746	52.12***
OfficeNASRatio	0.2190	0.1489	0.1978	0.2607	0.1952	0.2249	2.87***
AT ($Billions)	4,045.7400	221.4600	788.8890	2,830.4500	4,032.8751	4,048.9641	0.14
σ(CFO)	0.1152	0.0260	0.0480	0.0900	0.1152	0.1152	0.02
CFO	0.0478	0.0250	0.0820	0.1300	0.0473	0.0480	0.30
Leverage	0.2532	0.0250	0.2080	0.3900	0.2275	0.2597	10.78***
Loss	0.3449	0.0000	0.0000	1.0000	0.3483	0.3441	0.72
B/M	0.4989	0.1770	0.3750	0.6600	0.4484	0.5116	11.03***
AltmanZ	1.7730	0.9380	2.7930	4.9000	2.2213	1.6604	5.18***
Tenure (Years)	14.1017	4.0000	9.0000	16.0000	13.3529	14.2897	4.87***
|AccrPY|	0.1064	0.0350	0.0680	0.1200	0.1065	0.1063	0.09
Acq	0.1760	0.0000	0.0000	0.0000	0.1822	0.1745	1.64*
Fin	0.4805	0.0000	0.0000	1.0000	0.4889	0.4784	1.74*
YearEnd	0.7172	0.0000	1.0000	1.0000	0.7122	0.7185	1.16
Age (Years)	21.1102	9.0000	16.0000	29.0000	20.0024	21.3883	7.09***
PriorRestate	0.0266	0.0000	0.0000	0.0000	0.0368	0.0240	5.76***
Observations	*N = 41,873*				*N = 8,404*	*N = 33,469*	

*This table presents descriptive statistics for variables in our main models. See Appendix B for variable descriptions and calculations. ***, **, * indicate two-tailed p-value significance at the 0.01, 0.05, and 0.10 levels, respectively.*

Table 4
Correlation Matrix

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*
1. |AbnAccruals|																				
2. ReportError	**0.02**																			
3. OfficeSize	**0.01**	**0.20**																		
4. OfficeGrowth	**0.02**	**-0.05**	**-0.02**																	
5. CitySpecialist	0.00	**0.03**	**0.03**	0.01																
6. OfficeRestate	**0.03**	**0.21**	**0.29**	-0.01	**0.04**															
7. OfficeNASRatio	-0.01	**-0.11**	**0.11**	**0.28**	-0.01	**0.10**														
8. Ln(AT)	**-0.12**	0.00	**0.04**	**-0.06**	**0.13**	**-0.03**	**-0.13**													
9. σ(CFO)	**0.22**	0.00	**0.05**	**0.04**	0.00	**0.03**	**0.05**	**-0.11**												
10. CFO	**-0.23**	0.00	**-0.06**	-0.01	**-0.03**	**-0.02**	**0.01**	**0.13**	**-0.34**											
11. Leverage	**-0.03**	**-0.05**	**-0.03**	0.01	**0.02**	**-0.04**	**-0.02**	**0.09**	**-0.11**	**0.01**										
12. Loss	**0.27**	0.00	**0.04**	**0.02**	0.01	**0.02**	0.00	**-0.16**	**0.24**	**-0.54**	**0.07**									
13. B/M	**-0.02**	**-0.05**	**-0.02**	**0.02**	**-0.04**	**-0.03**	**0.08**	**-0.05**	**-0.03**	**-0.02**	**-0.15**	**0.11**								
14. AltmanZ	**-0.07**	**0.03**	**0.01**	**-0.01**	0.00	0.00	**0.03**	**-0.06**	**0.06**	**0.16**	**-0.45**	**-0.14**	**0.03**							
15. Ln(Tenure)	**-0.13**	**-0.02**	**-0.02**	**-0.09**	**0.08**	**-0.04**	**-0.14**	**0.32**	**-0.13**	**0.13**	0.00	**-0.18**	**-0.02**	**0.05**						
16. |AccrPY|	**0.27**	0.00	**0.02**	**0.03**	-0.01	**0.01**	**0.03**	**-0.10**	**0.37**	**-0.21**	**-0.03**	**0.24**	**-0.04**	**0.01**	**-0.13**					
17. Acq	**-0.03**	0.01	0.00	0.01	**0.01**	-0.00	-0.01	**0.04**	**-0.05**	**0.09**	**0.02**	**-0.08**	**-0.02**	0.01	0.00	**-0.05**				
18. Fin	**0.07**	0.01	-0.01	0.00	**0.01**	**0.01**	**-0.04**	**0.02**	**0.07**	**-0.13**	**0.16**	**0.08**	**-0.09**	**-0.03**	**-0.02**	**0.08**	**-0.44**			
19. YearEnd	**0.07**	-0.01	**0.04**	**0.02**	**0.03**	**0.06**	0.00	**0.04**	**0.08**	**-0.12**	**0.11**	**0.11**	**-0.04**	**-0.06**	**-0.04**	**0.08**	0.01	**0.07**		
21. Ln(Age)	**-0.18**	**-0.03**	0.00	**-0.08**	**0.05**	**-0.07**	**-0.04**	**0.36**	**-0.20**	**0.19**	0.01	**-0.25**	**0.04**	**0.06**	**0.55**	**-0.20**	0.00	**-0.06**	**-0.11**	
21. PriorRestate	**0.01**	**0.03**	0.00	**0.01**	0.00	**0.02**	**0.07**	**-0.03**	-0.01	0.00	**0.01**	**0.02**	0.01	**-0.02**	**-0.03**	**0.01**	**-0.01**	0.00	**-0.02**	**-0.02**

*See Appendix B for variable descriptions and calculations. Pearson correlations significant at p-value less than or equal to 0.05 (two-tailed) are in bold***.**

Table 5
Abnormal Accruals Regression Results

Panel A: Main Results

Variable Name	Expected Sign	*|AbnAccruals|* Coefficient	*|AbnAccruals|* T-statistic	*AbnAccruals > 0* Coefficient	*AbnAccruals > 0* T-statistic	*|AbnAccruals < 0|* Coefficient	*|AbnAccruals < 0|* T-statistic
Intercept	(?)	0.0987	16.44***	0.1093	16.13***	0.0848	9.33***
ReportError	(+)	0.0032	3.17***	0.0021	1.86**	0.0037	2.42***
OfficeSize	(-)	0.0000	-2.05**	0.0000	-1.18	0.0000	-1.26
OfficeGrowth	(+)	-0.0002	-0.19	0.0001	0.06	0.0004	0.26
CitySpecialist	(-)	0.0031	3.61***	0.0020	2.08**	0.0037	2.90***
OfficeRestate	(+)	0.0017	2.24**	0.0012	1.39*	0.0003	0.26
OfficeNASRatio	(+)	-0.0121	-2.45**	-0.0073	-1.26	-0.0175	-2.43**
Ln(AT)	(-)	-0.0063	-20.37***	-0.0050	-14.37***	-0.0067	-15.07***
σ(CFO)	(+)	0.0301	8.04***	0.0037	0.92	0.0520	9.25***
CFO	(-)	0.0064	1.14	-0.1584	-22.84***	0.1257	16.22***
Leverage	(-)	-0.0069	-2.89***	0.0011	0.39	-0.0119	-3.43***
Loss	(+)	0.0187	14.32***	-0.0373	-25.07***	0.0639	36.31***
B/M	(-)	-0.0049	-5.13***	0.0027	2.40**	-0.0151	-10.42***
AltmanZ	(-)	-0.0008	-10.67***	-0.0003	-3.84***	-0.0009	-8.29***
Ln(Tenure)	(-)	-0.0017	-3.94***	-0.0012	-2.46***	-0.0021	-3.36***
|AccrPY|	(+)	0.0971	18.18***	0.0877	14.38***	0.0964	12.12***
Acq	(+)	0.0072	7.07***	-0.0026	-2.37**	0.0144	9.39***
Fin	(+)	0.0070	8.55***	0.0033	3.42***	0.0093	7.48***
YearEnd	(+)	0.0024	2.62***	0.0029	2.84***	0.0008	0.57
Control for Year		Yes		Yes		Yes	
Control for Industry		Yes		Yes		Yes	
Control for Audit Firm		Yes		Yes		Yes	
Adjusted R^2		0.1688		0.2140		0.2721	
N		41,873		22,403		19,470	

Table continues on the next page.

Panel B: Matched Samples

Variable Name	*Same Audit Firm* Coefficient	*Same Audit Firm* T-statistic	*Same City* Coefficient	*Same City* T-statistic	*Pre and Post* Coefficient	*Pre and Post* T-statistic
Intercept	0.0790	5.66***	0.0925	6.55***	0.0752	4.74***
ReportError	0.0035	2.60***	0.0032	2.18**	0.0031	2.04**
Controls	Yes		Yes		Yes	
Adjusted R^2	0.1666		0.1733		0.1965	
N	12,591		11,442		8,086	

*Panel A presents a regression of the absolute value of a client's abnormal accruals on the client's auditor committing an audit report error. ReportError is coded 1 for clients of the same office audited in the six months before or after the report error, 0 otherwise. See Appendix B for all other variable definitions. The model is estimated using a least squares regression with standard errors clustered by company. ***, **, * indicate p-value significance at the 0.01, 0.05, and 0.10 levels, respectively, for one-tailed tests where a sign is predicted and supported and two-tailed otherwise. Panel B presents regressions where treatment observations are matched to control observations under one of the following schemas: (1) a control office of comparable office size, of the same audit firm in a different city, (2) a control office of comparable office size in the same city, of a different audit firm, (3) companies audited by report error offices in year t-1 and year t where t is the year of the audit report error. All other aspects of the models in Panel B follow those of Panel A.*

Equation: $|AbnAccruals|_{i,t} = \alpha_0 + \beta_1 ReportError_{j,t} + \beta_2 OfficeSize_{j,t} + \beta_3 OfficeGrowth_{j,t} + \beta_4 CitySpecialist_{j,t} + \beta_5 OfficeRestate_{j,t} + \beta_6 OfficeNASRatio + \beta_7 Ln(AT)_{i,t} + \beta_8 \sigma(CFO)_{i,t} + \beta_9 CFO_{i,t} + \beta_{10} Leverage_{i,t} + \beta_{11} Loss_{i,t} + \beta_{12} B/M_{i,t} + \beta_{13} AltmanZ_{i,t} + \beta_{14} Ln(Tenure)_{i,t} + \beta_{15} |AccrPY|_{i,t} + \beta_{16} Acq_{i,t} + \beta_{17} Fin_{i,t} + \beta_{18} YearEnd_{i,t} + \Sigma Year + \Sigma Industry + \Sigma AuditFirm + \varepsilon$

Table 6
Persistence and Recidivism

Panel A: Persistence

Variable Name	$\lvert AbnAccruals_{t+1} \rvert$ Coefficient	T-statistic
Intercept	0.1001	14.28***
$ReportError_t$	0.0020	1.70**
Controls	Yes	
Adjusted R^2	0.1719	
N	30,350	

Panel B: Recidivism

Variable Name	$\lvert AbnAccruals \rvert$ Coefficient	T-statistic
Intercept	0.0974	16.27***
LowLevelOffender	0.0020	1.75**
HabitualOffender	0.0040	2.96***
T-statistic: *LowLevelOffender* < *HabitualOffender*	*t-value* = 2.01**	
Controls	Yes	
Adjusted R^2	0.1688	
N	41,873	

*Regression models in this table follow that of Table 5 Panel A with the following modifications. Panel A presents a regression of the absolute value of a client's abnormal accruals one year into the future on the client's auditor committing an audit report error. ReportError is coded 1 for clients of the same office audited in the six months before or after the report error, 0 otherwise. In Panel B, ReportError is split into LowLevelOffender where the number of years with a report error is below the mean and HabitualOffender where the number of years with a report error is above the mean. See Appendix B for all other variable definitions. The model is estimated using a least squares regression with standard errors clustered by company. ***, **, * indicate p-value significance at the 0.01, 0.05, and 0.10 levels, respectively, for one-tailed tests where a sign is predicted and supported and two-tailed otherwise.*

Table 7
Restatements Regression Results

Variable Name	Expected Sign	*Restatements* Coefficient Estimate	*Restatements* T-statistic	*Adverse Restatements* Coefficient Estimate	*Adverse Restatements* T-statistic	*Non-Adverse Restatements* Coefficient Estimate	*Non-Adverse Restatements* T-statistic
Intercept	(?)	-1.9155	-5.89***	-1.8214	-5.46***	-5.3862	-6.82***
ReportError	(+)	-0.0412	-0.77	-0.1000	-1.77*	0.1945	1.81**
OfficeSize	(-)	-0.0006	-2.21**	-0.0006	-2.05**	-0.0003	-0.51
OfficeGrowth	(+)	0.0048	0.11	-0.0524	-1.16	0.2212	2.36***
CitySpecialist	(-)	-0.0752	-1.42*	-0.0551	-0.97	-0.1215	-1.07
OfficeRestate	(+)	0.0886	1.82**	0.0672	1.31*	0.1198	1.14
OfficeNASRatio	(+)	-0.3355	-1.34*	-0.2715	-1.04	-0.2800	-0.50
PriorRestate	(+)	3.3694	60.86***	3.0864	48.46***	2.2002	16.49***
Ln(AT)	(-)	0.0601	3.29***	0.0509	2.62***	0.0655	1.65*
σ(CFO)	(+)	-0.2974	-2.15**	-0.2851	-1.80*	-0.2695	-0.77
CFO	(-)	0.4190	2.04**	0.5699	2.57***	-0.2976	-0.65
Leverage	(+)	0.3430	2.80***	0.3104	2.37***	0.2922	1.08
Loss	(+)	0.0404	0.69	0.0167	0.27	0.1177	1.01
B/M	(-)	0.2641	5.30***	0.2422	4.50***	0.1862	1.96**
AltmanZ	(-)	0.0064	1.73*	0.0056	1.42	0.0056	0.68
Ln(Age)	(-)	0.0016	0.04	-0.0384	-0.88	0.1472	1.60
Ln(Tenure)	(-)	-0.0637	-2.13**	-0.0446	-1.40*	-0.0988	-1.68*
|AccrPY|	(+)	0.0264	0.13	-0.0522	-0.25	0.2898	0.83
Acq	(+)	0.2000	3.31***	0.2159	3.46***	-0.0015	-0.01
Fin	(+)	0.1419	2.83***	0.1033	1.97**	0.2021	2.02**
YearEnd	(+)	-0.0975	-1.55	-0.0792	-1.21	-0.1402	-0.97
Control for Year		Yes		Yes		Yes	
Control for Industry		Yes		Yes		Yes	
Control for Audit Firm		Yes		Yes		Yes	
Pseudo R^2		0.2391		0.2244		0.1041	
N		41,873		41,873		41,873	

*This table presents a regression of the likelihood of a client subsequently restating its financials on the client's auditor committing an audit report error. ReportError is coded 1 for clients of the same office audited in the six months before or after the report error, 0 otherwise. See Appendix B for all other variable definitions. The model is estimated using a logistic regression with standard errors clustered by company. ***, **, * indicate p-value significance at the 0.01, 0.05, and 0.10 levels, respectively, for one-tailed tests where a sign is predicted and supported and two-tailed otherwise.*

$$Equation: Restatement_{i,t} = \alpha_0 + \beta_1 ReportError_{j,t} + \beta_2 OfficeSize_{j,t} + \beta_3 OfficeGrowth_{j,t} + \beta_4 CitySpecialist_{j,t} + \beta_5 OfficeRestate_{j,t} + \beta_6 OfficeNASRatio + \beta_7 PriorRestate_{i,t} + \beta_8 Ln(AT)_{i,t} + \beta_9 \sigma(CFO)_{i,t} + \beta_{10} CFO_{i,t} + \beta_{11} Leverage_{i,t} + \beta_{12} Loss_{i,t} + \beta_{13} B/M_{i,t} + \beta_{14} AltmanZ_{i,t} + \beta_{15} Ln(Age)_{i,t} + \beta_{16} Ln(Tenure)_{i,t} + \beta_{17} |AccrPY|_{i,t} + \beta_{18} Acq_{i,t} + \beta_{19} Fin_{i,t} + \beta_{20} YearEnd_{i,t} + \Sigma Year + \Sigma Industry + \Sigma AuditFirm + \varepsilon$$

Table 8
Going Concern Regression Results

Variable Name	Expected Sign	Coefficient Estimate	T-statistic
Intercept	(?)	-0.1247	-0.19
ReportError	(-)	-0.2293	-1.73**
OfficeSize	(+)	0.0004	0.74
OfficeGrowth	(-)	-0.0528	-0.49
CitySpecialist	(+)	-0.1265	-1.24
OfficeRestate	(-)	-0.0718	-0.67
OfficeNASRatio	(-)	-1.3709	-2.39***
PriorGC	(+)	2.4665	18.03***
NewAuditor	(?)	-0.0234	-0.10
Ln(Tenure)	(?)	-0.0226	-0.25
AltmanZ	(-)	-0.2223	-7.34
Ln(AT)	(-)	-0.2915	-6.32***
Leverage	(+)	0.5528	2.34**
CLeverage	(+)	0.7916	3.23***
Liquidity	(-)	-1.2318	-7.16***
B/M	(-)	0.2284	3.19***
LLoss	(+)	0.0561	0.32
NegEquity	(+)	0.5116	3.34***
CFO	(-)	-0.7068	-5.48***
Default	(+)	1.4548	6.12***
MatWeakness	(+)	0.6271	4.04***
FeeRatio	(-)	-0.4713	-2.70***
Return	(-)	-0.2624	-3.81***
Volatility	(+)	1.6727	0.94
YearEnd	(-)	0.1202	0.94
Control for Year		Yes	
Control for Industry		Yes	
Control for Audit Firm		Yes	
Pseudo R^2		0.4179	
N		7,237	

*This table presents a regression of the likelihood of a client receiving a going concern explanatory paragraph on the client's auditor committing an audit report error. Data are limited to observations with negative income before extraordinary items or negative operating cash flows. ReportError is coded 1 for clients of the same office audited in the six months before or after the report error, 0 otherwise. See Appendix B for all other variable definitions. The model is estimated using a logistic regression with standard errors clustered by company. ***, **, * indicate p-value significance at the 0.01, 0.05, and 0.10 levels, respectively, for one-tailed tests where a sign is predicted and supported and two-tailed otherwise.*

Equation: $GoingConcern_{i,t} = \alpha_0 + \beta_1 ReportError_t + \beta_2 OfficeSize_t + \beta_3 OfficeGrowth_t + \beta_4 CitySpecialist_t + \beta_5 OfficeRestate_t + \beta_6 OfficeNASRatio_{i,t} + \beta_7 PriorGC_{i,t} + \beta_8 NewAuditor_{i,t} + \beta_9 Ln(Tenure)_{i,t} + \beta_{10} AltmanZ_{i,t} + \beta_{11} Ln(AT)_{i,t} + \beta_{12} Leverage_{i,t} + \beta_{13} CLeverage_{,t} + \beta_{14} Liquidity_{i,t} + \beta_{15} B/M_{i,t} + \beta_{16} LLoss_{i,t} + \beta_{17} NegEquity_{i,t} + \beta_{18} CFO_{i,t} + \beta_{19} Default_{i,t} + \beta_{20} MatWeakness_{i,t} + \beta_{21} FeeRatio_{i,t} + \beta_{22} Return_{i,t} + \beta_{23} Volatility_{i,t} + \beta_{24} YearEnd_{i,t} + \Sigma Year + \Sigma Industry + \Sigma AuditFirm + \varepsilon$