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Do Abnormally High Audit Fees Impair Audit Quality?

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SUMMARY: This study examines whether and how audit quality proxied by the magnitude of absolute discretionary accruals is associated with abnormal audit fees, that is, the difference between actual audit fee and the expected, normal level of audit fee. The results of various regressions reveal that the association between the two is asymmetric, depending on the sign of the abnormal audit fee. For observations with negative abnormal audit fees, there is no significant association between audit quality and abnormal audit fee. In contrast, abnormal audit fees are negatively associated with audit quality for observations with positive abnormal audit fees. Our findings suggest that auditors' incentives to deter biased financial reporting differ systematically, depending on whether their clients pay more than or less than the normal level of audit fee. Our results are robust to a variety of sensitivity checks.

Keywords: Audit quality, abnormal audit fees, earnings management.

Data availability: Data are publicly available from sources identified in the paper.

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INTRODUCTION

This study examines whether the association between audit fees and audit quality is asymmetric and thus nonlinear in the sense that the association is conditioned upon the sign of *abnormal* audit fees. We define abnormal audit fees as the difference between actual audit fees (i.e., actual fees paid to auditors for their financial statement audits) and the expected, normal level of audit fees. Actual audit fees consist of two parts: (1) normal fees that reflect auditors' effort costs, litigation risk, and normal profits (Simunic 1980; Choi et al. 2008, 2009) and (2) abnormal fees that are specific to an auditor–client relationship (Higgs and Skantz 2006). Normal fees are mainly determined by factors that are common across different clients, such as client size, client complexity, and client-specific risk, while abnormal fees are determined by factors that are idiosyncratic to a specific auditor–client relationship. As noted by Kinney and Libby (2002, 109), abnormal fees "may more accurately be likened by 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.

We expect that the association between abnormal audit fees (i.e., a proxy for economic rents) and audit quality is negative when abnormal audit fees are positive (i.e., when actual audit fees are higher than normal audit fees). This is because excessive audit fees can create incentives for auditors to acquiesce to client pressure for substandard reporting and thus erode audit quality. We expect, however, that the association between fees paid to auditors and audit quality (fee–quality association hereafter) is ambiguous or insignificant when abnormal audit fees are close to zero or negative. This is because auditors have few incentives to compromise audit quality in this case. The preceding discussion leads us to predict that the association between abnormal audit fees and audit quality is asymmetric and nonlinear, depending on whether abnormal audit fees are positive or negative.

Our analysis is aimed at investigating this asymmetric nonlinearity for two major reasons. First, most previous studies on the fee–quality association focused their attention on the effect of non-audit service (NAS) fees on auditor independence and audit quality.[1] As will be further explained in the next section, however, excessively high audit fees can influence auditors' reporting decisions. Moreover, even if auditors are not allowed to provide certain NAS to the same client, as required under the Sarbanes-Oxley Act (SOX) of 2002, audit quality can still be impaired by excessively high audit fees. However, neither regulators nor academics have paid sufficient attention to the effect of excessively high audit fees on audit quality. Second, previous research provides at best mixed evidence on the effect of audit fees on audit quality. For example, Frankel et al. (2002) report that the magnitude of absolute discretionary accruals is negatively associated with the percentile ranks of audit fees, suggesting that auditors are less likely to allow biased financial reporting by high-fee clients than by low-fee clients. Ashbaugh et al. (2003) document, however, that audit fees are insignificantly associated with their measures of discretionary accruals. Given these mixed results, we revisit the issue of the fee–quality association, using an extended set of audit fee data and a different audit fee metric, namely, *abnormal* audit fees instead of actual audit fees. As in previous studies on the fee–quality association, we measure audit quality using the magnitude of (unsigned and signed) discretionary accruals.

Briefly, our regression results reveal the following. The proxy for audit quality is insignificantly associated with abnormal audit fees for our total sample of client firms with both positive and negative abnormal audit fees. This result is consistent with the findings in prior studies that use a similar method (e.g., Ashbaugh et al. 2003; Chung and Kallapur 2003;

[1] Since the Enron debacle and the subsequent collapse of Andersen, many studies have examined whether the provision of NAS by the incumbent auditor to the same client impairs auditor independence and thus lowers audit quality in the context of earnings management (e.g., Frankel et al. 2002; Ashbaugh et al. 2003; Chung and Kallapur 2003; Larcker and Richardson 2004), restatements of financial statements (e.g., Kinney et al. 2004; Raghunandan et al. 2003), the propensity to issue going-concern opinions (e.g., Craswell et al. 2002; DeFond et al. 2002), and news-dependent conservatism (Ruddock et al. 2006).

Reynolds et al. 2004). Second, when we split total observations into those with positive abnormal fees and those with negative abnormal fees, the results change dramatically. When the abnormal fees are positive, the magnitude of absolute discretionary accruals (an inverse measure of audit quality) is positively associated with abnormal fees, suggesting a negative relation between audit quality and positive abnormal fees. In contrast, the association is insignificant when the abnormal fees are negative. These findings imply that positive and negative abnormal fees create different incentive effects: For clients with positive abnormal fees, auditors are more likely to acquiesce to client pressure as abnormal audit fees increase, whereas for clients with negative abnormal fees, auditors are unlikely to compromise audit quality. Finally, in contrast to our findings on the asymmetric association between abnormal audit fees and audit quality, we find no significant, comparable relation when abnormal NAS fees or abnormal total fees (i.e., sum of audit and NAS fees) are used as a measure of auditor–client economic bond in lieu of abnormal audit fees. This is in line with the findings of previous studies that report an insignificant relation between NAS or total fees and audit quality (e.g., Ashbaugh et al. 2003; Chung and Kallapur 2003).

Our study adds to the existing literature in the following ways. First, to our knowledge, this is the first study to document evidence that the effect of abnormal audit fees on audit quality is asymmetric, conditional upon the sign of abnormal audit fees[2] and that excessively high audit fees can impair auditor independence even when the provision of NAS to the same audit client is prohibited. Second, if the association between unsigned discretionary accruals and abnormal fees is positive for the subsample of clients with positive abnormal fees and insignificant for the subsample of clients with negative abnormal fees, examining the fee–

[2] Some prior studies examine the association between abnormal (audit, non-audit, or total) fees and audit quality or earnings response coefficient (e.g., DeFond et al. 2002; Higgs and Skantz 2006; Krishnan et al. 2005). However, none of them investigate the asymmetric association for samples of positive and negative abnormal fees except for Higgs and Skantz (2006) and Krishnan et al. (2005). These two exceptional studies, however, are related to "independence in appearance" rather than "independence in fact," which is the main concern of this study.

quality association with no reference to the sign of abnormal audit fees most likely leads us to observe the insignificant associations as reported in most previous studies. This is because the two opposing effects can cancel out each other when the two distinct subsamples are combined. Our findings suggest that future research on similar issues should take into account the asymmetric effect of abnormal audit fees on audit quality.

As for many other studies examining the fee–quality association, our results should be interpreted cautiously. We consider an augmented normal audit fee estimation model to better isolate abnormal audit fees from normal ones. We use two different measures of discretionary accruals to address potential errors associated with their measurement. Nevertheless, one cannot completely rule out the possibility that our results are potentially driven by measurement errors involved in our test variable (i.e., abnormal audit fees) and/or our dependent variable (i.e., discretionary accruals). In particular, our finding of a positive association between the magnitude of absolute discretionary accruals and positive abnormal audit fees may stem from the fact that auditors exert greater effort to audit more complex firms that are likely to have higher absolute discretionary accruals, and thus, audit fees charged to these firms are higher than the normal fee level. To alleviate a concern about this possibility, we control for client complexity when measuring abnormal audit fees.[3] Nevertheless, one cannot rule out the remaining effect of uncontrolled complexity on our results. We note, however, that the above possibility cannot explain why the effect of abnormal audit fees on the magnitude of absolute discretionary accruals is significantly positive only for firms with positive abnormal fees, but the effect is not present for firms with negative abnormal accruals.

[3] We include several variables (e.g., *NBS*; *NGS*; *INVREC*; *FOREIGN*; *EXORD; PENSION*) to control for complexity in the normal audit fee expectation model. A better way to isolate the complexity-related argument from the economic rent-related argument is to control for audit hours (as a proxy for audit effort) when examining the fee-quality relation. However, data on audit hours are not available to us.

The remainder of the paper is structured as follows: The next section explains abnormal audit fees and why the abnormal audit fee–audit quality relation is conditioned upon the sign of abnormal audit fees. The third section describes our empirical procedures. The fourth section describes the sample and the data and presents the results of univariate analyses. The fifth section reports the results of multivariate regressions. The sixth section conducts further analyses, including a variety of sensitivity tests. The final section summarizes the paper and presents our conclusions.

THEORETICAL DEVELOPMENT

Do Abnormal Audit Fees Better Capture the Auditor–Client Economic Bond?

In competitive markets for audit services, the fees paid to auditors reflect their effort costs and litigation risk (Simunic 1980; Choi et al. 2008, 2009). Differences in actual fees observed across clients will mainly reflect differences in effort costs and client-specific risk. Actual fees are thus limited in capturing the extent of the auditors' economic bond to a client. The use of actual fees as a measure of bonding can introduce nontrivial measurement errors in the regression of the fees on audit quality unless cross-sectional differences in effort costs and litigation risk are appropriately controlled for. It is possible that the insignificant associations between audit quality and various fee metrics documented by previous research are driven by this limitation rather than by the lack of an underlying relation.

In addition, even though some previous studies use abnormal fee metrics as well as actual fee metrics when examining the fee–quality association, they perform analyses using a sample combining clients with positive abnormal fees and negative abnormal fees (e.g., DeFond et al. 2002; Huang et al. 2007; Larcker and Richardson 2004). If the significant fee–quality relation is conditioned upon the *sign* of abnormal fees, one can observe an insignificant relation for this pooled sample due to a possible cancellation effect caused by the asymmetric relation between the two subsamples. We therefore predict that *abnormal audit fees are not significantly associated with audit quality when the association between the two is not conditioned upon the sign of abnormal audit fees.*

The Sign of Abnormal Audit Fees and the Asymmetric Effect on Audit Quality

In a broad sense, abnormal audit fees can be viewed as what DeAngelo (1981) called "client-specific quasi-rents." The existence of (positive) client-specific quasi-rents creates an incentive for the auditor to compromise independence with respect to a specific client (DeAngelo 1981; DeFond et al. 2002; Chung and Kallapur 2003). Dye (1991) also analytically shows that audit quality is impaired when auditors are overpaid.

When the auditor receives unusually high audit fees from a client (i.e., abnormal audit fees are positive), the auditor can allow the client to engage in opportunistic earnings management.[4] This is because, for clients with positive abnormal fees, the benefits to the auditor from acquiescing to client pressure for opportunistic earnings management can outweigh the associated costs (e.g., increased litigation risk, loss of reputation).[5] We therefore predict that *for clients with positive abnormal audit fees, abnormal audit fees are positively associated with the magnitude of discretionary accruals.*

On the other hand, when the audit fees are lower than normal (i.e., abnormal audit fees are negative), one can expect the following three possibilities. First, for clients with negative abnormal audit fees, auditors have few incentives to compromise audit quality by

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[4] For example, Kinney and Libby (2002) explain that Enron's actual audit fee in year 2000 was 250% of the estimated normal audit fee. They suggest that abnormal fees are a very good measure for estimating the degree of the economic bond between the auditor and the client compared with other measures used in prior literature.

[5] In contrast, Higgs and Skantz (2006) argue that abnormally high fees can represent a firm's intention to signal high earnings quality by purchasing more audit services than expected. They find evidence supporting that the earnings response coefficient (ERC) is higher for firms with positive abnormal fees than for those with negative abnormal fees. This argument is in sharp contrast to the concern of the U.S. Securities and Exchange Commission over excessive fees. In addition, Krishnan et al. (2005) use almost the same methods but report that firms with high abnormal non-audit fees have smaller ERCs, in contradiction with the findings of Higgs and Skantz (2006). Because of this inconsistency in the two ERC studies, we do not formally introduce them into the formulation of our research questions.

acquiescing to client pressure for substandard reporting.[6] This is because the benefit to auditors from retaining these unprofitable (or only marginally profitable) clients is not great enough to cover the expected costs associated with substandard reporting. One can therefore expect to observe an insignificant or, at best, weak association between abnormal audit fees and the magnitude of discretionary accruals for clients with negative abnormal fees. Second, it is also possible that the more negative the abnormal audit fees, the lower the incentives for auditors to compromise independence and the higher the audit quality (or the smaller the magnitude of discretionary accruals). In such a case, one can observe a *positive* association between abnormal audit fees and discretionary accruals for clients with negative abnormal audit fees (i.e., there are no asymmetric effects of positive versus negative abnormal fees on audit quality). Third, when auditors bear low audit fees in anticipation of high audit fees from future profitable engagements (and thus abnormal audit fees are negative in the current period), auditors can be vulnerable to client pressure for allowing biased financial reporting. To the extent that the discounting of current fees harms auditor independence, one expects to observe a significantly negative association between abnormal fees and the magnitude of discretionary accruals for clients with negative abnormal fees.[7]

Given the three previous possibilities on the effect of negative abnormal audit fees on audit quality, it is an empirical question whether the association between (negative) abnormal fees and discretionary accruals is positive, negative, or insignificant for clients with negative discretionary accruals. We therefore have no directional prediction on this association.

[6] If no client-specific quasi-rents are expected from a given client, an auditor is indifferent to termination of the audit contract as long as perfect substitute clients exist; consequently the auditor has no economic incentive to conceal a discovered breach. In this case, the auditor is perfectly independent with respect to that particular client (DeAngelo 1981).

[7] Sankaraguruswamy and Whisenant (2005), among others, provide evidence of auditors' initial fee discount behavior. A common view in the literature is that auditors expect future fees to rise. Please note that the literature on audit quality, however, has shown that neither discounting nor low-balling necessarily impairs audit quality.

EMPIRICAL PROCEDURES

Measurement of Abnormal Audit Fees

To decompose an actual audit fee into two components, that is, the expected component, which we call the *normal* audit fee, and the unexpected component, which we call the *abnormal* audit fee, we need to specify an audit fee expectation model. Building upon the extant literature on audit fee determinants (e.g., Chaney et al. 2004; Craswell et al. 1995; DeFond et al. 2002; Sankaraguruswamy and Whisenant 2005; Whisenant et al. 2003), we posit the following model:

$$\begin{aligned} AFEE_{jt} = {} & \alpha_0 + \alpha_1 LNTA_{jt} + \alpha_2 NBS_{jt} + \alpha_3 NGS_{jt} + \alpha_4 INVREC_{jt} + \alpha_5 EMPLOY_{jt} \\ & + \alpha_6 ISSUE_{jt} + \alpha_7 FOREIGN_{jt} + \alpha_8 EXORD_{jt} + \alpha_9 LOSS_{jt} + \alpha_{10} LOSSLAG_{jt} \\ & + \alpha_{11} LEVE_{jt} + \alpha_{12} ROA_{jt} + \alpha_{13} LIQUID_{jt} + \alpha_{14} BIG4_{jt} + \alpha_{15} SHORT\_TEN_{jt} \\ & + \alpha_{16} BTM_{jt} + \alpha_{17} CHGSALE_{jt} + \alpha_{18} PENSION_{jt} + \alpha_{19} REPORT\_LAG_{jt} \\ & + \alpha_{20} RESTATE_{jt} + \alpha_{21} REPORTABLE_{jt} + Industry \,\&\, YearDummies + errorterm \end{aligned} \qquad (1)$$

where, for client firm *j* in year *t,* the variables are defined in the Appendix.

The demand for audit services is likely to increase with firm size, leading to a positive association between firm size and audit fees. We include *LNTA* and *EMPLOY* to control for client size. Audit fees are likely to be higher for clients with more complex business operations. We include the variables *NBS, NGS*, *INVREC, FOREIGN*, and *EXORD* to proxy for client complexity. All the coefficients of the aforementioned variables are expected to be positive (Simunic 1980; Choi et al. 2008).

In Eq. (1), we include *LOSS*, *LOSSLAG*, *LEVE*, *LIQUID,* and *ROA* to proxy for a client's risk characteristics. Since auditors charge higher fees for risky clients (Simunic and Stein 1996), we predict that the coefficients of *LOSS*, *LOSSLAG,* and *LEVE* are positive whereas those of *ROA* and *LIQUID* are negative. We include *BIG4* to capture the effect of audit quality differentiation on audit fees. A positive coefficient of *BIG4* means the existence of fee premiums for high-quality auditors, namely, the Big 4. The *SHORT_TEN* variable is included to control for fee discounting at initial audit engagements (Sankaraguruswamy and Whisenant 2005). Firms involved in equity and debt offerings are in a greater need of audit services (Reynolds et al. 2004). In addition, the demand for audit services is greater for high-growth firms than for low-growth firms (Choi and Wong 2007). To control for these effects, we include *ISSUE, CHGSALE,* and *BTM* (an inverse measure of growth potential). Following Sankaraguruswamy and Whisenant (2005) and Whisenant et al. (2003), we add three indicator variables, *PENSION, RESTATE*, and *REPORTABLE*, which represent the existence of pension or post-retirement plans,[8] accounting restatements, and reportable events or disagreements between auditors and client firms, respectively. We also include the reporting lag (*REPORT_LAG*), measured by the number of days between annual earnings announcement dates and fiscal year ends. Finally, we include 12 industry indicator variables as used by Frankel et al. (2002) and year indicator variables to control for industry and yearly differences.

Using the estimated coefficients of the variables included in Eq. (1), we compute the fitted values of the audit fee (*AFEE*) and use them as "normal audit fees." We then measure abnormal audit fees (*ABAFEE*) by measuring the differences between *AFEE* and normal audit fees.[9] In our main analysis, we estimate Eq. (1) using a pooled sample of 9,815 firm-years over the four-year period 2000–2003.

We also consider alternative methods for estimating Eq. (1) as part of our sensitivity checks: First, we estimate Eq. (1) for each year after deleting the year dummy variables. Second, we estimate the model in each industry without industry dummies from Eq. (1). Third, we use the previous year's data to estimate the expected fee model in order to perform

[8] The existence of a pension or post-retirement plan is defined whether current fiscal year plan assets or costs are greater than US$1 million or not.

[9] Alternatively, we compute the dollar values of abnormal fees as the differences between the actual dollar values of audit fees and the normal dollar values of audit fees after converting the estimated logged normal fees into their respective dollar values (by using the exponential function to convert logged values to actual values). These dollar values of abnormal fees are highly correlated with our original measures and yield almost identical empirical results. Thus, we do not separately report these results here for brevity.

out-of-sample predictions. Finally, we consider a percentage measure of abnormal fees (instead of the level measure), that is, abnormal audit fees deflated by actual audit fees, as the dependent variable. Though not reported here for brevity, these alternative estimations do not alter our test results.

Measurements of Discretionary Accruals

We use discretionary accruals (*DA*) as a proxy for audit quality because it captures the quality of accounting information in a more general sense, whereas other measures such as audit opinion or accounting fraud are only related to a few extreme situations (Myers et al. 2003). In this paper, we consider two different measures of *DA*: (1) discretionary accruals using the model of Ball and Shivakumar (2006), which controls for the asymmetric timeliness of accruals in recognizing economic gain and loss, and (2) discretionary accruals obtained by applying the performance-adjusted modified Jones model (Kothari et al. 2005). We denote the first and second measures of *DA* by *DA1* and *DA2*, respectively.

To illustrate how we obtain the two measures of *DA*, consider the model of Ball and Shivakumar (2006) and the modified Jones model (Dechow et al. 1995) in Eqs. (2) and (3), respectively:

$$\begin{aligned} ACCR_{jt}/A_{jt-1} = {} & \beta_1[1/A_{jt-1}] + \beta_2[(\Delta REV_{jt} - \Delta REC/A_{jt-1}] + \beta_3[PPE_{jt}/A_{jt-1}] \\ & + \beta_4[CFO_{jt}/A_{jt-1}] + \beta_5 DCFO_{jt} + \beta_6[(CFO_{jt}/A_{jt-1}) * DCFO_{jt}] \\ & + \varepsilon_{jt} \end{aligned} \qquad (2)$$

$$ACCR_{jt}/A_{jt-1} = \alpha_1[1/A_{jt-1}] + \alpha_2[(\Delta REV_{jt} - \Delta REC_{jt})/A_{jt-1}] + \alpha_3[PPE_{jt}/A_{jt-1}] + \varepsilon_{jt} \qquad (3)$$

where, for firm *j* in year *t* (or *t* - 1), *ACCR* denotes total accruals (income before extraordinary items minus cash flow from operations); *A,* Δ*REV,* Δ*REC,* and *PPE* represent total assets, changes in net revenue, changes in receivables, and gross property, plant, and equipment, respectively; *CFO* represents cash flow from operations; *DCFO* is a dummy variable that equals 1 if *CFO* is negative and 0 otherwise[10]; and ε is an error term. We estimate the Eqs. (2) and (3) for each two-digit SIC code industry and year, with a minimum of 20 observations.

Our first measure of *DA* (i.e. *DA1*) is computed as follows. We first estimate Eq. (2) for each two-digit SIC code industry in each year. The *DA1* is the difference between actual total accruals deflated by lagged total assets and the fitted values of Eq. (2). Our second measure of discretionary accruals (i.e., *DA2*) is computed as follows. For each two-digit SIC code industry in each year, we estimate the modified Jones model (Dechow et al. 1995) in Eq. (3), using cross-sectional observations. Residuals from Eq. (3) are our measure of *DA* before adjusting for firm performance. We match each firm-year observation with another from the same two-digit SIC code and year with the closest *ROA* in the previous year. We then compute performance-adjusted discretionary accruals, namely, *DA2*, by taking the difference between the original *DA* and the matched firm's *DA* (Kothari et al. 2005).[11]

Model for the Association between Abnormal Audit Fees and Audit Quality

To examine the association between abnormal audit fees and audit quality and whether it is asymmetric between clients with positive versus negative abnormal audit fees, we posit the following model that links the magnitude of unsigned or signed discretionary accruals with our test variable, namely, abnormal audit fees (*ABAFEE*) and other control variables:

$$\begin{aligned}|DA| \text{ or } DA = {} & \beta_0 + \beta_1 \, POS\_ABAF + \beta_2 \, ABAFEE + \beta_3 \, (POS\_ABAF*ABAFEE) \\ & + \beta_4 \, LNTA + \beta_5 \, BIG4 + \beta_6 \, BTM + \beta_7 \, CHGSALE + \beta_8 \, LOSS \\ & + \beta_9 \, LEVE + \beta_{10} \, ISSUE + \beta_{11} \, AUDCHG + \beta_{12} \, CFO \qquad (4)\end{aligned}$$

[10] Note here that *DCFO* serves as a proxy for economic loss. Similar to Ball and Shivakumar (2006), we consider alternative proxies for economic loss, that is, the indicator variable that has a value of 1 for $\Delta CFO < 0$, industry median-adjusted $CFO < 0$, or excess annual return (annual return minus annual market return) < 0 and a value of 0 otherwise. Though not reported here, the use of these alternative proxies for economic loss leads to results similar to those shown when we use *DCFO* as a proxy.

[11] We repeat all the tests in this study with the performance-unadjusted discretionary accrual measure, but the (untabulated) results are qualitatively identical to those using the performance-adjusted measure. Kasznik's (1999) method for adjusting for firm performance does not alter our results either.

$$+ \beta_{13}\, LAGACCR + \beta_{14}\, STD\_CFO + \beta_{15}\, STD\_REV$$
$$+ \textit{ industry and year dummies } + \textit{ error term}$$

where, for each firm and in each year (the firm and year subscripts subsumed), |*DA*| (*DA*) denotes the magnitude of unsigned (signed) discretionary accruals. All the other variables are defined in the Appendix.

Previous research shows that large firms tend to have more stable and predictable operations and hence report a lower level of discretionary accruals than small firms (e.g., Dechow and Dichev 2002). In Eq. (4), we include *LNTA* to control for this size effect. Evidence shows that Big 4 auditors are more effective than non-Big 4 auditors in constraining managers' abilities to manage earnings (Becker et al. 1998; Francis et al. 1999) and we include *BIG4* to control for this effect. We include *BTM* and *CHGSALE* to control for the potential effects of firm growth on the extent of earnings management. The loss indicator (*LOSS*) is added to control for potential differences in earnings management behavior between loss and profit firms. Firms with high leverage can have incentives to boost reported earnings due to their concerns over debt covenant or private lending agreement violations (Becker et al. 1998; DeFond and Jiambalvo 1994) and *LEVE* is therefore included to control for this effect. Ashbaugh et al. (2003) and Kim et al. (2003), among others, find that firms involved in financing transactions tend to engage in earnings management more aggressively than those that are not. We include *ISSUE* to control for the effect. We also include *AUDCHG* because auditor change is related to the magnitude of discretionary accruals (DeFond and Subramanyam 1998).

Discretionary accruals are positively correlated with firm performance (Kasznik 1999; Kothari et al. 2005) and it is therefore important to control for the effect of firm performance on discretionary accruals. We include *CFO* in Eq. (4) to address this problem. We include lagged total accruals (*LAGACCR*) to control for variations in the reversal of accruals over time. *STD_CFO* and *STD_REV* are included because Hribar and Nichols (2007) suggest that using absolute discretionary accruals as the dependent variable potentially biases the test in favor of rejecting the null hypothesis of no earnings management and that adding these two volatility measures as additional controls substantially improves test specifications. Finally, we include industry and year dummies to control for possible variations in accounting standards and regulations across industries and over years.

SAMPLE, DATA, AND UNIVARIATE ANALYSIS

Sample and Data Sources

We obtain audit (and non-audit) fee data from the Compustat audit fees file. We retrieve all other financial data from the Compustat Industrial Annual File. After extracting information on auditor identity and auditor changes from Compustat, we verify its accuracy by referring to the information recorded in actual 10-K or 8-K reports.[12] The sample period for this study is restricted to the four-year period from 2000 to 2003. It begins in 2000 because Compustat includes audit and non-audit fee data from 2000 and it ends in 2003 because the adoption of Section 404 of the SOX by accelerated filers in 2004 introduces unnecessary noise in the measurement of abnormal audit fees.[13] We exclude 2,081 firm-year observations for financial institutions and utilities, their SIC codes being 6000–6999 and 4900–4999, respectively. Our full sample, which has all the data required for our main analysis (which excludes *STD_CFO* and *STD_REV*), consists of 9,815 firm-years over the four-year sample period (1,641, 2,881, 3,004, and 2,289 for fiscal years 2000, 2001, 2002,

[12] In case of discrepancies between the Compustat file and the 10-K and 8-K reports, we rely on the information recorded in the latter. We also retrieve the information on *RESTATE* and *REPORTABLE* from 10-K and 8-K reports.

[13] Anecdotal evidence indicates that there was a substantial increase in audit fees in 2004 for accelerated filers (U.S. public firms with market float higher than $75 million) due to compliance with Section 404. Furthermore, Raghunandan and Rama (2006) find that the audit fees in 2004 were significantly higher for clients with internal control weakness.

and 2003, respectively). We also construct a reduced sample of 7,061 observations that meet the data requirements for computing two additional variables, *STD_CFO* and *STD_REV.* As will be further explained in the following section, we estimate our main regression in Eq. (4) with and without these two variables.

Descriptive Statistics

With respect to the descriptive statistics presented in Table 1, it is worth noting the following. First, the magnitude of unsigned discretionary accruals for our sample firms is, on average, about 12 and 16% of lagged total assets when *DA1* and *DA2,* respectively, are used. These mean values are significantly larger than the median values, suggesting that the *DA* distributions are skewed. As expected, the mean value of signed discretionary accruals is close to zero. Second, the *AFEE* variable, which is the natural log of audit fees in thousands of dollars, and the *LNTA* variable are reasonably distributed. Third, on average, nearly 43% of our sample firms were involved in substantial capital-raising during the last three-year period, while about 45% of them pay income taxes for their business operations in non-U.S. tax jurisdictions. Fourth, on average, 44% (42%) of our samples experienced a loss in the current (prior) fiscal year and 86% of them had their financial statements audited by one of the Big 4 auditors. Fifth, nearly 26% of firms had a pension or post-retirement plan, 4% of firms restated their financial statements during the current year, and 0.87% of them had reportable events. Finally, the distributional properties of other variables are, overall, comparable to those reported in other related studies (e.g., Frankel et al. 2002; Ashbaugh et al. 2003; Chung and Kallapur 2003; Sankaraguruswamy and Whisenant 2005).[14]

[INSERT TABLE 1 ABOUT HERE!]

Estimation of the Normal Audit Fee Model

[14] Note in Table 1 that the descriptive statistics for all variables except *STD_CFO* and *STD_REV* are computed using the full sample of 9,815 observations, while those for *STD_CFO* and *STD_REV* are computed using the reduced sample of 7,061 observations.

Table 2 reports the regression results for our audit fee model. The *t* values are presented on an adjusted basis, using robust standard errors corrected for heteroskedasticity and firm-level clustering (Petersen 2009). As shown in Table 2, the explanatory power of the model is about 81%, suggesting that our audit fee determinants, taken as a whole, explain a significant portion of the variations in audit fees.[15] Moreover, all individual coefficients for our fee determinants in Eq. (1), except for *ISSUE* and *CHGSALE,* are highly significant with predicted signs. In short, the regression results in Table 2 strongly suggest that the estimated parameters of our audit fee model can be used reliably for estimating normal audit fees.

[INSERT TABLE 2 ABOUT HERE!]

Using the estimated coefficients of our audit fee model in Table 2, we compute the fitted values of audit fees, that is, our measure of normal audit fees. We then obtain the abnormal audit fee (*ABAFEE*) as the difference between *AFEE* and normal audit fees. Among 9,815 observations, 4,909 observations are classified as having positive values of *ABAFEE*, whereas the remaining 4,906 observations are classified as having negative values of *ABAFEE*. The mean or median value of *ABAFEE* is zero and the first and third quartile breaks are -0.3120 and 0.3139, respectively, which suggests that the interquartile range is 0.6259. When we convert the log value into the dollar value and the normal audit fee is set as its mean value of $277,078, the interquartile range is $176,435.[16]

Correlation Matrix

[15] Our model provides a relatively higher explanatory power than the models used in prior studies. For comparison, the explanatory powers of the study of Ashbaugh et al. (2003) are 60% for audit fees and 72% for the total fee model. Larcker and Richardson (2004) determine their audit fees at 75% and Sankaraguruswamy and Whisenant's (2005) are between 80 and 81%. We also try cross-sectional industry-specific estimations for the model, which result in even higher explanatory powers for some industries (76–88%). However, because the final results for Eq. (4) using the abnormal audit fees from these industry-specific estimations are almost identical to those reported in this study, we have decided not to tabulate or explain the results separately.

[16] If we use deflated values of abnormal fees, the abnormal fees are 71% (135%) of actual audit fees at the first (third) quartile break.

Table 3 presents the Pearson correlation matrix for the research variables included in Eq. (4), except for *STD_CFO* and *STD_REV*. Our measures of absolute discretionary accruals (i.e., |*DA1*| and |*DA2*|) are highly correlated with each other (ρ = 0.58). The two signed measures of discretionary accruals (i.e., *DA1* and *DA2*) are also highly correlated (ρ = 0.52). *ABAFEE* is not significantly correlated to either |*DA1*|, |*DA2*|, or *DA2*, but positively correlated with *DA1*. In addition, most of the control variables in Eq. (4) are significantly related to our discretionary accrual measures, suggesting the need to control for their effects in the multivariate analyses. For example, smaller firms, clients of non-Big 4 auditors, firms with low book-to-market ratio, firms with high sales changes, loss firms, highly levered firms, issuing firms, firms that change auditors, firms with low cash flow, and firms with low lagged total accruals are associated with a high level of unsigned discretionary accruals.

In Table 3, we do not report the correlations of *STD_CFO* and *STD_REV* with the other variables because, as explained earlier, these two variables are measured using the reduced sample of 7,061 firm-years. With respect to the correlations statistics using this reduced sample, we find that *STD_CFO* and *STD_REV* are highly correlated with each other (ρ = 0.4116) and not highly correlated with most other control variables, with the highest correlation being -0.36 between *LNTA* and *STD_CFO*.

With respect to the structure of correlations among our explanatory variables, it is worth noting the following. First, firm size (*LNTA*) is significantly correlated with *BIG4*, *LOSS*, and *CFO,* with ρ = 0.43, -0.33, and 0.34, respectively. This suggests that large firms are more likely to hire one of the Big 4 auditors and to have greater cash flows from operations while they are less likely to incur a loss, compared with small firms. Finally, except for the three previous ones, the correlation coefficients for the other pairs of variables are not large. Overall, the correlation statistics shown in Table 3 indicate that the results of our multivariate regressions are unlikely to suffer from multicollinearity problems.[17]

[INSERT TABLE 3 ABOUT HERE!]

Univariate Analysis

As shown in Table 3, for our full sample, the abnormal audit fee metric (*ABAFEE*) is insignificantly associated with our measure of unsigned discretionary accruals (i.e., |*DA1*| and |*DA2*|) and correlated with only one measure of signed discretionary accruals (i.e., *DA1*). To further examine if this association differs systematically between clients with positive abnormal fees and those with negative abnormal fees, we plot the mean |*DA*| against *ABAFEE,* with |*DA*| in the vertical axis and *ABAFEE* in the horizontal axis, as illustrated in Figure 1. In so doing, we group the *ABAFEE* observations into 14 intervals, which consist of 12 intervals with the same interval range of 0.15 from -0.9 to 0.9 and two additional intervals into which all observations with *ABAFEE* < -0.9 (leftmost side in Figure 1) and *ABAFEE* > 0.9 (rightmost side in Figure 1) are assigned. We then compute the mean value of |*DA*| for observations belonging to each interval and plot the |*DA*| values against the mid-point of *ABAFEE* for each interval.[18] We do not report the distributions of our signed discretionary accrual measures (i.e., *DA1* and *DA2*) separately because we fail to find any significant trends in their distributions.

[INSERT FIGURE 1 ABOUT HERE!]

As illustrated in Figure 1, the magnitude of absolute discretionary accruals increases as *ABAFEE* increases from zero; however, there is no clear trend when *ABAFEE* decreases from zero. Overall, the association is much stronger for clients with positive abnormal fees

[17] In performing regression analyses, we measure the variance inflation factor (VIF) values to examine potential multicollinearity problems. Though not reported, none of the VIF values are high enough to cause such a problem.

[18] We calculate the mean values after removing a few outliers with |*DA*| > 1 to remove their undue influence.

than for those with negative abnormal fees, suggesting that the association between abnormal audit fee and audit quality is conditioned upon the sign of abnormal audit fees.[19]

We compare client characteristics between the subsamples with *ABAFEE* > 0 and with *ABAFEE* < 0 to see if any systematic differences exist between the two. Though not tabulated here for brevity, we find that firms with positive abnormal audit fees are slightly larger (in terms of *LNTA*) than the firms with negative abnormal fees (12.29 versus 12.17, *t* = 2.98). However, they are not significantly different in terms of *ROA* (-0.09 versus -0.10, *t* = 0.27), *LEVE* (0.48 versus 0.48, *t* = 0.51), *LOSS* (0.44 versus 0.45, *t* = -0.94), *CFO* (0.01 versus 0.01, *t* = -0.12), or Zmijewski's (1984) financial distress score (-1.06 versus –1.00, *t* = -0.74). We also conduct Wilcoxon's z test for median differences between the two subsamples and find that the results of these nonparametric tests are in line with those of parametric t tests. The only exception is that the median difference in *LNTA* is insignificant (*z* = 1.51). In short, we find no evidence suggesting that clients with positive abnormal fees differ systematically from those with negative abnormal fees in terms of their risk characteristics and operating performance.

Similarly, because Figure 1 suggests that the results are mostly driven by those firms with a relatively high value of *ABAFEE*, we divide the observations having positive *ABAFEE* into two subsamples based on the median value of *ABAFEE* (0.31) and compare several firm characteristics among the two subsamples. We find that firms with above-median positive *ABAFEE* are larger than those with below-median positive *ABAFEE* (12.41 versus 12.17, *t* = 3.86, *z* = 3.24). Except for firm size, however, both the t and Wilcoxon z tests show no

[19] Although not tabulated here for simplicity, we perform both the t test and the Wilcoxon z test to compare the values of the absolute discretionary accruals depending on the level of *ABAFEE*. If we divide the subsample firms with positive *ABAFEE* into two groups based on the median value of *ABAFEE* (0.31), the two groups show significant differences in the magnitude of the absolute discretionary accruals. If we divide the subsample firms into four groups based on quartile value, the difference between the first and fourth quartiles is also significant. In contrast, when we perform similar tests with the subsample firms with negative *ABAFEE*, there are no statistical differences in any comparisons. These univariate results provide evidence corroborating the asymmetry of the fee–quality relation, depending on the sign of abnormal audit fees.

significant difference in *ROA*, *LEVE*, *LOSS*, *CFO,* or Zmijewski's (1984) financial distress score between the two subsamples. This suggests that the asymmetric effect of abnormal audit fees on audit quality conditional upon the sign of the abnormal audit fees, depicted in Figure 1, is unlikely to be driven by differences in such firm characteristics as risk and profitability between firms with relatively high positive *AFAFEE* and those with relatively low positive *ABAFEE.*

RESULTS OF MULTIVARIATE TESTS

We first estimate Eq. (4) using the full sample of 9,815 firm-years, which includes observations with both positive and negative abnormal fees. Sections A and B of Table 4 show the regression results using *DA1* and *DA2*, respectively, as the dependent variable. In both of the sections, the first three columns use *unsigned* (absolute) discretionary accruals as the dependent variable while the last column uses *signed* discretionary accruals. Throughout this paper, reported t values are on an adjusted basis, using robust standard errors corrected for heteroskedasticity and firm-level clustering (Petersen 2009).

As shown in columns (1a) and (1b), when Eq. (4) is estimated without reference to the sign of abnormal audit fees (i.e., without including *POS_ABAF* and *POS_ABAF*ABAFEE*), the coefficient of *ABAFEE* is insignificant, consistent with our prediction. This insignificant coefficient of *ABAFEE* is in line with the findings of Ashbaugh et al. (2003), who report an insignificant (or weakly significant) coefficient for their audit fee metric, whereas it is inconsistent with the findings of Frankel et al. (2002). Note that neither study subjects its analyses to the sign of abnormal audit fees.

As shown in the last three columns of Sections A and B of Table 4, when Eq. (4) is estimated after including *POS_ABAF* and *POS_ABAF*ABAFEE* (i.e., the effect on the audit quality is conditioned on the sign of abnormal audit fees), we find the results to be strikingly different from those reported in columns (1a) and (1b). In both columns (2a) and (2b), the coefficients of *ABAFEE* are insignificant but the coefficients of the interaction term, *POS_ABAF*ABAFEE,* are significant at less than the one percent level. Note here that the coefficient of *ABAFEE* captures the marginal effect of abnormal audit fees on audit quality for client firms with negative abnormal fees, while the sum of the coefficients of *ABAFEE* and *POS_ABAF*ABAFEE* captures the same effect for those with positive abnormal fees.

Since the results reported in columns (2a) and (2b) are qualitatively identical, let us discuss the results reported in column (2a) as an example. The coefficient of *ABAFEE* is insignificant (0.0376, t = -1.60), indicating that the marginal effect of abnormal audit fees on absolute discretionary accruals is insignificant for firms with *ABAFEE* < 0. This suggests that abnormal audit fees have no significant impact on audit quality for client firms with negative abnormal audit fees. In contrast, the coefficient of *POS_ABAF*ABAFEE* in column (2a) is significantly positive (0.0655, t = 2.57). Furthermore, the sum of the coefficients of *ABAFEE* and *POS_ABAF*ABAFEE* is 0.0279 (= -0.0376 + 0.0655), which is significantly different from zero (F = 5.45, p = 0.0197). These results are consistent with our prediction that the association between abnormal audit fees and audit quality is asymmetric and nonlinear, depending on the sign of abnormal audit fees. The results support the view that abnormally high audit fees (or positive abnormal fees) can create incentives for auditors to acquiesce to client pressure for substandard reporting and thus erode audit quality, while abnormally low audit fees (or negative abnormal fees) do not.

Columns (3a) and (3b) of Table 4 show the results of regressions with *STD_CFO* and *STD_REV* included, as suggested by Hribar and Nichols (2007). Note that the regressions are estimated using a reduced sample of 7,061 firm-years. We find that these reduced-sample results in columns (3a) and (3b) are qualitatively identical to the full-sample results in columns (2a) and (2b). In column (3a), for example, the coefficient of *ABAFEE* is insignificant (-0.0175, *t* = -1.64), the coefficient of *POS_ABAF*ABAFEE* is significantly positive (0.0406, *t* = 2.44), and the sum of the coefficients of *ABAFEE* and *POS_ABAF*ABAFEE* is significantly different from zero (F = 3.30, p = 0.0693).

As presented in columns (4a) and (4b), when Eq. (4) is estimated using signed discretionary accruals as the dependent variable, the coefficients of both *ABAFEE* and *POS_ABAF*ABAFEE* are insignificant or, at best, marginally significant. Furthermore, we find that the sum of these two coefficients is insignificant as well in both columns. To obtain more insight into these results, we partition our sample with positive abnormal fees into two subsamples: (1) one with income-increasing accruals (denoted as the DA^{+} subsample) and (2) the other with income-decreasing accruals (denoted as the DA^{-} subsample). We then re-estimate Eq. (4) for each subsample. In so doing we apply the truncated regression procedure because the dependent variable is truncated at zero (Chen et al. 2008). Though not tabulated here, when *DA1* is used as the dependent variable, the coefficient of *POS_ABAF*ABAFEE* is significantly positive (0.1045, z = 1.80) for the DA^{+} subsample while it is significantly negative (-0.1310, z = -2.16) for the DA^{-} subsample.[20] These results suggest that as positive abnormal fees increase, auditors tend to allow more earnings management, irrespective of whether its direction is income increasing or income decreasing; it appears that the direction of earnings management associated with positive abnormal fees is not one-sided.

[INSERT TABLE 4 ABOUT HERE!]

The results presented in Table 4, taken as a whole, suggest that the association between abnormal audit fees and audit quality differs systematically between clients with positive and negative abnormal fees. In short, the association between abnormal audit fees and audit quality is asymmetric and nonlinear, in that it is conditioned upon the sign of

[20] We obtain similar results when *DA2* is used as the dependent variable.

abnormal audit fees. Our results also imply that abnormally high audit fees can be an important source of economic forces that drive the economic bond between auditors and their client firms and that the insignificant fee–quality associations reported in previous research could be due, at least in part, to their failure to take into account this asymmetric nonlinearity.

FURTHER ANALYSES

Robustness Checks

We perform a variety of sensitivity analyses to examine the robustness of our findings. Because the results using |*DA1*| are, overall, qualitatively similar to those using |*DA2*|, for brevity we report only the results using |*DA1*|. We do not report the results of regressions that use signed discretionary accruals as a dependent variable because the variables of interests are found to be insignificant in these regressions.

First, we re-estimate the regressions in Table 4 using a percentage measure of abnormal audit fees, that is, the abnormal fees deflated by total audit fees. The results of using this alternative measure are qualitatively similar to those reported in Table 4.

Second, our sample period (2000–2003) includes the year of the 2001 Enron debacle, the subsequent Andersen collapse, and the passage of the SOX in 2002. In an attempt to control for the potential effects of these time-specific factors on our regression results, we include year dummies in Eq. (4), as reported in Table 4. To further check whether our results are sensitive to these year-specific events, we also estimate both Eq. (1) and Eq. (4) for each sample year (without including year dummies). The results of annual regressions are qualitatively similar to those reported in Table 4 for all years except 2000 in which the coefficients of the variable of interests are insignificant.

Third, to examine whether the regression results reported in Table 4 are driven by the outliers, we perform various additional analyses, including median regressions and ordinary least squares regressions after eliminating extreme tail observations that fall in the first and 99th percentiles of the variable distribution. We find that the results reported in Table 4 are robust to potential problems associated with outliers.

Fourth, we consider an additional control variable, "client importance" (Chung and Kallapur 2003), which is measured as audit fees paid to an auditor in a year divided by that auditor's total audit revenue in the same year. We find that our main results are still robust even after adding the client importance measure in Eq. (4). Moreover, when we estimate Eq. (4) after adding the total NAS fee or abnormal NAS fee to control for their potential effects on the discretionary accruals, our main results are qualitatively unchanged.

Fifth, to check whether our findings remain similar to a cleaner and more homogenous class of audit clients, we repeat the main analyses after removing samples that (1) experience recent auditor changes (in the current or previous year), (2) are clients of non-Big 4 auditors, or (3) restate financial statements. In so doing, we remove all related variables from Eqs. (1) and (4), and then, reestimate the two equations using these reduced samples. Although the sample size decreases (minimum sample size is 7,486 when we remove all observations classified as (1), (2), or (3)), the results are qualitatively similar to those reported in Table 4.

Finally, we examine whether audit quality is further deteriorated when auditors receive persistently positive abnormal audit fees over multiple years. We expect to observe higher levels of absolute discretionary accruals when abnormal audit fees are persistently positive over multiple years than when abnormal fees are only temporarily positive in a certain year. Among our sample firms for which two consecutive years' data are available, about 44% (25%) pay positive (negative) abnormal audit fees over two consecutive years. We divide the sample firms with *ABAFEE* > 0 over two consecutive years into two groups based on the median value of positive *ABAFEE*. We find that the mean absolute discretionary accruals (|*DA1*|) for firms that report a positive *ABAFEE* above the median in both years *t* - 1 and *t* (i.e., the subsample with more persistent positive *ABAFEE*) is 0.1355, whereas it is 0.1112 for firms that report a positive *ABAFEE* above the median in year *t* - 1 and report another positive *ABAFEE* but below the median in year *t* (i.e., for the subsample of less persistent positive abnormal audit fees). This |*DA1*| difference between the two subsamples is significant at the one percent level, suggesting that the firms with a persistently positive *ABAFEE* over multiple years are allowed to engage in opportunistic earnings management to a greater extent than those with just a temporarily positive *ABAFEE*.

NAS and Total Fees

When examining the issue of auditors' fee dependence, previous studies focus their attention on the amount and/or the relative importance of NAS fees or total fees rather than audit fees (e.g., Huang et al. 2007). While the focus of our study is on abnormal audit fees, we re-estimate Eq. (4) using abnormal NAS fees (*ABNAFEE*) and abnormal total fees (*ABTFEE*) as the dependent variable to provide further insight into the issue. The results for *ABNAFEE* and *ABTFEE* are reported in Sections A and B, respectively, of Table 5. We tabulate only the results using *DA1* as the dependent variable because those using *DA2* are qualitatively similar.

In Section A of Table 5, we compute *ABNAFEE* using procedures similar to those used for abnormal audit fees. We first estimate Eq. (1) using the natural log of NAS fees (instead of audit fees) as the dependent variable. We then obtain abnormal NAS fees (i.e., *ABNAFEE*) by subtracting fitted values of NAS fees from the natural log of actual NAS fees. We then estimate Eq. (4) after replacing *ABAFEE* and *POS_ABAF* with *ABNAFEE* and *POS_ABNAF*, respectively, where *POS_ABNAF* is an indicator variable that equals 1 if *ABNAFEE* > 0 and 0 otherwise. As shown in columns (1a) and (2a) of Table 5, the coefficients of both *ABNAFEE* and *POS_ABNAF*ABNAFEE* are insignificant, suggesting that there is no asymmetric nonlinearity in the association between abnormal NAS fees and audit quality.

[INSERT TABLE 5 ABOUT HERE!]

In Section B of Table 5, we first estimate Eq. (1) using the natural log of the total fees (instead of the audit fees) as the dependent variable. We then obtain the abnormal total fees, that is, *ABTFEE*, by subtracting the fitted values of the total fees from the natural log of the actual total fees. In Section B, *POS_ABTF* is an indicator variable that equals 1 if *ABTFEE* > 0 and 0 otherwise. We then estimate Eq. (4) after replacing *ABAFEE* and *POS_ABAF* with *ABTFEE* and *POS_ABTF*, respectively. As shown in columns (1b) and (2b) of Table 5, the coefficients on both *ABTFEE* and *POS_ABTF*ABTFEE* are insignificant or only marginally significant, suggesting that the asymmetric and nonlinear association is due in large part to abnormal audit fees rather than abnormal NAS fees. The lack of asymmetric relation between abnormal NAS fees and audit quality is in line with the findings of several previous studies (e.g., Ashbaugh et al. 2003; Chung and Kallapur 2003; DeFond et al. 2002; Ruddock et al. 2006), which fail to find a significant association between various measures of NAS fees and audit quality.[21] In short, the results reported in Tables 4 and 5, taken together, suggest that the asymmetric fee–quality association is significant when the economic bond of auditors to their clients is measured by abnormal audit fees but that the association is insignificant, or at best weakly significant, when it is measured by abnormal NAS fees or total fees.

SUMMARY AND CONCLUDING REMARKS

[21] A possible reason for these insignificant results is that the estimation of the normal level of non-audit fees is noisier than the estimation of normal audit fees. Unlike audit services, the nature of NAS is not homogeneous across different auditors and clients. Thus, the large noise term in the estimated abnormal NAS fees could drive the insignificant results in our regression analyses. For example, the explanatory power (adjusted R^2) of the NAS fee estimation model is 0.66, which is significantly lower than that of the audit fee model reported in Table 2 (0.81). Similarly, when Ashbaugh et al. (2003, 619) investigate the determinants of various auditor fees by regressing auditors' fee metrics on a group of determinants, the adjusted R^2 of the non-audit fee model (0.34) or NAS fee ratio model (0.28) is much lower than that of the audit fee model (0.66) or total audit fee model (0.68). DeFond et al. (2002), Higgs and Skantz (2006), and Krishnan et al. (2005) show similar results as well.

In this paper, we predict that auditors' incentives to compromise audit quality differ systematically between two distinct situations, when audit fees are above an auditor's expectation of the normal fee level and when they are below. If auditors receive more than the normal level of fees from their clients, their benefits from retaining these profitable clients can outweigh the costs associated with allowing substandard reporting. We therefore predict that abnormal audit fees are negatively (positively) associated with audit quality (the magnitude of absolute discretionary accruals) for clients with positive abnormal audit fees. However, when audit fees are below the normal level, auditors may have few (or relatively weak) incentives to compromise audit quality. We therefore predict that the fee–quality association is likely to be asymmetric and nonlinear, depending on whether auditors receive abnormally high or abnormally low audit fees. We provide empirical evidence consistent with these predictions. We find that the association between abnormal audit fees and audit quality is asymmetric and nonlinear in the sense that the association is conditioned upon the sign of abnormal audit fees. Our results are robust to a variety of sensitivity checks.

Our study provides useful insight into current regulatory debates on the auditor's economic dependence on the client and helps us better understand reasons why previous research provides mixed evidence on the association between various fee metrics and the extent of earnings management. If the association between abnormal fees and the magnitude of discretionary accruals is conditioned on the sign of abnormal fees, examining the association without reference to the sign of abnormal fees most likely leads us to observe insignificant associations, as also reported in most previous studies. This study's findings suggest that future research on similar issues should take into account the asymmetric nonlinearity in the fee–quality relation.

We limit our sample period to the four-year period 2000–2003 to control for the potential confounding effects of the disclosures of internal control quality (ICQ) under

Sections 302 and 404 of the SOX, which became effective in 2004, on our results. Given that these disclosure regulations can significantly change the structure of audit fees, it would be interesting to investigate whether and how the ICQ disclosure requirements influence the asymmetric association between abnormal audit fees and audit quality. We leave this question to future research.

[INSERT APPENDIX ABOUT HERE!]

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APPENDIX
Description of variables

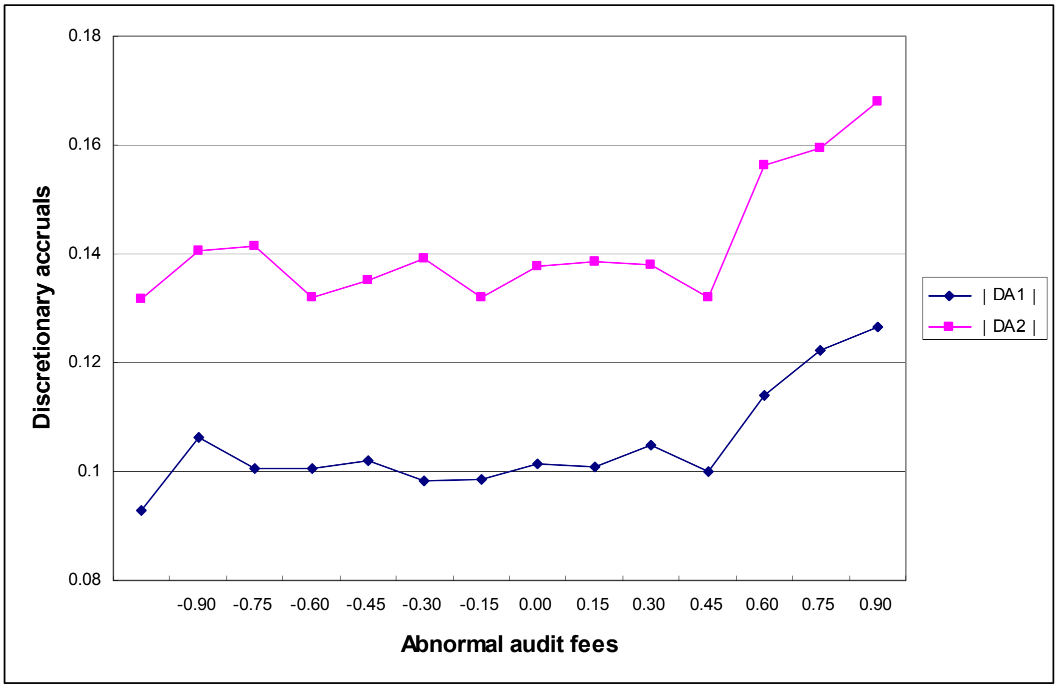
The below summarizes the variables used in the audit fee expectation model (i.e., Eq. (1)) and the model for the asymmetric association between abnormal audit fees and audit quality (i.e., Eq. (4)).

Variables		Description
AFEE	=	natural log of actual fees paid to auditors for their financial statement audits (i.e., audit fees) in thousands of dollars.
LNTA	=	natural log of total assets (Data6) in thousands of dollars.
NBS	=	natural log of 1 plus the number of business segments.
NGS	=	natural log of 1 plus the number of geographic segments.
INVREC	=	inventory (Data3) and receivables (Data2) divided by total assets.
EMPLOY	=	square root of the number of employees (Data29).
ISSUE	=	1 if the sum of long-term debt (Data111) or equity (Data108) issued during the past three years is more than 5% of the total assets and 0 otherwise.
FOREIGN	=	1 if the firm pays any foreign income tax (Data64) and 0 otherwise.
EXORD	=	1 if the firm reports any extraordinary gains or losses (Data48) and 0 otherwise.
LOSS	=	1 if the firm reported a loss during the year and 0 otherwise.
LOSSLAG	=	1 if the firm reported a loss during the prior year and 0 otherwise.
LEVE	=	leverage (total liabilities (Data181) divided by total assets).
ROA	=	return on assets (income before extraordinary items (Data18) divided by average total assets).
LIQUID	=	current assets (Data4) divided by current liabilities (Data5).
BIG4	=	1 if the auditor is one of the Big 4 and 0 otherwise.
SHORT_TEN	=	1 if the auditor is in the first or second year of the audit engagement and 0 otherwise.
BTM	=	book-to-market ratio (Data60/(Data25*Data199)), winsorized at 0 and 4.
CHGSALE	=	sales (Data12) change from the prior year divided by the prior year's beginning total assets.

PENSION	=	1 if the firm has a pension or post-retirement plan and 0 otherwise.
REPORT_LAG	=	number of days between the current fiscal year end and the annual earnings announcement date.
RESTATE	=	1 if the firm restates net income or assets for reasons other than accounting method changes or adoptions of new standards and 0 otherwise.
REPORTABLE	=	1 if the auditor change announcement disclosed in Form 8-K contains reportable events or disagreements between the auditor and the client firm and 0 otherwise.
DA	=	discretionary accruals. *DA1* is discretionary accruals as measured by Ball and Shivakumar's (2006) method; *DA2* is discretionary accruals as measured by the modified Jones model and adjusted for firm performance (Kothari et al. 2005).
ABAFEE	=	abnormal audit fees estimated from Eq. (1).
POS_ABAF	=	1 if the firm has positive abnormal fees (*ABAFEE* > 0) and 0 otherwise.
AUDCHG	=	1 if the firm's auditor is in the first year of an audit engagement and 0 otherwise.
CFO	=	cash flow from operations (Data308) divided by lagged total assets.
LAGACCR	=	one-year lagged total accruals (deflated by total assets at the end of the previous fiscal year) .
STD_CFO	=	standard deviations of operating cash flow (deflated by lagged total assets) for the years t - 5 to t.
STD_REV	=	standard deviations of cash-based revenues (sales + Δaccounts receivable (Data302)) (deflated by lagged total assets) for the years t - 5 to t.

Figure 1

Distribution of the Magnitude of Absolute Discretionary Accruals Categorized by the Abnormal Audit Fees



In the Figure 1, we plot the mean unsigned discretionary accruals (i.e., |*DA1*| and |*DA2*|) against abnormal audit fees (*ABAFEE,*), with |*DA*| in the vertical axis and *ABAFEE* in the horizontal axis. We group the *ABAFEE* observations into 14 intervals, which consist of 12 intervals with the same interval range of 0.15 from -0.9 to 0.9 and two additional intervals into which all observations with *ABAFEE* < -0.9 (leftmost side) and *ABAFEE* > 0.9 (rightmost side) are assigned. We then compute the mean value of |*DA*| for observations belonging to each interval and plot the |*DA*| values against the mid-point of *ABAFEE* for each interval.

Table 1
Distributions of Variables

Variable	Mean	Std. Dev.	1%	50%	99%
$\lvert DA1 \rvert$	0.1223	0.2853	0.0005	0.0539	1.0120
$\lvert DA2 \rvert$	0.1630	0.2779	0.0015	0.0872	1.2171
DA1	0.0073	0.3103	-0.6787	0.0078	0.7669
DA2	-0.0170	0.3218	-0.9851	-0.0054	0.8018
AFEE	5.6238	1.1540	3.2923	5.4848	8.8818
LNTA	12.2309	2.0404	7.6967	12.2058	17.0875
NBS	0.9924	0.4612	0	0.6931	2.0794
NGS	0.9776	0.6216	0	1.0986	2.3026
INVREC	0.2770	0.1905	0	0.2521	0.7863
EMPLOY	55.9022	70.9834	2.8284	30.9516	352.1363
ISSUE	0.4269	-	0	0	1
FOREIGN	0.4548	-	0	0	1
EXORD	0.2148	-	0	0	1
LOSS	0.4417	-	0	0	1
LOSSLAG	0.4163	-	0	0	1
LEVE	0.4816	0.3129	0.0416	0.4452	1.8538
ROA	-0.0941	0.3902	-1.5136	0.0173	0.3017
LIQUID	3.3895	4.3848	0.2666	2.1702	22.3860
BIG4	0.8646	-	0	1	1
SHORT_TEN	0.1993	-	0	0	1
BTM	0.7000	0.7293	0	0.4814	4
CHGSALE	0.0790	0.3894	-0.9172	0.0389	1.4817
PENSION	0.2572	-	0	0	1
REPORT_LAG	49.3504	23.1130	16	44	106
RESTATE	0.0409	-	0	0	1
REPORTABLE	0.0087	-	0	0	0
AUDCHG	0.1019	-	0	0	1
CFO	0.0121	0.3165	-1.1632	0.0722	0.4696
LAGACCR	-0.1396	0.7686	-1.4810	-0.0717	0.3814
STD_CFO	0.1273	0.1872	0.0122	0.0746	1.2333
STD_REV	0.3702	0.4021	0.0268	0.2462	2.6940

See the Appendix for the definitions of variables.

Table 2
Estimation of Normal Audit Fees

Variables	Predicted Sign	Coefficient (t-value)
LNTA	+	0.4124 (48.09***)
NBS	+	0.1012 (5.22***)
NGS	+	0.1372 (8.96***)
INVREC	+	0.3490 (7.46***)
EMPLOY	+	0.0017 (6.82***)
ISSUE	+	0.0190 (1.49)
FOREIGN	+	0.2265 (11.25***)
EXORD	+	0.1251 (8.43***)
LOSS	+	0.0624 (4.21***)
LOSSLAG	+	0.1429 (10.32***)
LEVE	+	0.1289 (4.20***)
ROA	-	-0.1946 (-7.51***)
LIQUID	-	-0.0190 (-9.97***)
BIG4	+	0.2057 (8.11***)
SHORT_TEN	-	-0.1138 (-5.80***)
BTM	-	-0.0508 (-5.23***)
CHGSALE	+	-0.0238 (-1.40)
PENSION	+	0.1281 (5.33***)
REPORT_LAG	+	0.0038 (8.92***)
RESTATE	+	0.1863 (5.71***)
REPORTABLE	+	0.1628 (2.42**)
Constant	?	-0.0676 (-0.66)
Industry and year dummies		Included
N		9,815
R^2		0.8098

All t-statistics in parentheses are on an adjusted basis, using robust standard errors corrected for heteroskedasticity and firm-level clustering (Petersen 2009). ** and *** denotes p-value<5% and p-value<1%, respectively with two-tailed tests. See the Appendix for the definitions of variables.

Table 3
Pearson Correlations among Regression Variables

	|DA 1|	|DA 2|	*DA 1*	*DA 2*	*ABAFEE*	*LNTA*	*BIG4*	*BTM*	*CHGSALE*	*LOSS*	*LEVE*	*ISSUE*	*AUDCHG*	*CFO*
|DA 2|	0.5848													
	(<0.001)													
DA 1	-0.3825	-0.1524												
	(<0.001)	(<0.001)												
DA 2	-0.1452	-0.1043	0.5233											
	(<0.001)	(<0.001)	(<0.001)											
ABAFEE	-0.0072	0.0094	0.0347	-0.0000										
	(0.4736)	(0.3503)	(<0.001)	(0.9994)										
LNTA	-0.1819	-0.2165	-0.0553	-0.1152	-0.0004									
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.9721)									
BIG4	-0.0765	-0.0957	-0.0354	-0.0860	0.0025	0.4313								
	(<0.001)	(<0.001)	(0.0005)	(<0.001)	(0.8035)	(<0.001)								
BTM	-0.0626	-0.0878	-0.0303	0.0145	0.0012	-0.0805	-0.0834							
	(<0.001)	(<0.001)	(0.0027)	(0.1495)	(0.9024)	(<0.001)	(<0.001)							
CHGSALE	0.0956	0.0945	0.0576	0.0251	-0.0027	0.0621	0.0198	-0.1785						
	(<0.001)	(<0.001)	(<0.001)	(0.0128)	(0.7869)	(<0.001)	(0.0503)	(<0.001)						
LOSS	0.1632	0.1766	-0.1576	-0.0190	-0.0017	-0.3287	-0.0852	0.1143	-0.2045					
	(<0.001)	(<0.001)	(<0.001)	(0.0603)	(0.8670)	(<0.001)	(<0.001)	(<0.001)	(<0.001)					
LEVE	0.0270	0.0467	-0.0418	-0.0074	-0.0016	0.0891	-0.0772	-0.1232	-0.0640	0.0571				
	(0.0074)	(<0.001)	(<0.001)	(0.4648)	(0.8710)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)				
ISSUE	0.0866	0.1046	0.0019	0.0238	-0.0030	0.0128	-0.0046	-0.1405	0.1424	0.0740	0.1846			
	(<0.001)	(<0.001)	(0.8544)	(0.0183)	(0.7701)	(0.2038)	(0.6481)	(<0.001)	(<0.001)	(<0.001)	(<0.001)			
AUDCHG	0.0190	0.0082	-0.0215	0.0105	-0.0084	-0.0946	-0.1305	0.0347	-0.0566	0.0382	0.0586	-0.0122		
	(0.0602)	(0.4174)	(0.0335)	(0.2963)	(0.4067)	(<0.001)	(<0.001)	(0.0006)	(<0.001)	(0.0002)	(<0.001)	(0.2273)		
CFO	-0.3091	-0.4138	-0.0533	-0.2879	-0.0063	0.3388	0.1016	0.0543	0.0823	-0.4350	-0.0604	-0.1878	-0.0270	
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.5341)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.0074)	
LAGACCR	-0.1115	-0.1224	0.0967	0.0712	-0.0051	0.0439	0.0091	0.0213	-0.0242	-0.0923	-0.0246	-0.0277	-0.0030	0.0784
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.6117)	(<0.001)	(0.3696)	(0.0350)	(0.0164)	(<0.001)	(0.0148)	(0.0061)	(0.7670)	(<0.001)

Two-tailed p-values are presented in parentheses. *ABAFEE* is abnormal audit fees. See the Appendix for the definitions of variables.

Table 4

Empirical Results on the Association between Discretionary Accruals and Abnormal Audit Fees

	Section A				**Section B**			
Dependent Variable	**(1a)** *|DA1|*	**(2a)** *|DA1|*	**(3a)** *|DA1|*	**(4a)** *DA1*	**(1b)** *|DA2|*	**(2b)** *|DA2|*	**(3b)** *|DA2|*	**(4b)** *DA2*
POS_ABAF		0.0032 (0.38)	-0.0032 (-0.50)	-0.1344 (-1.41)		-0.0082 (-1.05)	-0.0064 (-0.96)	0.0185 (1.94*)
ABAFEE	-0.0051 (-0.57)	-0.0376 (-1.60)	-0.0175 (-1.64)	0.0450 (1.79*)	0.0044 (0.79)	-0.0107 (-1.03)	-0.0106 (-1.45)	0.0028 (0.21)
*POS_ABAF *ABAFEE*		0.0655 (2.57***)	0.0406 (2.44**)	-0.0292 (-1.00)		0.0475 (2.66***)	0.0434 (2.81***)	-0.0428 (-1.87*)
LNTA	-0.0100 (-4.31***)	-0.0106 (-4.83***)	-0.0072 (-3.80***)	-0.0123 (-4.95***)	-0.0105 (-4.48***)	-0.0108 (-4.58***)	-0.0098 (-6.19***)	-0.0050 (-1.82*)
BIG4	-0.0219 (-2.70***)	-0.0205 (-2.52**)	-0.0250 (-3.11***)	-0.0128 (-1.30)	-0.0282 (-3.17***)	-0.0272 (-3.06***)	-0.0257 (-2.76***)	-0.0369 (-3.15***)
BTM	-0.0096 (-2.89***)	-0.0093 (-2.80***)	-0.0116 (-3.80***)	-0.0005 (-0.12)	-0.0151 (-4.52***)	-0.0149 (-4.45***)	-0.0157 (-4.81***)	0.0174 (3.94***)
CHGSALE	0.0822 (4.38***)	0.0818 (4.38***)	0.0276 (2.09***)	0.0199 (0.78)	0.0852 (6.78***)	0.0849 (6.75***)	0.0260 (2.14**)	0.0354 (1.54)
LOSS	0.0112 (1.14)	0.0103 (1.06)	-0.0035 (-0.38)	-0.1463 (-13.53***)	-0.0120 (-0.98)	-0.0127 (-1.04)	-0.0044 (-0.50)	-0.1120 (-8.19***)
LEVE	0.0265 (2.18**)	0.0256 (2.08**)	0.0195 (1.64)	-0.0198 (-1.21)	0.0346 (2.57**)	0.0340 (2.53**)	0.0321 (2.52**)	-0.0198 (-1.10)
ISSUE	0.0043 (0.77)	0.0038 (0.67)	-0.0042 (-0.66)	-0.0013 (-0.20)	0.0013 (0.22)	0.0010 (0.17)	-0.0008 (-0.15)	-0.0153 (-2.12**)

Table 4
(continued)

AUDCHG	0.0085 (0.55)	0.0072 (0.47)	-0.0164 (-2.92***)	-0.0235 (-1.52)	-0.0071 (-0.89)	-0.0083 (-1.04)	-0.0104 (-1.45)	-0.0012 (-0.12)
CFO	-0.2342 (-6.07***)	-0.2331 (-6.05***)	-0.2327 (-4.83***)	-0.1301 (-3.14***)	-0.3409 (-5.99***)	-0.3402 (-5.95***)	-0.2049 (-5.12***)	-0.3950 (-6.19***)
LAGACCR	-0.0275 (-2.23**)	-0.0275 (-2.24**)	-0.0060 (-1.30)	0.0372 (2.31**)	-0.0544 (-2.35**)	-0.0542 (-2.36**)	-0.0151 (-1.46)	0.0578 (2.54**)
STD_CFO			0.1272 (3.76***)				0.1289 (4.31***)	
STD_REV			0.0222 (1.73*)				0.0220 (1.63)	
Constant	0.2725 (10.35***)	0.2650 (9.01***)	0.2115 (8.39***)	0.2722 (8.16***)	0.3422 (14.21***)	0.3410 (13.85***)	0.2835 (12.88***)	0.1365 (4.50***)
Industry and year dummies	Included	Included	Included	Included	Included	Included	Included	Included
N	9,815	9,815	7,061	9,815	9,815	9,815	7,061	9,815
R^2	0.1480	0.1492	0.1917	0.0630	0.2259	0.2266	0.1884	0.1316

All t-statistics in parentheses are on an adjusted basis, using robust standard errors corrected for heteroskedasticity and firm-level clustering (Petersen 2009). The superscripts *, **, and *** denote p < 10%, p < 5%, and p < 1%, respectively, for two-tailed tests. See the Appendix for the definitions of variables.

Table 5

Results of Regressions of |*DA1*| on Abnormal Non-audit Fees and Abnormal Total Fees

	Section A Non-Audit Fee			Section B Total Fee	
Dependent Variable	**(1a) |*DA1*|**	**(2a) *DA1***	**Dependent Variable**	**(1b) |*DA1*|**	**(2b) *DA1***
POS_ABNAF	0.0231 (2.57**)	-0.0169 (-1.71*)	*POS_ABTF*	-0.0115 (-1.67*)	-0.0153 (-1.86*)
ABNAFEE	-0.0015 (-0.58)	0.0033 (1.03)	*ABTFEE*	0.0069 (0.63)	0.0120 (0.98)
*POS_ABNAF *ABNAFEE*	0.0073 (0.93)	-0.0027 (-0.29)	*POS_ABTF* ABTFEE*	0.0271 (1.88*)	0.0133 (0.79)
LNTA	-0.0096 (-4.17***)	-0.0129 (-5.01***)	*LNTA*	-0.0104 (-4.46***)	-0.0128 (-4.89***)
BIG4	-0.0217 (-2.66***)	-0.0121 (-1.23)	*BIG4*	-0.0221 (-2.70***)	-0.0100 (-1.01)
BTM	-0.0097 (-2.90***)	-0.0003 (-0.09)	*BTM*	-0.0099 (-2.97***)	-0.0001 (-0.01)
CHGSALE	0.0822 (4.39***)	0.0197 (0.77)	*CHGSALE*	0.0842 (4.46***)	0.0159 (0.62)
LOSS	0.0114 (1.16)	-0.1469 (-13.42***)	*LOSS*	0.0119 (1.21)	-0.1483 (-13.70***)
LEVE	0.0258 (2.12**)	-0.0198 (-1.21)	*LEVE*	0.0257 (2.11**)	-0.0194 (-1.18)
ISSUE	0.0039 (0.70)	-0.0015 (-0.23)	*ISSUE*	0.0045 (0.79)	-0.0020 (-0.30)
AUDCHG	0.0078 (0.48)	-0.0239 (-1.46)	*AUDCHG*	0.0080 (0.52)	-0.0247 (-1.58)
CFO	-0.2337 (-6.06***)	-0.1300 (-3.11***)	*CFO*	-0.2352 (-6.12***)	-0.1274 (-3.06***)
LAGACCR	-0.0271 (-2.21**)	0.0369 (2.29**)	*LAGACCR*	-0.0421 (-2.09**)	0.0598 (3.43***)
Constant	0.2514 (9.37***)	0.2776 (8.95***)	*Constant*	0.2779 (10.09***)	0.2685 (8.44***)
Year and industry dummies	Included	Included	*Year and industry dummies*	Included	Included
R^2	0.1500	0.0619	R^2	0.1461	0.0577

All t-statistics in parentheses are on an adjusted basis, using robust standard errors corrected for heteroskedasticity and firm-level clustering (Petersen 2009). The superscripts *, **, and *** denote p < 10%, p < 5%, and p < 1%, respectively, for two-tailed tests. See the Appendix for the definitions of variables.