Investments in Auditing and the Quality of Financial Reporting

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Abstract

We provide evidence of how client firms' investment in auditing (measured as excess audit fees over an extended period) is associated with improved quality of financial reporting. In contrast to prior research where the association between audit fees and accounting quality has been measured year-by-year, we argue that the impact of investments in audit quality should be evident where such investments are sustained. Our results strongly support this view. Firms with sustained investment in auditing report more conservatively, and are less likely to suffer outcomes which are inconsistent with higher quality financial reporting. In contrast, firms where audit fees are unusually high in a single year are more likely to have lower quality financial reporting. Our results are consistent with firms making an investment in the audit process to maintain higher accounting quality (i.e., the investment in auditing and financial reporting quality are compliments). The evidence we provide also gives weight to the view that prior evidence linking audit fees with measures of accounting quality has overlooked multi-period effects of either audit effort or auditor independence effects.

Key Words: Audit fees, accounting quality, multi-period

1. Introduction

We provide initial evidence on the extent to which sustained investments in auditing are associated with higher quality financial reporting. Although auditing is a statutory requirement and is subject to significant regulation, there is extensive evidence consistent with auditing being a differentiated product, whereby clients are expected to choose varying levels of investment in auditing. However, there is only limited evidence of direct investments in auditing being associated with higher quality financial reporting. One reason for this is the failure of prior research to identify instances of sustained investments in auditing. While prior research treats each annual observation of audit fees as independent from those of prior (and subsequent) years, we argue that investments in auditing are most likely reflected in the extent to which client firms consistently pay higher than expected audit fees. Hence, we expect that if investments in auditing result in higher quality financial reporting, that this will be mostly reflected in firms which pa long-run excess fees.

Following Watts and Zimmerman (1986) we expect that firms commit to auditing to varying extents. One such mechanism is by the choice of a high quality auditor (DeAngelo 1981). However, even among auditors who are high quality we observe significant variation in audit fees, and this is consistent with varying levels of client firm commitment to the quality of financial reporting. We expect that such variation is much more likely to be reflected in multi-period, as distinct from single period audit fee behavior, and we therefore focus on the association between a multi-period fee-based measure of audit quality ("consistency of excess fees") and measures of accounting quality. Although there is an extensive literature examining the association between audit fee-based measures and indicators of accounting quality (Francis 2011, Dechow et al. 2010), almost all such studies typically treat measures of abnormal audit fees as being independent from one period to the next. In contrast, we explicitly recognize the implications for fee-based measures of audit

quality that arise from the extent to which audit fees are not negotiated separately each year, and hence are somewhat "sticky".[1] We argue that the extent to which fees are relatively high or low in a single period masks clients' underlying investment in audit quality. Moreover, we show that the strength of the link between reporting quality and single period measures of abnormal audit fees changes once long-term investment in audit is controlled for. Hence we believe that researchers that are interested in investigating the implications of annual fee measures for reporting quality need to control for long-term investment in audit quality to enhance the reliability of their research design.

Although many factors might influence audit fee variation in a single year, consistent firm-specific patterns of audit fees measured over longer periods likely reflect the extent to which client firms make conscious investments in audit quality. We therefore predict that a measure of "consistently excess" fees should reflect a client firm's commitment to higher verification standards (Ball et al. 2012) and hence, be positively related to the quality of the client firm's financial reporting (i.e., accounting quality). Our prediction directly contradicts the view that relatively high fees paid to auditors are likely to constitute a bribe that results in less independent audits and hence, lower quality financial reporting.

In contrast to prior studies which examine the link between audit fees and accounting quality, we explicitly include both longer-term and single-year measures of audit fees. Our results strongly support our prediction. Using a number of measures typical of studies which examine links between fee-based measures and accounting quality (e.g., total accruals and unexpected accruals) we show that single-year measures of excess fees are often negatively associated with contemporaneous measures of accounting quality. However, when we extend the analysis to recognize the extent to which excess fees are consistently high (or low), we

[1] Evidence of audit fee stickiness is provided by Ferguson et al. (2011) for UK and Australian firms, and by de Villiers et al. (2012) for US firms).

observe consistent evidence of a positive association between this multi-period fee measure and measures of accounting quality.

Because lower (i.e., more negative) measures of accruals can be indicative of more conservative reporting, we also directly address the association between investments in auditing and reporting conservatism by extending the approach in Basu (1997) to include the impact of both yearly and long run measures of excess audit fees. We find evidence that higher excess audit fees are associated with significantly less conservative reporting. In contrast, when long run excess audit fees are included, we find that our measure of longer term investment in auditing is associated with significantly more conservative reporting. This result extends to an alternative measure of conservatism based on changes in accounting income rather than the relations between earnings and returns.

As there is no single reliable measure of accounting quality, we further extend our analysis to several ex-post (i.e., non-accrual) measures of accounting quality, including restatements owing to accounting problems, restatements owing to frauds, disclosures of material weaknesses in internal controls, and issuance of an SEC comment letter. Consistently high unexpected fees are associated with a significantly lower probability of events typically associated with lower quality financial reporting. In contrast, abnormally high fees for a single period are associated with a higher probability of events that are indicative of lower reporting quality. These tests provide substantial validation to tests that rely on accrual-type measures of accounting quality (Francis 2011).

Our results are also robust to extensive additional analysis, including additional measures of unexpected accruals and conservatism; the extension of the fee measure to include fees paid to the auditor for other services; alternative definitions of unusually high and low audit fees including procedures designed to reduce the extent of overlapping periods for the measurement of investments in auditing; and the use of propensity-score matching

procedures designed to address the possible endogeneity of audit fees and accounting quality measures.

Overall we characterize our results as strongly supportive of the view that consistently high (low) fees are associated with higher (lower) accounting quality. This, in turn, supports the view that persistent high fees reflect an investment in financial reporting verification, client commitment to openness to scrutiny and hence, higher quality reporting. These results directly contradict the argument that auditors who repeatedly receive high fees are likely to have their independence compromised and, as a result, allow lower quality financial reporting. Put simply, from the perspective of reporting quality, consistently high fees are good, and consistently low fees are bad. Finally, our results confirm that, after controlling for longer-run trends, an unusually high fee in a given year is likely to be associated with lower quality reporting in that year, consistent with the notion that auditors react to new, but yet unresolved, accounting problems by increasing audit effort (Hribar et al. 2010).

Our paper contributes to several strands of the accounting and audit literature. The first explores whether fees paid to auditors constitute an economic bond between auditors and their clients. Critics of the accounting profession argue that high fees, especially over extended periods, result in impaired auditor independence, and hence lower quality auditing and therefore, lower quality financial reporting (Becker et al. 1998). While such arguments have often been specifically applied to certain types of fees, such as those for non-audit services (see Frankel et al. 2002), there is also a more general argument which is also often used to support calls for mandatory audit firm rotation (Myers et al. 2003). We highlight a contrasting explanation, namely that sustained abnormally high audit fees reflect a conscious investment in financial statement verification and in the external audit process. Our evidence uniformly supports this view, and calls into question the validity of concerns suggesting high fees likely reflect some form of "bribe" (Kinney and Libby 2002). The evidence we provide

shows that, rather than indicating a threat to audit quality (via reduced independence), sustained higher fees are associated with higher quality accounting.

A second contribution reflects the fact that there is already an extensive literature linking audit fees with measures of contemporaneous accounting quality.[2] However, this literature has yielded mixed results, with some studies finding evidence of a positive relation between audit fees and measures of accounting quality while others finding the reverse. For example, Choi et al. (2010), Gul et al. (2003), Asthana and Boone (2012) and Hribar et al. (2010) all find that abnormal audit fees are negatively associated with accounting quality, while Blankley et al. (2012), Ball et al. (2012) and Lobo and Zhao (2013) report evidence to the contrary. However, these studies all follow the standard practice of treating audit fees as an independent annual observation. Given the use of multi-year audit contracts and empirical evidence of audit fee stickiness (Ferguson et al. 2011), we argue that empirical methods used to examine the link between fees and accounting quality should more fully reflect the basis on which the auditor-client relationship is contracted. An obvious implication is that annual fee observations cannot be viewed in isolation from the "typical" abnormal fee for that client. We show that there are direct implications for empirical tests of the audit fee – accounting quality relationship and this can be extended to other fee-based tests of audit quality.[3]

Finally, our research contributes to the understanding of potential observable proxies for accounting quality, which itself is ultimately a function of several unobservable attributes (e.g., internal controls) and actions (e.g., managerial intervention in the reporting process). Common proxies for audit quality include measures of audit firm size (e.g., Big N) as well as industry specialization or market leadership.[4] These proxies reflect the assumption that audit quality is increasing in both the competence and independence of the auditor (DeAngelo,

[2] Dechow et al. (2010) and Knechel et al. (2012) summarize many of these studies. Francis (2011) also makes a number of comments about limitations of this research.
[3] One such example would be the relation between audit fees and audit qualifications (DeFond et al., 2002).
[4] Knechel et al. (2012) provide a detailed summary of these measures.

1981). More generally, it is accepted that auditor effort or effectiveness should be associated with improved financial reporting quality. However, direct measures of auditor effort such as audit hours and their composition across seniority are not typically available, and the incentives which auditors face to provide a high quality audit are likewise not directly observable. With the introduction in 2000 of mandatory audit fee disclosures by US firms, there is now a widely available potential proxy for auditor effort. Recently, Hribar et al (2010) suggest that unexpected audit fees are a potential proxy for accounting quality. However, they find only weak correlations between measures of unexpected audit fees and the most popular measures of accounting quality. While some instances of abnormally high fees will reflect client firms with consistently high audit fees, others will more likely reflect a one-off instance of high fees, which in turn are most likely to reflect those instances of a sudden, unexpected increase in auditor effort to address problems that have been uncovered. We expect that the weak results reported by Hribar et al. (2010) reflect the failure to distinguish between these two types of observations. Our empirical evidence supports this contention.

The remainder of our paper proceeds as follows. In section 2 we review prior research examining the relationship between fees paid to the auditor and accounting quality. We contrast alternative explanations of abnormal audit fees, and provide a brief outline of why tests examining the relation between audit fees and accounting quality must include both single and multi-period measures of unusual audit fees. Section 3 explains the research design, including our examination of accrual-linked properties typically used as proxies for accounting quality as well as several events (such as restatements) which are also assumed to reflect lower quality financial reporting. Section 4 outlines the data and sample construction procedures. The results are outlined in section 5, along with robustness analysis. Section 6

concludes and identifies a number of potential research opportunities which arise from recognition that the auditor-client firm relationship occurs over multiple periods.

2. Background and hypothesis

2.1 Prior literature

There are competing views about the way in which the magnitude of fees paid by a client is associated with audit quality, and any resulting variation in accounting quality (i.e., the quality of the audited financial report). For example, regulators (e.g., Levitt 2000) and various commentators have raised the concern that large fees create an economic bond between auditor and client and that this bond compromises auditor independence and results in reduced financial reporting quality (the "bribe" hypothesis)[5]. Prior to the Sarbanes-Oxley Act of 2002 (SOX), there was a particular focus on fees for non-audit services (NAS) due to the increase in level of NAS fees relative to audit fees in the late 1990s and the higher profitability of NAS work relative to audit. However, the literature furnishes only mixed evidence. Ashbaugh et al. (2003) and Chung and Kallapur (2003) fail to find evidence of a positive association between fees and abnormal accruals, while Larcker and Richardson (2004) and Srinidhi and Gul (2007) find evidence suggesting a negative association. Antle et al. (2006) simultaneously model the determinants of audit fees, NAS and abnormal accruals and find that non-audit fees decrease abnormal accruals, which they attribute to the productive effects of non-audit services. They also find evidence that audit fees increase abnormal accruals, consistent with behavioral theories of unconscious influence or bias in the auditor-client relation. Ruddock et al. (2006) do not find that high abnormal fees, and in particular relatively high NAS fees, result in a reduction in the extent of timely loss recognition in earnings.

[5] See for example Zeff (2003)

Non-accrual measures such as earnings restatements and the likelihood of receiving a going concern audit modification and disclosures of material weaknesses have also been used to assess the extent of variation in audit quality. Kinney et al. (2004) do not find a positive association between NAS fees and the incidence of restatements. Reynolds and Francis (2001) use audit office-level analysis and find that larger clients are more likely to receive going concern modifications, report more conservatively and have lower accruals. DeFond et al. (2002) find no significant association between NAS fees and lower auditors' propensity to issue going concern audit opinions. Chen et al. (2010) examine the effect of client importance in China (as measured by the client's relative size) and find that the likelihood of issuing going concern modifications is negatively correlated with client importance. Audit fees have been found to be unusually high for firms that disclose an internal control deficiency under both section 302 and section 404 of SOX, indicating that auditors can increase testing to reduce the impact of poor controls (Hogan and Wilkins 2008; Raghunandan and Rama 2006).

Apart from studies motivated by specific elements of audit fees (such as NAS fees) there are also a number of studies which examine the broader link between audit fees and reporting quality. Asthana and Boone (2012) find that accounting quality (measured as absolute discretionary accruals or by meeting or beating analysts' earnings forecasts) declines as negative abnormal audit fees become larger (i.e., as unexpected audit fees become increasingly low). In contrast, Blankley et al. (2012) find that abnormal audit fees are negatively associated with the likelihood that financial statements are restated, a result which suggests that higher audit fees are likely to result in higher quality reporting. Choi et al (2010) find that the association between audit fees and the magnitude of absolute unexpected accruals is asymmetric. When audit fees are unexpectedly low, they find no evidence of a statistically significant relationship. However, when unexpected audit fees are positive, Choi et al. find that higher audit fees are positively associated with absolute unexpected accruals,

consistent with lower quality accounting. Finally, Gul et al. (2003) examine a small sample of Australian firms for a single year and find that the absolute value of discretionary accruals increases with audit fees.

Ball et al. (2012) examine the link between unexpected audit fees and voluntary disclosure, arguing that higher unexpected audit fees reflect a costly signaling mechanism indicating higher investment in financial statement verification (i.e., higher audit quality). They interpret the positive relation between unexpected audit fees and the probability of issuing a management earnings forecast as evidence consistent with a "confirmation" hypothesis. We expect that this should also be reflected in a positive relationship between accounting quality and the (long-run) investment in financial statement verification (i.e., consistently high unexpected fees).

In an examination restricted to financial restatements (one of several proxies for the realized effects of audit quality that we examine), Lobo and Zhang (2013) argue that the results reported by Hribar et al. (2010) are subject to two sources of upward bias. First, endogenous audit effort reflects the fact that misstatement risk increases both the audit effort (reflected in higher fees) as well as the likelihood of misstatement. Second, the co-mingling of quarterly restatements (which are from unaudited accounts) with annual restatements (which reflect audited accounts) violates the assumption that financial reports are always issued after the audit is completed. Using procedures designed to correct for these two sources of identified bias, but notably still assuming that unexpected audit fees are independent from year-to-year, Lobo and Zhao show that higher audit fees are associated with a lower probability of annual report restatements.

In contrast to the argument that high audit fees reflect a deliberate investment in verification, Kinney and Libby (2002, p. 109) argue that abnormal fees "may more accurately be likened to attempted bribes" and can better capture economic rents associated with audit

services or an auditor's economic bond to a client than normal fees or actual fees. In contrast, Higgs and Skantz (2006) argue that abnormally high fees can represent higher audit effort than expected, not a bribe. Consistent with this, they find evidence supporting that the earnings response coefficient is higher for firms with positive abnormal fees than for those with negative abnormal fees.

Importantly, all these studies use a single-year measure of both fees and outcomes (accruals, restatements, audit opinions, investor perception of reporting quality). Yet there is evidence that audit fees are strongly correlated over time. Ferguson et al. (2011) show that audit fees are relatively sticky, suggesting that firms with a relatively high audit fee in period t are likely to also be classified as having a high audit fee in period t+1.[6] However, relative to the large number of studies linking some measure of audit fees with attributes of financial reporting, there are very few studies that attempt to extend the simple cross-sectional approach whereby each year is treated as an independent observation. One exception is Hope and Langli (2010) who use both levels and changes specifications in examining the impact of fees on the propensity of auditors to issue going concern modifications. Other exceptions are Chen et al. (2011) and Ettredge et al. (2011), both of which show a decline in accounting quality following fee reductions during the global financial crisis.

The second relevant strand of the literature is concerned with the effects of long-term relationships between auditors and clients on reporting quality. Prior research has found that short auditor tenure is associated with poorer reporting quality (Johnson et al., 2002) and that there are more audit reporting failures in the earlier years of the auditor-client relationships (Geiger and Raghunandan, 2002), suggesting long-term relationships are beneficial. Myers et al. (2003) report evidence that longer audit firm tenure results in greater restrictions of extreme management decisions; however, Chen et al. (2010) fail to document qualitatively

[6] Further evidence of audit fee stickiness is provided by de Villiers et al. (2012).

similar relations using a Taiwanese sample. Carey and Simnett (2006) examine the impact of partner tenure on various measures of earnings quality using 1995 data. While they find that long tenure observations are associated with a lower propensity to issue a going-concern opinion they do not find evidence of a positive association between long tenure and abnormal working capital accruals. Stanley and DeZoort (2007) find that restatements are more likely in the early years of auditor tenure, suggesting that a lack of client-specific knowledge or pressure to retain and profit from new clients could undermine audit quality. In summary, the evidence on the effect of long-term relationships on reporting quality is mixed. Furthermore, the literature to-date has largely not examined how accounting-based measures of reporting quality triangulate with other (non-accounting) measures of reporting quality, and how both are linked to long-term as well as short-term fee measures.

2.2 Hypothesis

Overall, it is evident that the relation between the magnitude of annual fees paid to the auditor and various proxies for accounting quality (either measured concurrently such as unexpected accruals or audit qualifications, or as evident in subsequent actions such as SEC actions) is best described as mixed. Some studies argue that high audit fees are indicative of a bribe, while others argue that a high fee is indicative of greater effort. In turn, there are studies which argue that high audit effort should reflect contemporaneous higher accounting quality (e.g., Caramanis and Lennox, 2011), while others report a negative contemporaneous relationship and argue this is consistent with higher effort occurring concurrently with lower quality accounting (Hribar et al., 2010).[7]

[7] In contrast to other studies we have reviewed, Hribar et al. (2010) argue that excess audit fees are a measure of accounting (as distinct from audit) quality. However, they find only weak correlation with other measures of accounting quality, which we view as consistent with the potential mismeasurement of audit quality associated with treating each individual firm year as a relatively independent observation.

While the precise measure of fees and the measures of accounting quality vary across the studies we have reviewed above, they reflect a common approach whereby each firm-year is treated as an independent observation.[8] However, as audit fees are not set independently from year to year, then measures of high (or low) fees likewise cannot be viewed as independent from year to year. The assumption that the quality of audited financial reporting is a joint product of management representations and the audit process, where the impact of the audit process reflects, in part, auditor effort, seems relatively uncontroversial. We also assume auditor effort (measured consistently over several periods) to be positively correlated with fees paid to the auditor. Where auditor effort is consistently high (low), we therefore expect to observe higher (lower) accounting quality. Although high audit fees are sometimes characterized as a bribe (Kinney and Libby 2002), we doubt that such behavior is sustainable over several periods. This is because repeated combination of low accounting quality and high fees would considerably amplify the likelihood of scrutiny, litigation loss of reputation. Hence, we expect that a measure of unusual fees paid to the auditor which is based on multiple period observations (i.e., fees that are consistently high or low) to yield different results than single year fee measures in explaining variation in accounting quality.

Formally stated, we test the following research question:

RQ1: When the relative magnitude of fees paid to the auditor is measured over multiple periods, is there a positive relation between the magnitude of the long-term fee and accounting quality?

Once long-term investment in audit quality is controlled for, higher annual fees are more likely to capture either a bribe or a year-specific audit problem. Similarly, lower annual

[8] We acknowledge that it is common for studies to use econometric procedures which control for various forms of correlation in the data. However, we know of no study which explicitly recognizes the implications of evidence that audit fees are relatively sticky.

fees likely capture a simple(r) year to audit with both auditors and clients agreeing to report conservatively. Hence our second research question is:

RQ2: Controlling for the level of long-term fees, is the association between annual fees and accounting quality negative?

3. Research design

3.1 The fee model

Our primary measures of audit quality are based on abnormal, or unexpected audit fees. We first estimate the following fee model:

$$\begin{aligned} LAF = {} & \alpha + \beta_1 LTA + \beta_2 FOREIGN + \beta_3 ROA + \beta_4 ARINV + \beta_5 LOSS + \beta_6 BIG + \beta_7 DEC + \beta_8 LEV \\ & + \beta_9 SWITCH + \beta_{10} SEG + \beta_{11} CFO + \beta_{12} CRAT + \beta_{13} MRET + \beta_{14} GROWTH + \beta_{15} MA \\ & + \beta_{16} RISK + \beta_{17} LAG + \beta_{18} ACC\_FIL + \beta_{19} LIT + \beta_{20} DISC + \beta_{21} EMPL + \beta_{22} SPEC + \varepsilon \end{aligned} \quad (1)$$

This model is estimated annually at the Fama and French 12 industry classification level (based on 4 digit code). The dependent variable, *LAF*, is the natural logarithm of audit fees. This model is based on the notion that normal audit fee (as given by the regression line) corresponds to normal audit effort. The regression residual, in turn, may represent the excess fee that could reduce auditor independence, and therefore reduce audit quality. This has been the convention in the literature to-date. However, it may also correspond to higher (or lower) than normal investment in audit processes and technology, particularly over our multi-period windows. With this in mind, persistent excess fees is viewed as indicative of heightened investment in accounting quality, whereas constant fee deficiency suggests weaker audit process involving, inter-alia, impaired client-specific knowledge and client evasiveness with provision of information. Note the use of audit fees (as opposed to total fees), as the

dependent variable. We believe that, following strict limitations on the provision of non-audit services set forth by the Sarbanes-Oxley Act, it is appropriate to focus on audit fees.[9] Consistent with much of prior literature (e.g., Ashbaugh et al, 2003; Hay et al., 2006), the set of explanatory variables proxy for audit-task complexity, client risk, and auditor-related characteristics. The log of total assets, *LTA*, captures the relation between client size and fees *EMPL* is the square root of the number of employees (from Compustat) and proxies for complexity (Livne et al., 2013). Because the geographical spread of the client's operations indicates greater business complexity, we include *FOREIGN* which is an indicator variable that is equal to one, if the firm pays tax overseas, zero otherwise. High levels of receivables and inventory require more effort on part of the auditor. To capture this we use *ARINV*, which is the sum of inventory and receivables deflated by beginning total assets. *SEG* is the number of business segments reported by the client firm. Demand for additional audit work is proxied by the presence of M&A activity. Specifically, *MA* is an indicator variable coded one, if there has been a merger transaction during the year, and zero otherwise.

It has been demonstrated that client risk affects the fees paid to the auditor (Simunic 1980; Newton and Ashton 1989; Hay et al., 2006). We therefore include *LOSS* as an indicator variable set equal to one if the firm reports a loss in the year and zero otherwise; *ROA* is return on assets defined as earnings before extraordinary items deflated by beginning total assets; *LEV* is defined as the sum of long term debt and current debt, deflated by total assets. We also control for stock return volatility (*RISK*) (LaFond and Watts, 2008); *MRET,* the firm's fiscal year stock return (Burks, 2010); *CFO,* operating cash flows divided by total assets; *GROWTH*, computed as the percentage change in revenues from year t-1 to year t; *LIT*, a dummy variable equal to 1 if the firm is included in an industry identified by previous literature as more exposed to litigation risks (Francis et al., 2004; Kim and Skinner, 2012.);

[9] We repeat all of our analyses using total fees, and report results in our sensitivity tests (section 5.3).

and *DISC*, a dummy variable equal to 1 if extraordinary items exceed 1% of pre-tax income, 0 otherwise (Livne et al., 2013). We also take into consideration a set of auditor-related variables. *BIG* is a dummy variable coded one if the auditor is one of the Big-4 audit firm and zero otherwise, to take into consideration fee premia paid to the largest international audit firms (Palmrose, 1986: Francis, 1984); *SWITCH* controls for any low-balling effect when the auditor is new (Butterworth and Houghton, 1995) and is an indicator variable set equal to one if there has been an auditor change during the year, zero otherwise SPEC. *DEC* is included in the model to control, and proxy, for audit assignment congestion and it is an indicator variable set equal to one if the company closes financial statement in December and zero otherwise; *LAG* is the number of days between fiscal year end and earnings announcement date and it is included as an indication of the efficiency of an audit: a longer delay is likely to indicate problems during the audit process (Hay et al., 2006); finally, we include *ACC_FIL,* a dummy variable set equal to one if the firm is an accelerated filer and zero otherwise, is included because the requirement for auditor's attestation of these clients' internal controls has considerably increased audit fees (Iliev, 2010).

3.2 Ranks of annual and long-term abnormal fees

The residual from equation (1) is a firm-year measure of abnormal fee. We then rank these cross-sectional residuals by industry-year whereby the lowest 10% observations by abnormal fees are classified as the lowest annual rank category (*YRANK* = 1) and the highest 10% are classified as the highest annual rank category (*YRANK* = 10). That is, *YRANK* is our one year firm-specific abnormal fee variable. For each client-auditor pair we calculate the average annual abnormal fee rank over a rolling five-year window (*WRANK*). For example $WRANK_{2004}$ is the average of the five annual ranks from 2000 through 2004. Note that the values for *WRANK* are not discrete as they can range continuously from 1 to 10. The use of

ranks mitigates the problem of measurement error in the fee model and also identifies more clearly the relative magnitude of unexpected fees.

3.3 Accounting-based measures of reporting quality

Our first accounting-based measure of reporting quality is based on unexpected current accruals and controls for firm performance, following Ashbaugh et al. (2003) and Kothari et al. (2005). We first estimate the regression coefficients from the following model:

$$CA_t = \beta_1 \frac{1}{TA_{t-1}} + \beta_2 \Delta Sales + \beta_3 ROA_{t-1} + \varepsilon_t \quad (2)$$

where current accruals (*CA)*, is net income before extraordinary items plus depreciation and amortization less operating cash flows, scaled by beginning of year total assets (*TA*). We then employ the coefficient estimates to measure expected current accruals (*ECA*), controlling for performance:

$$ECA_t = \hat{\beta}_1 \frac{1}{TA_{t-1}} + \hat{\beta}_2 [\Delta Sales - \Delta AR] + \hat{\beta}_3 ROA_{t-1} \quad (3)$$

where *AR* is accounts receivable. Our first measure of accounting quality, abnormal current accruals, *REDCA*, is calculated as the difference between actual and expected current accruals (i.e., *CA* less *ECA*). We employ signed (rather than absolute) values of *REDCA*, as signed measures, to capture discretionary inflation or deflation in earnings.

The second measure follows from McNichols (2002), who adapts the model outlined by Dechow and Dichev (2002) and is based on the relation between total accruals, *TACC*, and past, present and future cash flows as well as change in revenues, Δ*REV*, scaled by beginning total assets and the balance of property plant and equipment (*PPE*), also scaled by beginning total assets. Total accruals is measured as earnings before extraordinary items less cash flow

from operations, *CFO*, scaled by beginning total assets.[10] Specifically, we estimate the following model:

$$TACC_t = \alpha + \beta_1 CFO_{t-1} + \beta_2 CFO_t + \beta_3 CFO_{t+1} + \beta_4 \Delta REV_t + \beta_5 PPE_t + \varepsilon_t \quad (4)$$

The residual from this regression is our second measure of abnormal accruals (*RESCFO*). Again, we use the signed value in our subsequent tests. For completeness, we also use a third measure for reporting quality which is the signed value of current accruals deflated by total assets (*CATA*).

To summarize, we have a number of accrual-based measures of reporting quality (*RQ*). To assess the association between measures of financial reporting quality and our single and multi-period fee measures (*YRANK* and *WRANK* respectively) we employ this regression model:

$$\begin{aligned} RQ = \alpha &+ \beta_1 YRANK + \beta_2 WRANK + \beta_3 BIG + \beta_4 LCA + \beta_5 LNMVE \\ &+ \beta_6 MA + \beta_7 CFF + \beta_8 LEV + \beta_9 MB + \beta_{10} LIT + \beta_{11} LOSS + \beta_{12} CFO + \varepsilon \end{aligned} \quad (5)$$

where *RQ* = (*REDCA*, *RESCFO* or *TACC*).

In selecting control variables we follow prior literature (e.g., Ashbaugh et al., 2003; Myers et al., 2003; Becker et al. 1998; Burgstahler and Dichev, 1997; Dechow et al., 1995), while, at the same time attempting to keep these models relatively parsimonious. We include auditor size (*BIG*), lagged current accruals (*LCA*), natural log of market value of equity (*LNMVE*), an indicator for merger and acquisition activity (*MA*), the extent of external financing, as captured by financing cash flows (*CFF*), leverage (*LEV*), a litigation variable that is based on industry membership,[11] a current-year loss indicator (*LOSS*) and operating cash flows (*CFO*). Finally, to control for effect of growth on abnormal accruals, we include the ratio of market to book value of equity (*MB*), consistent with McNichols (2000).[12]

[10] *TACC* differs from *CA* in that it includes depreciation and amortization expense.
[11] High-litigation industries are industries with SIC codes of 2833-2836, 3570-3577, 3600-3675, 5200-5961, and 7370.
[12] Detailed variable definitions for all regression models are provided in Table 1.

Since we are interested in whether the use of a long-term abnormal fee measure has a different association with financial reporting quality than a single year fee measure, our focus in equation (5) is on the coefficients on both *YRANK* and *WRANK*.

3.4 Non-accrual measures of reporting quality

Although a large number of studies examine the link between accounting quality and audit fees using regressions of accrual measures on fee measures (like our equation (5)), Francis (2011) points out that such accounting-based measures may not reflect reporting quality. He argues that cross-sectional variation in measures commonly used to capture earnings management does not necessarily mean that earnings are in any way "misstated" if these firms actually have expected values located in the extreme ends of the distribution. We therefore extend our analysis by examining several potential measures of reporting quality which are assessed independently from accrual-based measures.

Financial statements are subject to the scrutiny of auditors and regulators, such as the SEC and PCAOB. To provide external validity as to the (possibly opposing) roles of our short-term and long-term fee measures, we explore the association of *YRANK* and *WRANK* with the incidence of external events that indicate poor accounting. These external indicators of reporting quality (*RQ_E*) include: restatements due to accounting problems (*RES_ACCT)*; restatements due to frauds (*RES-FRAUD)*, disclosures of material weaknesses in internal control; issuance of a comment letter by the SEC (*SEC_LET)*. Finally, we also use client statements of material weakness of internal controls (*MW*), as a non-accrual based measure of reporting quality.

We estimate a probit model with an indicator dependent variable that is equal to one if there is an event indicating poor reporting quality and zero otherwise. Specifically, we use *RES_ACCT*, *RES-FRAUD*, *SEC_LET*, and *MW* as indicator variables for restatements owing

to accounting problems, restatements owing to frauds, issuance of a comment letter by the SEC, and disclosures of material weakness of the internal control respectively. The model takes the following form:

$$\begin{aligned} Prob(RQ\_E = 1) = {} & \alpha + \gamma_1 YRANK + \gamma_2 WRANK + \gamma_3 ARDECA + \gamma_4 SPRAT + \gamma_5 BIG \\ & + \gamma_6 LNMVE + \gamma_7 MA + \gamma_8 CFO + \gamma_9 LEV + \gamma_{10} ARINV + \gamma_{11} LTA \\ & + \gamma_{12} LIT + \gamma_{13} MB + \gamma_{14} SALEVOL + \gamma_{15} PROP + \gamma_{16} NORAT \\ & + \gamma_{17} EPS + \varepsilon \end{aligned} \tag{6}$$

We align the dependent variable, the scrutiny outcome, and the abnormal fee measures by reference to the reporting period in which the accounting problem arose. That is, we use the year of the underlying reference event of the restatement, comment letter or material weakness relates to, not necessarily the year in which the scrutiny outcome is released (since scrutiny outcomes may be announced with delay). Including an accounting-based measure of reporting quality (i.e., *AREDCA*- the absolute value of *REDCA*) as one of our independent variables implies that the coefficients on *YRANK* and *WRANK* capture the incremental explanatory power of short-term and long-term fees, respectively, above that of reporting quality.[13] A number of the control variables used in equation (5) are also included in equation (6), including *BIG*, *LNMVE*, *CFO*, *LEV*, *LTA*, *LIT*, *MB*. In addition, we include an indicator for financial distress (*SPRAT*), which is the credit rating from Standard's & Poor; the level of receivables and inventory (*ARINV*); sales volatility measured as the standard deviation of the most recent three years of sales revenue (*SALEVOL*), the proportion of the client's revenue to its industry revenue (*PROP*); an indicator set equal to one if the client has no rating from Standard & Poor's, zero otherwise (*NORAT*), and earnings per share (*EPS*).

4. Data and sample

4.1 Construction of the sample and data collection

[13] As we report later, we also replace *AREDCA* with the other measures of reporting quality to assess the robustness of our results.

We collect all data available from Audit Analytics (AA) from 2001-2012. We then match the AA data with financial information on Compustat, resulting in an initial sample of 90,872 firm-year observations. We eliminate firm-year observations with total assets less than $1 million, leading to a sample of 78,813 firm-year observations. We also exclude all observations that lack sufficient information to estimating the total fees model (leaving us with 30,216 firm-year observations). The computation of our earnings quality and external quality variables further reduces our sample from a minimum of 16,249 to a maximum of 19,563 firm-year observations (depending on the quality measure used).

To obtain our single-period and multi-period fee measures we estimate equation (1) by industry-year. Descriptive statistics for the fee model variables are presented in Panel A of Table 2. Mean (median) audit fee is $1,552,000 ($689,000), suggesting skewness in the fee data (untabulated). However, the log-transformed figures are not skewed. Note that about 86% of observations used in the fee model are audited by a Big 4 auditor and that about 35% of observations are loss years. Panel B of Table 2 presents the results of estimating our fee models annually and for the pooled sample. Consistent with prior studies, most of the explanatory variables are highly significant across all years. In particular, in the pooled regression we find that audit fees are positively related to firm size (*LTA*, 0.43), foreign activity (*FOREIGN*, 0.36), the level of task complexity as captured by accounts receivables and inventory (*ARINV*, 0.37), number of business segments (*SEG*, 0.04) and number of employees (*EMPL*, 0.03). In addition, we find that large and specialized auditors command higher fees, as is seen from the coefficients on *BIG* (0.34) and *SPEC* (0.06). The R^2 in the pooled model is 80% and compares favorably to previous studies (e.g., Ashbaugh et al, 2003; Ruddock et al. 2006; Amir et al; 2010). The R^2 in the annual estimations varies from 76% to 88%.

4.2 Descriptive statistics

Panel A of Table 3 provides the descriptive statistics for variables used in our primary tests. The number of observations varies with data availability for each dependent variable as we utilize all available observations for a given measure of financial reporting quality. Recall that we assign unexpected fees (i.e., the residuals from estimating the fee model) to deciles, where *YRANK* = 1 if the unexpected annual fee falls in the bottom decile (i.e., the lowest level of unexpected fees) and *YRANK* = 10 if the unexpected fee falls in the highest decile. Our long-term fee measure, *WRANK*, is based on the average *YRANK* values over the most recent five-year window. Note that while *YRANK* is a discrete measure (i.e., the integers from 1 to 10), *WRANK* is a continuous variable also ranging from 1 to 10. The requirement of measuring *WRANK* over five years means that not all the observations for *YRANK* can be used given that we require both *YRANK* and a matching *WRANK* in our tests. The earliest *WRANK* is obtained for the five year window ending in 2004. The average of the single-period fee rank is 5.5, equal to its theoretical level of 5.5 while the mean multi-period rank is 5.53.

Mean signed abnormal accrual measures are positive in all cases (*REDCA*, *RESCFO* and *CATA*), though the median is negative in one case (*RESCFO*). This indicates that for our pooled sample earnings are generally inflated (notwithstanding *EPS* is negative, on average). Of our external measures of reporting quality, about two fifths of firm-years (6,613 observations) receive a comment letter from the SEC, about seven percent (1,303 observations) make an accounting-related restatement, but only 0.2% (33 observations) make a fraud-related restatement. The incidence of material weakness reports is six percent (1,049 observations). More than half of the observations are involved with loss, which is consistent with average EPS being negative.

Panel B of Table 3 reports the sample composition by industry membership, using the Fama-French classification. The largest industry in the sample is the Business Equipment with 5,021 observations. The smallest industry is Consumer Durables with 594 observations. This reflects the relative industry size in the Compustat dataset.

Pairwise correlation coefficients for selected variables are shown in Panel C of Table 3. The accounting-based measures of reporting quality are positively and strongly correlated. Though the coefficients are below one, this suggests that the three measures capture phenomenon similar underlying construct. However, the correlation between the fee measures and abnormal accruals measures are relatively small. *YRANK* and *WRANK* are positively correlated, consistent with there being a considerable level of stickiness in total unexpected fees.

5. Results

5.1 Main findings

Our first set of tests measures the impact of single-period and multi-period abnormal fee rankings on earnings-based measures of accounting quality. Table 4 reports results of estimating equation (5) using the three signed accrual measures as dependent variables. For each dependent variable we first provide the results with only *YRANK* and then for both *YRANK* and *WRANK*. The first specification is the traditional approach taken in the literature which employs a single year fee measure. The second allows us to infer whether combining the two fee measures leads to different inferences for each. For models using each of the three dependent variables in the first specification, the coefficient on *YRANK* is positive and highly significant, except for when *CATA* is the dependent variable. This indicates that higher

abnormal annual fees are associated with poorer accounting quality.[14] However, since annual fees are positively correlated with long-term fees, one might interpret this as evidence that abnormally high fees generically lead to poorer reporting quality. This is ruled out once *WRANK* is added. We find consistent evidence across all three dependent variables that the coefficient on *WRANK* is negative and significant while the coefficient on *YRANK* is positive and highly significant. In light of the high correlation between the two fee measures we also verify using the VIF test procedure these results are not influenced by a high level of multicolinearity. Hence, we conclude that consistent investment in audit is positively related to accounting quality. Note also that, relative to the regressions featuring *YRANK* only, the coefficient on *YRANK* retains its positive sign but is now larger and more highly significant for all models. This suggests that the negative association between annual fees and accounting quality is more evident once long-term fees are controlled for. Many of the control variables are also statistically significant, which is consistent with the models being well specified.

Overall, these results are consistent with the argument in Ball et al. (2012) that relatively high fees represent an investment (i.e., a credible commitment) in high quality reporting. However, this is evident only from a measure which best reflects such a conscious investment decision, namely a multi-year measure of how consistently a client firm pays a relatively high fee. Conversely, firms that have consistently lower fees relative to expectations appear to have relatively poor reporting quality. On the other hand, a simple single-year measure of excess fees yields quite a different result, which we interpret as being consistent with audit firm increasing effort in instances where firms report more aggressively, have lower quality financial reporting, or face an audit problem. The results highlight the

[14] This is broadly in consistent with prior studies that conclude that annual fees paid to auditors are not associated with lower accounting quality (e.g., Ashbaugh et al., 2003; Chung and Kallapur, 2003; Larcker and Richardson 2004).

importance of considering multi-year fee behavior in attempting to devise tests of the extent to which higher than expected fees reflect a deliberate investment in improved reporting quality rather than a bribe to facilitate lower quality financial reporting via reduced auditor independence.

5.2 Tests using external measures of accounting quality

To provide external validity to these inferences, we employ the probit model (i.e., equation (6)) where the dependent variable is the occurrence of an external scrutiny event indicating poor reporting quality. Recall we use four such indicators; namely the issuance of a comment letter by the SEC (where *SEC_LET* = 1), restatements owing to accounting problems (*RES_ACC* = 1), restatements owing to frauds (*RES_FRAUD* = 1), and disclosures of material weakness of the internal control (*MW* = 1).

The results of this analysis are reported in Table 5. The structure of Table 5 is similar to that of Table 4 in that for each event we first include only *YRANK*, and then add *WRANK*. Inspecting all four models where *YRANK* is the only fee variable, we find that the coefficient on *YRANK* is positive in all models and highly significant in all models but one (*SEC_LET*) where the significance level is six percent. This corroborates the evidence presented in Table 4 that accounting quality is negatively related to abnormal annual fees. When *WRANK* is added, the coefficient on *YRANK* remains positive, but increases in magnitude. Significance levels are also higher, except for fraud-related restatements (probably owing to low number of observations). In contrast to *YRANK*, *WRANK* is negatively related to the incidence of accounting restatements and material weaknesses.

In summary, the results reported in Table 5 indicate that abnormal high annual fees are positively associated with events indicating poor accounting quality, especially when *WRANK* is included in the model. Importantly, we present evidence that consistently high

abnormal fees are not positively associated with events indicating poor reporting quality. Crucially, the evidence reported in Table 5 is inconsistent with the view that high annual fees represent greater audit effort that is sufficient to eliminate poor accounting quality. This table thus reinforces the conclusion drawn from Table 4 that consistently high abnormal fees are unlikely to represent a form of bribe and are more likely to correspond to the level of audit effort.

5.3 Additional tests

We perform a number of additional analyses to ensure the robustness of our results. These relate to the fee measure (i.e., using total fees instead of audit fees), the extent of overlapping windows for measuring long-run abnormal fees, and alternative accounting-based measures of reporting quality in tests of the relation between abnormal audit fees and the occurrence of external events consistent with poor reporting quality (i.e., those events for results reported in Table 5).[15]

Recall that for the calculation of *WRANK* we use rolling five-year windows. Therefore, there is a substantial overlap between $WRANK_t$ and $WRANK_{t+1}$, raising a concern about auto-correlation. To mitigate this concern we re-measure *WRANK* using shorter windows of four and three years. While doing so reduces the problem of independence, shortening the measurement period also reduces the effectiveness of *WRANK* in capturing long-term investment in auditing because *WRANK* shifts closer to *YRANK*. Nevertheless, we find qualitatively similar results with shorter periods for *WRANK*.

Next, we use propensity score matching approach to mitigate against the possibility that our "experiment" does not control sufficiently well for non-randomness in the sample (Rosenbaum and Rubin, 1983). Consequently, we first match the top 25% of *YRANK*

[15] For brevity we do not tabulate all of these analyses. Full details are available from the authors.

observations with the bottom 25%. The propensity score procedure used is the "nearest neighbor" procedure conditioning on firm size, leverage, industry and year. We then run the OLS regression models as in our main analyses on this matched sample, replicating Tables 4 and 5, where both *YRANK* and *WRANK* are included. The results of this analysis are largely consistent with the previous findings for the full sample.

We then repeat the above procedure with the matching applied to *WRANK*, controlling for size, leverage, industry membership and year. Again, our findings remain qualitatively similar.

We also employ the timeliness of loss recognition as an alternative measure of accounting quality (Basu, 1997). If repeated investment in audit quality allows auditors to identify loss events in a more timely fashion, we would expect *WRANK* to be positively associated with timely loss recognition. In contrast, if abnormal annual fees represent a form of a bribe, or alternatively, an unresolved accounting issue concerning loss recognition, we would expect *YRANK* to be negatively related to the speed of loss recognition. To test these conjectures, we augment the Basu (1997) model as follows:

$$\begin{aligned} EPS = {} & \alpha + \beta_1 RET + \beta_2 DRET + \beta_3 RET * DRET \\ & + \beta_4 YRANK + \beta_5 YRANK * RET + \beta_6 YRANK * DRET + \beta_7 YRANK * RET * DRET \\ & + \beta_8 WRANK + \beta_9 WRANK * RET + \beta_{10} WRANK * DRET + \beta_{11} WRANK * RET * DRET \\ & + \beta_{12} LCA + \beta_{13} LNMVE + \beta_{14} MA + \beta_{15} BIG + \beta_{16} LEV + \beta_{17} MB + \beta_{18} LIT + \varepsilon \end{aligned} \tag{7}$$

Here, *EPS* is earnings per share, scaled by beginning stock price; *RET* is the annual stock return, measured over the fiscal year and *DRET* is an indicator variable set equal 1 if *RET* < 0, zero otherwise. To control for other factors that may affect accounting conservatism we include of a number of controls (*LCA*, *LNMVE*, *MA*, *BIG*, *LEV*, *MB*, and *LIT*), as previously defined.[16] The main coefficients of interest are β_7 and β_{11}, where a positive (negative)

[16] For a similar approach see, for example, Roychowdhury and Watts (2007), Khan and Watts (2009), Hui et al. (2012) and Ramalingegowda and Yu (2012).

coefficient is interpreted as evidence consistent with stronger (weaker) association between conservative accounting and *YRANK* and *WRANK*, respectively.

The results of this model are presented in Table 6. As before, we first estimate the model with only *YRANK*. Here, the coefficient on *YRANK*RET*DRET* is negative and highly significant, suggesting that high annual audit fee is associated with slower loss recognition. When *WRANK* is added to the regression model, this association becomes more pronounced. Specifically, the coefficient on *YRANK*RET*DRET* is now larger in magnitude (i.e., more negative), with a higher statistical significance. Moreover, the coefficient on *WRANK*RET*DRET* is positive and significant. This suggests that a commitment to investment in high quality auditing improves conservative reporting.

As for the other variables, the coefficient on *RET*DRET* is positive and highly significant in both models, consistent with the findings of Basu (1997) and supporting the presence of accounting conservatism, as manifested in timely loss recognition. The coefficient on lagged current accruals (*LCA*) is positive, consistent with the notion of larger reported earnings in firms with high levels of opening current accruals. The coefficients on auditor size (*BIG*), leverage (*LEV*) and litigation risk (*LIT*) are negative and highly significant, indicating that EPS is lower in client firms that are audited by one of the Big-4 auditors, in highly leveraged firms and in firms more exposed to litigation risk.

In summary, the findings of Table 6, are consistent with and reinforce the previous conclusions. Conservative reporting is negatively related to abnormal annual fees, but is positively related to abnormal long-term fees. This suggests that annual fees and long-term fees represent two distinct auditing phenomena, whereby long-term fees capturing the degree of commitment to audit quality and verification process.

6. Summary and conclusions

We provide what we believe is the first documented evidence of an association between fees paid to the auditor and measures of accounting quality which explicitly recognizes that client firms' investment in auditing is not independent from one period to the next. In contrast to prior studies, we argue that evidence of audit fee "stickiness" suggests that any fee-based

measure of audit quality should also reflect a multi-period perspective. While studies based on single-period fee has provided conflicting evidence on the extent to which higher fees are associated with accounting quality, we argue that the measurement of unexpected fees over multiple periods (i.e., are fees consistently high or consistently low) is more likely to reliably identify those instances where there is a conscious investment in more (or less) auditing. We also argue that the relation between measures of accounting quality and measures of unexpected audit fees on a single period basis are best interpreted when such tests also control for the longer-term pattern of fees.

Our results are consistent with our prediction. While single year measures of excess fees are negatively associated with various measures for accounting quality, we observe the opposite for our multi-period fee-based measure. This result extends beyond accrual-based measures of accounting quality to include several non-accrual measures of accounting quality including restatements, SEC actions, and disclosure of internal control weaknesses. These results therefore strongly support the contention that consistently unusually high (low) fees are associated with higher (lower) accounting quality. Our results are also incongruent with the view that consistently high fees reflect some form of sustained (as distinct from temporary) bribe that encourages the auditor to be less independent and therefore to provide lower (rather than higher) audit quality.

Our evidence that sustained investments in auditing are positively associated with accounting quality also suggests several research opportunities. For example, how do such relationships adjust to reflect significant regulatory changes which increase (or decrease) the statutory demand for auditing? What happens when firms change auditors? Does so-called low balling on initial engagements significantly disrupt the relationship between fees and accounting quality? Does extant single period evidence of the complementarity of auditing and other (non-accounting) disclosure quality measures hold when auditing investment is

measured from a multi-period perspective? These are just some examples of how a multi-period perspective on fees paid to auditors can potentially create new research opportunities.

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TABLE 1
Variable definitions

Panel A: Audit Fee model

Variable	Definition
LAF	Natural logarithm of audit fees (Audit Analytics (AA) mnemonic: *audit fees)* in year t. (Winsorized at the 1% level)
LTA	Natural logarithm of total assets (Compustat mnemonic: *at*) in year t. (Winsorized at the 1% level)
FOREIGN	Dummy variable coded "1" if company paid taxes abroad *(txfo)* in year t, zero otherwise
ROA	Earnings before extraordinary items *(ib)*/start of year total assets *(at)*
ARINV	Sum of inventory and receivables *(rectr+invt)/*start of year total assets
LOSS	Dummy variable coded "1" if the company experienced a loss in year t, zero otherwise
BIG	Dummy variable coded "1" if the auditor is a big 4/5/6 audit firm, zero otherwise
DEC	Dummy variable coded "1" if the company closes financial statement in December, zero otherwise
LEV	[Long term debt *(dltt)* + current debt *(dlc)*]/total assets
SWITCH	Dummy variable coded "1" if the company changed auditor during year t, zero otherwise
SEG	Number of business segments *(segments section in Compustat)*
CFO	Cash flow from operation activities
CRAT	Current Ratio, as measured by Current Assets (*act)* divided by Current Liabilities (*lct)*
RET	The return for the firm's stock over the Fiscal Year, as reported by CRSP (*ret*)
GROWTH	The percentage change in sales (*sale)* from year *t-1* to year *t.*
MA	Dummy variable coded "1" if there has been an merger transaction in year t, zero otherwise *(compst)*
RISK	The standard deviation of monthly return (as reported by CRSP, *ret*) for the past 36 months
LAG	The number of days between fiscal year end and earnings announcement date
ACC_FILE	Dummy variable coded "1" if the firm is an accelerated filer, 0 otherwise, as reported by Audit Analytics (*is accelerated filer)*
LIT	Dummy variable coded "1" if the firm operates in a high-litigation industry, and zero otherwise. High-litigation industries are industries with SIC codes of 2833-2836, 3570-3577, 3600-3675, 5200-5961, and 7370
DISC	An indicator variable equal to one if extraordinary items and discontinued Operations (*xido*) exceed 1% of pre-tax income (*pi)*, and zero otherwise
EMPL	The square root of number of employees, as reported by Compustat (*emp*)
SPEC	Dummy variable coded "1" if the auditor is an industry specialist, 0 otherwise; the auditor is considered a specialist when its audit fees are the largest among competitors within a specific industry-year
IND	Fama/French industry classification

Panel B: Main regression variables

Variable	Definition
Accounting-based measures of reporting quality	
REDCA	*REDCA* is the measure taken from Ashbaugh et al. 2003. Specifically, we first estimate the regression coefficients from the following model: $$CA_t = \beta_1 \frac{1}{TA_{t-1}} + \beta_2 \Delta Sales + \beta_3 ROA_{t-1} + \varepsilon_t$$ where *CA*, current accruals, is net income before extraordinary items (*ib*) plus depreciation and amortization (Compustat mnemonic: *dp*) minus operating cash flows (Compustat mnemonic: *oancf*), scaled by beginning of year total assets (Compustat mnemonic: *at*). We then employ the coefficient estimates to measure expected current accruals (*ECA*), controlling for performance: $$ECA_t = \hat{\beta}_1 \frac{1}{TA_{t-1}} + \hat{\beta}_2 [\Delta Sales - \Delta AR] + \hat{\beta}_3 ROA_{t-1}$$ where *AR* is accounts receivable *(rectr)*. *REDCA* is calculated as the difference between *CA* and *ECA*. ***AREDCA*** = absolute value of *REDCA*.
RESCFO	For each industry we estimate the model: $$TACC_t = \alpha + \beta_1 CFO_{t-1} + \beta_2 CFO_t + \beta_3 CFO_{t+1} + \beta_4 \Delta REV_t + \beta_5 PPE_t + \varepsilon_t$$ where: *TACC* = total current accruals is net income before extraordinary items (*ib*) minus operating cash flows (Compustat mnemonic: *oancf*); *CFO* is cash flow from operation; *PPE* is property plant and equipment *(ppegt);* ΔREV is ($Sales_t$-$Sales_{t-1}$) (Compustat mnemonic: *revt*). All variables are scaled by beginning total assets (Compustat mnemonic: *at*). *RESCFO* is the residual from this regression.
CATA	Current accruals, *CA*, (as defined above) scaled by total assets.
External measures of reporting quality (variable source: AA)	
SEC_LET	Dummy variable coded "1" if observation falls in year to which an SEC comment letter referred and zero otherwise.
RES_ACC	Dummy variable coded "1" if Accounting rule (GAAP/FASB) application failure noted in the period to which the Restatement is referring, and zero otherwise (*res_accounting*).
RES_FRAUD	Dummy variable coded "1" if there was financial fraud, irregularities and misrepresentations noted in the period to which the Restatement is referring, and zero otherwise (*res_fraud*).
MW	Dummy variable coded "1" if the company disclosed a material weakness, 0 otherwise (*material_weakness*)
Independent variables	
YRANK	Ranking based on deciles of residuals. Residuals derive from year/industry regressions of logarithm of audit fees (Equation 1 in the text)
WRANK	Average of *YRANK* over the last five years
LCA	Lagged current accruals
LNMVE	Natural log of market value of equity
FINDIST	Dummy variable indicating if the client is financially distressed (observations with negative cash flow from operation or negative net

	income)
CFF	Cash flow from financing activities (*fincf*)
MB	Market to book value
SALEVOL	Standard deviation of company's sales.
PROP	Firm level share of revenues compared to industry revenues.
SPRAT	Credit rating from Standard's & Poor (*splticrm*).
NORAT	Dummy = 1 if company has no rating from Standard's & Poor, zero otherwise
EPS	Earnings per share (*epsfx*), scaled by beginning stock price *(prcc_c).*

TABLE 2

Panel A: Descriptive statistics for the pooled audit fees model

	N.	Mean	Median	Std. Dev.	25th percentile	75th percentile
LAF	30,216	13.486	13.464	1.240	12.593	14.278
LTA	30,216	5.987	6.102	1.971	4.706	7.383
FOREIGN	30,216	0.490	0	0.500	0	1
ROA	30,216	-0.051	0.033	0.301	-0.050	0.077
ARINV	30,216	0.243	0.215	0.031	0.101	0.345
LOSS	30,216	0.351	0	0.477	0	1
BIG	30,216	0.863	1	0.344	1	1
DEC	30,216	0.653	1	0.476	0	1
LEV	30,216	0.159	0.090	0.199	0	0.255
SWITCH	30,216	0.080	0	.0272	0	0
SEG	30,216	2.493	1	1.938	1	4
CFO	30,216	0.036	0.080	0.215	0.013	0.136
CRAT	30,216	3.012	2.128	3.027	1.393	3.456
MRET	30,216	0.106	0.036	0.640	-0.227	0.330
GROWTH	30,216	0.164	0.081	0.548	-0.028	0.227
MA	30,216	0.200	0	0.400	0	0
RISK	30,216	0.159	0.130	0.122	0.090	0.186
LAG	30,216	52.069	48	25.048	35	64
ACC_FIL	30,216	0.777	1	0.416	1	1
LIT	30,216	0.384	0	0.486	0	1
DISC	30,216	0.077	0.267	0	0	0
EMPL	30,216	2.061	1.179	2.540	0.551	2.490
SPEC	30,216	0.241	0	0.428	0	0

See Table 1 for variable definitions.

TABLE 2

Panel B: Audit fees model (pooled sample and annual regressions)

							LAF						
Independent Variable	**Pooled**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
LTA	0.43***	0.44***	0.43***	0.44***	0.45***	0.43***	0.45***	0.44***	0.42***	0.40***	0.41***	0.40***	0.50***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FOREIGN	0.36***	0.31***	0.35***	0.34***	0.38***	0.41***	0.36***	0.38***	0.34***	0.34***	0.33***	0.33***	0.25***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
ROA	-0.26***	-0.17***	-0.27***	-0.26***	-0.36***	-0.28***	-0.45***	-0.10	-0.29***	-0.19**	-0.34***	-0.20***	-0.05
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.17)	(0.00)	(0.02)	(0.00)	(0.01)	(0.88)
ARINV	0.37***	0.59***	0.48***	0.50***	0.41***	0.18**	0.35***	0.27***	0.41***	0.44***	0.42***	0.36***	0.17
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.43)
LOSS	0.12***	0.08**	0.17***	0.12***	0.19***	0.13***	0.18***	0.15***	0.06**	0.08***	0.09***	0.05*	0.11
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.00)	(0.00)	(0.10)	(0.26)
BIG	0.34***	0.05	0.13**	0.10**	0.36***	0.36***	0.33***	0.33***	0.37***	0.41***	0.44***	0.42***	0.35***
	(0.00)	(0.39)	(0.02)	(0.04)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
DEC	0.09***	0.01	0.20***	0.14***	0.47***	0.03	0.06**	0.00	-0.01	-0.02	0.01	0.01	-0.08
	(0.00)	(0.90)	(0.00)	(0.00)	(0.00)	(0.21)	(0.01)	(0.97)	(0.73)	(0.48)	(0.69)	(0.70)	(0.84)
LEV	-0.01	-0.07	-0.10	0.10	0.10	-0.04	-0.06	-0.06	-0.06	0.013	-0.03	-0.05	0.03
	(0.71)	(0.34)	(0.13)	(0.15)	(0.17)	(0.58)	(0.31)	(0.34)	(0.22)	(0.81)	(0.63)	(0.40)	(0.91)
SWITCH	-0.03**	-0.12*	-0.09***	-0.10**	0.04	0.07	0.07	0.02	-0.07	-0.04	0.06	-0.07	0.11
	(0.05)	(0.05)	(0.00)	(0.01)	(0.50)	(0.16)	(0.11)	(0.73)	(0.12)	(0.29)	(0.10)	(0.16)	(0.24)
SEG	0.04***	0.03***	0.04***	0.05***	0.04***	0.04***	0.04***	0.04***	0.04***	0.03***	0.03***	0.03***	0.03*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.10)
CFO	-0.13***	-0.34***	0.01	-0.14	-0.06	-0.18*	0.12	-0.24***	0.05	-0.23**	-0.02	-0.23**	-0.83
	(0.00)	(0.00)	(0.93)	(0.21)	(0.62)	(0.07)	(0.22)	(0.01)	(0.44)	(0.01)	(0.90)	(0.02)	(0.11)
CRAT	-0.02***	-0.03***	-0.03***	-0.03***	-0.03***	-0.02***	-0.02***	-0.02***	-0.01***	-0.02***	-0.01***	-0.02***	-0.04***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
MRET	0.02***	0.04**	0.02	0.08***	0.00	-0.08	-0.00	-0.03	-0.02	-0.02	-0.02	0.01	-0.14
	(0.00)	(0.05)	(0.41)	(0.00)	(0.91)	(0.18)	(0.93)	(0.25)	(0.37)	(0.77)	(0.52)	(0.73)	(0.12)
GROWTH	-0.04***	-0.00	-0.03**	-0.06**	-0.08***	-0.04**	-0.03*	-0.022	-0.04**	-0.00	-0.08***	-0.02	0.05
	(0.00)	(0.95)	(0.05)	(0.01)	(0.00)	(0.04)	(0.08)	(0.23)	(0.04)	(0.83)	(0.00)	(0.27)	(0.52)
MA	0.06***	0.08***	0.07**	0.07**	0.08***	0.031	0.07***	0.03	0.04*	0.09***	0.08***	0.04	-0.01
	(0.00)	(0.01)	(0.03)	(0.02)	(0.00)	(0.26)	(0.00)	(0.18)	(0.08)	(0.00)	(0.00)	(0.13)	(0.86)
RISK	0.23***	0.33***	0.37***	0.29**	0.07	0.41***	0.21	0.62***	0.53***	0.10	0.23*	0.14	0.16
	(0.00)	(0.01)	(0.00)	(0.03)	(0.68)	(0.01)	(0.13)	(0.00)	(0.00)	(0.37)	(0.07)	(0.30)	(0.69)
LAG	0.00***	0.01***	0.01***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00***	0.00	0.00	0.00	0.01*
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.64)	(0.56)	(0.37)	(0.09)
ACC_FIL	0.17***	-0.01	0.03	0.01	0.21***	0.33***	0.27***	0.23***	0.19***	0.15***	0.14***	0.17***	0.31***
	(0.00)	(0.71)	(0.35)	(0.80)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
LIT	-0.03	-0.04	-0.04	-0.03	-0.06**	-0.06*	-0.03	-0.01	-0.01	-0.02	-0.01	-0.02	-0.06

	(0.12)	(0.18)	(0.17)	(0.28)	(0.05)	(0.06)	(0.35)	(0.72)	(0.61)	(0.41)	(0.68)	(0.43)	(0.41)
DISC	0.14***	0.06	0.13***	0.10**	0.13***	0.20***	0.18***	0.12***	0.14***	0.16***	0.16***	0.11***	0.21
	(0.00)	(0.19)	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.12)
EMPL	0.03***	0.07***	0.07***	0.06***	0.03***	0.03***	0.02***	0.02***	0.02***	0.03***	0.03***	0.04***	-0.03
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.18)
SPEC	0.06***	0.06**	0.03	0.05*	0.06**	0.10***	0.09***	0.03	0.03	0.02	0.05**	0.06***	0.06
	(0.00)	(0.03)	(0.17)	(0.06)	(0.02)	(0.00)	(0.00)	(0.26)	(0.28)	(0.31)	(0.04)	(0.01)	(0.44)
Constant	9.89***	9.32***	9.20***	9.50***	9.39***	9.89***	9.90***	10.09***	10.08***	10.36***	10.21***	10.25***	9.63***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N	30,216	1,781	2,540	2,767	2,983	3,027	3,002	2,959	2,865	2,733	2,669	2,652	225
Adj-R^2	0.804	0.785	0.764	0.774	0.760	0.766	0.789	0.785	0.795	0.807	0.825	0.826	0.879

1. The table reports regression coefficients and *p*-values. These are calculated based on robust standards errors clustered at the firm level, including year and industry fixed effects.

2. The regression model is:

$$LAF = \alpha + \beta_1 LTA + \beta_2 FOREIGN + \beta_3 ROA + \beta_4 ARINV + \beta_5 LOSS + \beta_6 BIG + \beta_7 DEC + \beta_8 LEV + \beta_9 SWITCH + \beta_{10} SEG + \beta_{11} CFO + \beta_{12} CRAT + \beta_{13} MRET + \beta_{14} GROWTH + \beta_{15} MA + \beta_{16} RISK + \beta_{17} LAG + \beta_{18} ACC\_FIL + \beta_{19} LIT + \beta_{20} DISC + \beta_{21} EMPL + \beta_{22} SPEC + \varepsilon$$

See Table 1 for variable definitions.

TABLE 3

Panel A: Descriptive statistics and correlations for reporting quality analysis

Variable	N	Mean	Median	Std. Dev.	25th percentile	75th percentile
Fee rank variables						
WRANK	19,563	5.497	5.6	2.459	3.6	7.6
YRANK	19,563	5.531	6	2.841	3	8
Accounting-based measures of reporting quality						
REDCA	19,126	0.168	0.120	0.255	0.022	0.270
RESCFO	16,297	0.012	-0.018	0.215	-0.098	0.089
CATA	19,563	0.198	0.151	0.263	0.046	0.304
External measures of reporting quality						
SEC_LET	16,249	0.407	0	0.491	0	1
RES_ACC	18,883	0.069	0	0.254	0	0
RES_FRAUD	16,651	0.002	0	0.045	0	0
MW	17,490	0.060	0	0.238	0	0
Control variables for accounting-based measures of reporting quality						
BIG	19,563	0.873	1	0.333	1	1
LCA	19,563	0.189	0.145	0.258	0.042	0.293
LNMVE	19,563	6.442	6.354	1.917	5.123	7.678
MA	19,563	0.212	0	0.402	0	0
CFF	19,563	0.017	-0.007	0.180	-0.055	0.035
LEV	19,563	0.162	0.101	0.198	0	0.256
MB	19,563	2.878	2.096	5.122	1.299	3.524
LIT	19,563	0.290	0	0.454	0	1
LOSS	19,563	0.315	0	0.464	0	1
CFO	19,563	0.050	0.085	0.195	0.027	0.138
Control variables for external measures of reporting quality						
SPRAT	18,883	3.169	0	5.433	0	6
AREDCA	18,883	0.212	0.142	0.221	0.060	0.288
ARINV	18,883	0.244	0.220	0.170	0.108	0.342
LTA	18,883	6.365	6.283	1.932	5.014	7.611
SALEVOL	18,883	0.153	0.104	0.169	0.054	0.190
PROP	18,883	0.002	0.000	0.009	0.000	0.001
NORAT	18,883	0.698	1	0.459	0	1
EPS	18,883	-0.093	0.034	0.625	-0.033	0.060

Descriptive Statistics are computed using the largest possible number of observations from the subsequent models.

Panel B: Sample composition by industry

FF	Industry	N	%
FF1	Consumer Non-durables	1,068	5.46
FF2	Consumer Durables	594	3.04
FF3	Manufacturing	2,411	12.32
FF4	Oil, Gas and Coal Extraction and Products	986	5.04
FF5	Chemicals and Allied Products	601	3.07
FF6	Business Equipment	5,021	25.67
FF7	Telephone and Television Transmission	826	4.22
FF9	Wholesale, Retail and Some Services	2,281	11.66
FF10	Healthcare, Medical Equipment and Drugs	2,912	14.89
FF12	Other	2,863	14.63
Total		19,563	100%

NB: Financial and utilities companies are excluded from the sample.

Panel C: Correlation matrix

	CATA	*REDCA*	*RESCFO*	*YRANK*	*WRANK*	*BIG*	*LCA*	*LNMVE*	*MA*	*CFF*	*LEV*	*MB*	*LIT*	*LOSS*
REDCA	0.956*	1												
RESCFO	0.859*	0.870*	1											
YRANK	-0.029*	-0.024*	0.027*	1										
WRANK	-0.047*	-0.043*	0.008	0.846*	1									
BIG	0.018*	-0.001	-0.046*	-0.024*	-0.020*	1								
LCA	0.704*	0.642*	0.569*	-0.054*	-0.049*	0.015	1							
LNMVE	0.074*	0.008	-0.088*	0.005	0.006	0.369*	0.074*	1						
MA	-0.069*	-0.098*	-0.078*	-0.006	0.020*	0.055*	-0.031*	0.138*	1					
CFF	-0.080*	-0.020*	0.071*	0.001	0.010	-0.112*	-0.110*	-0.201*	0.06*	1				
LEV	0.098*	0.114*	-0.017*	-0.010	-0.004	0.089*	0.086*	0.112*	0.051*	0.055*	1			
MB	-0.038*	-0.049*	-0.021*	0.017*	0.028*	0.017*	-0.040*	0.114*	-0.013	0.043*	-0.065*	1		
LIT	-0.089*	-0.050*	0.004	-0.033*	-0.044*	0.017*	-0.099*	-0.007	-0.061*	0.126*	-0.083*	0.017*	1	
LOSS	-0.208*	-0.108*	-0.082*	0.006	0.031*	-0.135*	-0.160*	-0.427*	-0.086*	0.311*	0.057*	-0.018*	0.132*	1
CFO	0.110*	-0.003	-0.101*	-0.022*	-0.024*	0.145*	0.213*	0.371*	0.066*	-0.599*	-0.020*	0.008	-0.172*	-0.505*

Pairwise Pearson correlations are presented below the diagonal, Spearman above the diagonal. * Denotes significance at 5%. Variables are defined in Table 1.

TABLE 4
Signed abnormal accruals and audit fee measures

Independent variables	*REDCA*	*REDCA*	*RESCFO*	*RESCFO*	*CATA*	*CATA*
YRANK	0.001	0.006	0.004	0.006	0.000	0.005
	(0.037)	(0.000)	(0.000)	(0.000)	(0.108)	(0.000)
WRANK		-0.007		-0.003		-0.006
		(0.000)		(0.020)		(0.000)
BIG	0.008	0.008	0.000	0.000	0.006	0.006
	(0.143)	(0.147)	(0.953)	(0.953)	(0.220)	(0.230)
LCA	0.657	0.657	0.565	0.565	0.699	0.700
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LNMVE	-0.004	-0.004	-0.010	-0.010	-0.003	-0.003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
MA	-0.039	-0.038	-0.020	-0.020	-0.026	-0.026
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CFF	-0.038	-0.038	0.005	0.006	-0.037	-0.037
	(0.018)	(0.019)	(0.747)	(0.736)	(0.018)	(0.019)
LEV	0.060	0.060	-0.038	-0.038	0.040	0.040
	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
MB	-0.001	-0.001	0.000	-0.000	0.000	0.000
	(0.226)	(0.268)	(0.786)	(0.819)	(0.977)	(0.942)
LIT	0.020	0.019	0.000	-0.001	0.014	0.013
	(0.000)	(0.000)	(0.896)	(0.814)	(0.000)	(0.000)
LOSS	-0.059	-0.058	-0.077	-0.076	-0.087	-0.086
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CFO	-0.272	-0.272	-0.293	-0.293	-0.184	-0.184
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.125	0.133	-0.006	-0.003	0.134	0.151
	(0.000)	(0.000)	(0.622)	(0.829)	(0.000)	(0.000)
N	19,126	19,126	16,297	16,297	19,563	19,563
Adj-R^2	0.482	0.483	0.441	0.441	0.562	0.563

Notes:

1. The table reports regression coefficients and *p*-values (in parentheses) below. These are calculated based on robust standards errors clustered at the firm level, including year and industry fixed effects.

2. The regression model is:

$$RQ = \alpha + \beta_1 YRANK + \beta_2 WRANK + \beta_3 BIG + \beta_4 LCA + \beta_5 LNMVE + \beta_6 MA + \beta_7 CFF + \beta_8 LEV + \beta_9 MB + \beta_{10} LIT + \beta_{11} LOSS + \beta_{12} CFO + \varepsilon$$

where RQ = (*REDCA*, *RESCFO,* and *CATA*).

See Table 1 for variable definitions.

TABLE 5
Determinants of SEC comment letters, earnings restatements, frauds, material weakness disclosures and audit fee measures

Independent	*SEC_LET (t+1)*		*RES_ACC (t)*		*RES_FRAUD (t)*		*MW (t)*	
Variables	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
YRANK	0.006	0.007	0.039	0.062	0.061	0.104	0.081	0.115
	(0.060)	(0.000)	(0.000)	(0.000)	(0.001)	(0.002)	(0.000)	(0.000)
WRANK		-0.001		-0.032		-0.060		-0.048
		(0.907)		(0.007)		(0.105)		(0.000)
AREDCA	-0.121	-0.121	-0.048	-0.053	-0.759	-0.777	-0.136	-0.149
	(0.013)	(0.013)	(0.520)	(0.480)	(0.033)	(0.026)	(0.116)	(0.085)
SPRAT	0.000	-0.001	0.006	0.006	0.023	0.023	-0.005	-0.005
	(0.906)	(0.906)	(0.344)	(0.348)	(0.148)	(0.149)	(0.562)	(0.550)
BIG	-0.081	-0.081	-0.087	-0.089	-0.080	-0.077	-0.234	-0.236
	(0.007)	(0.007)	(0.072)	(0.068)	(0.674)	(0.687)	(0.000)	(0.000)
LMNVE	0.046	0.046	-0.150	-0.150	-0.266	-0.266	-0.238	-0.238
	(0.002)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
MA	0.017	0.017	-0.037	-0.033	-0.129	-0.121	0.046	0.052
	(0.506)	(0.503)	(0.317)	(0.378)	(0.346)	(0.379)	(0.264)	(0.205)
CFO	-0.409	-0.409	-0.223	-0.227	-0.020	-0.034	-0.396	-0.401
	(0.000)	(0.000)	(0.017)	(0.015)	(0.954)	(0.921)	(0.000)	(0.000)
LEV	0.140	0.140	0.028	0.024	-0.905	-0.916	-0.159	-0.168
	(0.018)	(0.018)	(0.767)	(0.797)	(0.081)	(0.079)	(0.244)	(0.221)
ARINV	-0.185	-0.185	-0.232	-0.238	0.575	0.567	-0.087	-0.099
	(0.008)	(0.008)	(0.030)	(0.027)	(0.081)	(0.089)	(0.511)	(0.454)
LTA	0.049	0.049	0.132	0.132	0.399	0.398	0.234	0.234
	(0.003)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LIT	-0.021	-0.022	0.046	0.043	-0.012	-0.021	-0.052	-0.056
	(0.408)	(0.406)	(0.273)	(0.307)	(0.944)	(0.901)	(0.331)	(0.295)
MB	0.003	0.004	0.005	0.005	-0.023	-0.023	0.009	0.010
	(0.089)	(0.088)	(0.114)	(0.101)	(0.014)	(0.015)	(0.016)	(0.015)
SALEVOL	0.106	0.106	0.053	0.059	-0.585	-0.596	0.072	0.080
	(0.110)	(0.110)	(0.602)	(0.567)	(0.141)	(0.142)	(0.495)	(0.447)
PROP	0.738	0.738	-10.64	-10.718	-9.279	-9.320	-21.867	-22.076
	(0.502)	(0.502)	(0.013)	(0.013)	(0.195)	(0.190)	(0.064)	(0.060)
NORAT	-0.103	-0.103	0.048	0.041	0.499	0.482	0.196	0.181
	(0.049)	(0.048)	(0.563)	(0.622)	(0.038)	(0.045)	(0.077)	(0.103)
EPS	-0.084	-0.084	0.031	0.029	0.100	0.099	-0.007	-0.009
	(0.000)	(0.000)	(0.208)	(0.231)	(0.107)	(0.114)	(0.772)	(0.701)
Constant	-2.427	-2.425	-1.668	-1.610	-4.247	-4.141	-2.273	-2.173
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Ind. & year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	16,249	16,249	18,883	18,883	16,651	16,651	17,490	17,490
Pseudo-R^2	0.080	0.080	0.054	0.055	0.122	0.126	0.092	0.094

Notes:

1. The table reports regression coefficients and *p*-values (in parentheses) below. These are calculated based on robust standards errors clustered at the firm level, including year and industry fixed effects.

2. The regression model is:

$$
\begin{aligned}
Prob(RQ\_E = 1) = {} & \alpha + \gamma_1 YRANK + \gamma_2 WRANK + \gamma_3 ARDECA + \gamma_4 SPRAT + \gamma_5 BIG \\
& + \gamma_6 LNMVE + \gamma_7 MA + \gamma_8 CFO + \gamma_9 LEV + \gamma_{10} ARINV \\
& + \gamma_{11} LTA + \gamma_{12} LIT + \gamma_{13} MB + \gamma_{14} SALEVOL + \gamma_{15} PROP \\
& + \gamma_{16} NORAT + \gamma_{17} EPS + \varepsilon
\end{aligned}
$$

where RQ_E = (*SEC_LET, RES_ACC, RES_FRAUD, or MW*).

SEC_LET is a dummy equal to 1 if the firm received a letter in *t+1*, 0 otherwise (therefore, referring to financial statements in year *t*). *RES_ACC* is a dummy equal to 1 if the firm had to restate its financial statements for accounting reasons during the year, 0 otherwise; while *RES_FRAUD* is a dummy assuming the value of 1 if the firm had to restate its financial statements because of fraudulent activities during the year, 0 otherwise. Finally, *MW* is a dummy variable assuming the value of 1 if the firm reported severe material internal control weaknesses during the year, 0 otherwise. All regressions include year and industry controls.

See Table 1 for variable definitions.

TABLE 6
Accounting Conservatism (Returns) and Audit Fee measures

Independent Variable	***EPS*** (1)	***EPS*** (2)
RET	-0.372***	-0.294***
	(0.000)	(0.000)
DRET	-0.097***	-0.065***
	(0.000)	(0.001)
RET*DRET	0.514***	0.442***
	(0.000)	(0.000)
YRANK	-0.006**	-0.013***
	(0.013)	(0.008)
YRANK*RET	0.018***	0.045***
	(0.008)	(0.000)
YRANK*DRET	0.004	0.016***
	(0.143)	(0.002)
YRANK*RET*DRET	-0.023***	-0.047***
	(0.003)	(0.001)
WRANK		0.011*
		(0.064)
WRANK*RET		-0.040***
		(0.008)
WRANK*DRET		-0.018***
		(0.004)
WRANK*RET*DRET		0.035**
		(0.037)
LCA	0.107***	0.107***
	(0.000)	(0.000)
LNMVE	0.040***	0.040***
	(0.000)	(0.000)
MA	0.011**	0.012**
	(0.017)	(0.010)
BIG	-0.019	-0.020*
	(0.102)	(0.083)
LEV	-0.149***	-0.148***
	(0.000)	(0.000)
MB	0.002***	0.002***
	(0.003)	(0.003)
LIT	-0.048***	-0.049***
	(0.000)	(0.000)
Constant	-0.095***	-0.117***
	(0.000)	(0.000)
Industry and Year Fixed Effects	Yes	Yes
N	19,583	19,583
R-squared	0.216	0.222

Notes:

1. The table reports regression coefficients and *p*-values (in parentheses) below. These are calculated based on robust standards errors clustered at the firm level, including year and industry fixed effects.

2. The regression model is:

$$\begin{aligned} EPS = {} & \alpha + \beta_1 RET + \beta_2 DRET + \beta_3 RET * DRET \\ & + \beta_4 YRANK + \beta_5 YRANK * RET + \beta_6 YRANK * DRET + \beta_7 YRANK * RET * DRET \\ & + \beta_8 WRANK + \beta_9 WRANK * RET + \beta_{10} WRANK * DRET + \beta_{11} WRANK * RET * DRET \\ & + \beta_{12} LCA + \beta_{13} LMVE + \beta_{14} MA + \beta_{15} BIG + \beta_{16} LEV + \beta_{17} MB + \beta_{18} LIT + \varepsilon \end{aligned}$$

3. See Table 1 for variable definitions.