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The Association between Audit Quality and Abnormal Audit Fees

Abstract

Using a sample of 9,820 firm-year observations over the 2000-2003 period, this paper examines whether, and how, audit quality proxied by unsigned discretionary accruals is associated with the abnormal audit fee, i.e., the difference between actual audit fee and auditors' expectation on the normal level of fee. The results of various regressions reveal that the association between the two is insignificant for the full sample, significantly positive for the subsample of clients with positive abnormal fees, and insignificantly negative for the subsample of clients with negative abnormal fees. The above results suggest that auditors' incentives to compromise audit quality differ systematically depending on whether the clients pay more than or less than the normal level of audit fees, which in turn leads to the audit fee-audit quality association being conditioned on the sign of abnormal audit fees. Our results are robust to a battery of sensitivity checks. Relevant implications of our results to policy makers and academic researchers are discussed.

Keywords: *Audit quality, Audit and non-audit services, Abnormal audit fees, Earnings management*

The Association between Audit Quality and Abnormal Audit Fees

1. Introduction

Using a large sample of 9,820 audit fee observations over the 2000-2003 period, this paper investigates whether, and how, audit quality is associated with an auditor's fee dependence on a specific client. Similar to previous research (e.g., Frankel et al. 2002; Ashbaugh et al. 2003; Chung and Kallapur 2003; Larcker and Richardson 2004), we use the magnitude of discretionary accruals as a proxy for audit quality. To capture the fee dependence or economic bonding, we use *abnormal audit fees* which are defined as the difference between actual audit fees and the expected level of audit fees (i.e., normal audit fees). We are motivated to focus our analysis on the association of unsigned discretionary accruals with fees paid to auditors for their financial statement audits (i.e., audit fees) rather than with fees paid to auditors for non-audit services (i.e., non-audit fees) for the following reasons.

First, most previous studies on the association between audit quality and auditor fees focus their attention on the effect of non-audit service (NAS) fees on auditors' incentives to compromise audit quality.[1] As a result, they pay relatively little attention to the effect of audit fees on audit quality. As will be further explained in the next section, however, excessively high audit fees can create similar incentives for auditors to compromise audit quality in their reporting decisions with respect to a specific client. Moreover, even if auditors are not allowed to provide certain NAS to the same client as required under the Sarbanes-Oxley Act of 2002, audit quality could still be impaired

[1] Since the Enron debacle and the subsequent collapse of Andersen, many studies have focused on the issue of whether the provision of non-audit services (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 previously issued financial statements (e.g., Kinney et al. 2004), the propensity of auditors issuing going concern opinions (e.g., Craswell et al. 2002; DeFond et al. 2002; Raghunandan et al. 2003), and news-dependent accounting conservatism (Ruddock et al. 2005).

when the level of audit fees is excessively high. Given the scarcity of empirical evidence on the issue, this paper aims to provide systematic evidence on whether (abnormal) audit fees are associated with the magnitude of earnings management measured by unsigned discretionary accruals.

Second, previous studies which examine the association between unsigned discretionary accruals and audit fees provide at best mixed evidence on the effect of audit fees on earnings management. For example, Frankel et al. (2002) report that audit fees are negatively associated with unsigned discretionary accruals, suggesting that auditors are less likely to allow opportunistic earnings management by high-fee clients than by low-fee clients.[2] Ashbaugh et al. (2003) report, however, that audit fees are insignificantly associated with their measures of abnormal accruals.[3] Given these mixed results, we revisit the issue using an extended set of audit fee data and a different audit fee metric, namely *abnormal* audit fees.[4]

Briefly, our regression results show the following. We find that unsigned discretionary accruals are insignificantly associated with abnormal audit fees as well as actual audit fees for the full sample. However, when we partition the full sample into the two subsamples, that is (1) the sample of clients with positive abnormal fees and (2) the sample of clients with negative abnormal fees, we find that abnormal audit fees are significantly *positively* associated with unsigned discretionary accruals for the positive abnormal fee sample, while the associations are insignificant with a negative sign for the negative abnormal fee sample. This asymmetry in the discretionary accruals-audit

[2] See their Table 6. Frankel et al. use the percentile rank of audit fees and unsigned discretionary accruals as their metrics for audit fees and audit quality, respectively.
[3] See their Table 4. Ashbaugh et al. use the signed level of performance-adjusted discretionary current accruals as a measure of audit quality. Their audit fee metric is the natural log of audit fee.
[4] While Chung and Kallapur (2003) and Larcker and Richardson (2004) have examined the association of their measures of earnings management with non-audit fees and total fees (i.e., non-audit fees plus audit fees), they did not examine the effect of audit fees on earnings management directly. We will revisit this issue later.

fee association between the two distinct samples suggests that the structure of auditors' incentives to compromise audit quality differs systematically for clients with positive abnormal audit fees vis-à-vis clients with negative abnormal fees. Further tests show that the significantly positive relation between discretionary accruals and abnormal audit fees for the positive abnormal fee sample is robust to whether discretionary accruals are income-increasing or income-decreasing and the use of alternative statistical methods and different samples.

Finally, in contrast to our findings on the discretionary accruals-abnormal audit fee association, the results of our sensitivity tests using abnormal NAS fees or fee ratios (NAS fees / audit fees and NAS fees / total fees) reveal that the provision of NAS is not significantly associated with unsigned discretionary accruals. These findings are consistent with those reported in most previous studies.

Our study provides useful insight into current regulatory debates on economic bonding of the auditor to the client or an auditor's fee dependence on a client, and adds to the existing literature in the following ways. If the association between unsigned discretionary accruals and abnormal fees is positive for a sample of clients with positive abnormal fees and it is insignificant or negative for a sample of clients with negative abnormal fees, examining the association for a combined sample of clients with both positive and negative abnormal fees most likely leads us to observe insignificant associations as reported in most previous studies (e.g., Antle et al. 2002; Ashbaugh et al. 2003; Chung and Kallapur 2003; Reynolds et al. 2004) as well as in our study. This is so because the two opposing effects may cancel out each other when the combined sample is used. The findings of this study suggest that future research on similar issues should take into account the fact that auditors' incentives to compromise their audit quality differ systematically, depending on whether or not fees paid to auditors are in excess of their expectation on the normal level of fees.

The remainder of the paper is structured as follows: In section 2, we develop our research hypotheses on the audit fee-audit quality association. In section 3, we describe our empirical procedures. In section 4, we present our empirical results. In section 5, we present the results of further analyses on the association of unsigned discretionary accruals with non-audit fees and the ratio of non-audit fees to audit or total fees. The final section concludes the paper.

2. Hypothesis Development

2.1 Abnormal fees versus actual fees

Actual fees paid to auditors consist of two parts, that is: (1) normal fees that reflect auditors' efforts costs and litigation risk; and (2) abnormal fees that are specific to contractual relationships between auditors and their clients. While normal fees are determined by factors that are common across different clients such as client size, client complexity, and client-specific risk, abnormal fees are determined by factors that are idiosyncratic to a specific client. As noted by Kinney and Libby (2002: p.109), abnormal fees "may more accurately be likened by attempted bribes" and capture the profitability of auditor-provided services. In particular, positive abnormal fees, namely actual fees in excess of normal fees, are likely to create economic bonding of the auditor to the client, while negative abnormal fees are unlikely to do so. Put differently, the structure of auditors' incentives to compromise audit quality in relation to the fee level is likely to differ systematically, depending on whether abnormal fees are positive or negative.

However, most previous studies use the level of actual fees paid to auditors, with no reference to the above asymmetry, to proxy for auditors' economic bonding to clients. In competitive markets for audit services, the fees paid to auditors reflect auditors' effort costs and litigation risk (Simunic 1980; Choi et al. 2005). Observed differences in the level of actual fees across clients are more likely to reflect differences in effort costs and client-specific risk across clients, and thus have a limitation in capturing the differences in the extent of auditors' economic bonding across clients. The use of actual fees as a proxy for auditors' economic bonding to clients may thus cause non-trivial measurement errors 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 that previous research documents are driven by these measurement errors rather than the lack of the underlying relation. In addition, even though several prior studies use abnormal fee metrics as well as actual fee metrics, they perform analyses using the pooled (total) sample without separating the sample into two subsamples of clients with positive and negative abnormal fees. Thus, if the significant fee-quality relation exists only for one of the subsamples, then it is possible that one is unable to observe any significant association in the analyses with the pooled sample due to possible cancellation effect caused by the asymmetric fee-quality relations between the two subsamples.

2.2 The association between abnormal fees and audit quality

The objectivity and independence of auditors is more likely to be influenced by the level of client fees in excess of auditors' expectation on normal fees, i.e., abnormal fees, rather than the expected, normal level of fees which primarily reflects auditors' efforts costs and litigation risk. If an auditor receives unusually high audit fees from a client (i.e., positive abnormal fees), this positive abnormal fees could make auditors financially dependent on their clients and thus create economic bonding of the auditor to the client.[5] This is so because, for clients with positive abnormal fees, the benefits to the auditor from retaining these profitable clients may outweigh the costs associated with allowing substandard reporting (e.g., increased litigation risk, reputation loss, etc.).

To the extent that the perceived net benefits are greater than the associated costs, the economic bonding will increase, and audit quality will decrease, with positive abnormal fees. We therefore predict a *positive* association between abnormal fees and unsigned discretionary accruals for clients with positive abnormal audit fees. Consistent with this prediction, Magee and Tseng (1990) and DeAngelo (1981a) argue that audit quality could be impaired when significant economic rents exist for the auditor's engagement with a client. Similarly, while discussing Frankel et al.'s (2002) study, Kinney and Libby (2002) note that a strong economic bond between the auditor and the client will reduce the quality of reported earnings through auditors' reduced willingness to resist client-induced biases in reported accounting information. Beck, Frecka and Solomon (1988) reports that economic bonding of an auditor to clients increases as the auditor receives higher fees from the clients and thus auditor independence is impaired. In particular, they argue that the observed longer auditor tenure occurs because auditors are less likely to resign from clients and/or clients are less likely to dismiss incumbent auditors. Dye (1991) also analytically shows that when clients overpay auditors to induce more favorable audit reports, auditors may impair the quality of audit services.

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

To provide empirical evidence on the above prediction, we test the following hypothesis:

H1: *For clients with positive abnormal audit fees, the magnitude of abnormal accruals is positively associated with abnormal audit fees paid to incumbent auditors, other things being equal.*

On the other hand, when auditors are paid less than their expectations on the normal level of audit fees (i.e., abnormal audit fees are negative), they have few incentives to compromise audit quality by acquiescing to client pressure to allow substandard reporting. We therefore predict that the association between audit quality and (negative) abnormal audit fees is insignificant or at best weak for clients with negative abnormal audit fees. To test this prediction, we hypothesize:

H2: *For clients with negative abnormal audit fees, the magnitude of abnormal accruals is not significantly associated with abnormal audit fees paid to incumbent auditors, other things being equal.*

Although we predict the insignificant association, it is possible that the more negative are the abnormal fees, the lower are the incentives for auditors to compromise independence, and thus the lower is the magnitude of discretionary accruals. In such a case, one would observe a positive association between negative abnormal fees and the magnitude of earnings management (i.e., no asymmetric effects of positive and negative abnormal fees on audit quality). Alternatively, when auditors bear lower fees now in anticipation of higher fees from the future profitable engagements, auditors may be vulnerable to client pressure for allowing opportunistic earnings management, thus leading to a negative association between abnormal fees and the magnitude of earnings management for clients with negative abnormal fees.[6] If none of these two effects exists

[6] Sankaraguruswamy and Whisenant (2003), among others, show evidence supporting auditors' low-balling behaviour, that is audit fee discounting in early periods of audit engagements. A common view in this literature is that auditors expect future fees to rise.

or the two effects cancel out each other on average, one may observe an insignificant association between negative abnormal fees and audit quality.

3. Empirical Procedures

In this section, we first specify an expectation model linking audit fees with their determinants which will be used for decomposing actual audit fees into normal (expected) and abnormal (unexpected) audit fees. We then describe how we measure our dependent variable, namely the magnitude of abnormal accruals. Finally, we specify our regression which links the magnitude of discretionary accruals with our test variable (i.e., abnormal audit fees) and other control variables, and explain how we test our two hypotheses, H1 and H2, in the context of our empirical model.

3.1 Measurement of abnormal audit fees

To decompose actual audit fees into two components, namely the expected component which we call *normal* audit fees and the unexpected component which we call *abnormal* audit fees, we need to specify an expectation model linking actual fees with their determinants. Since Simunic (1980), the audit fee literature typically hypothesizes that audit fees are a positive function of three client-specific factors, namely client size, client complexity, and client-specific risk, and provides evidence consistent with this hypothesized relation (Chaney et al. 2004; Choi et al. 2005; Craswell et al. 1995; DeFond et al. 2002; Francis and Stokes 1986; Frankel et al. 2002; Kim et al. 2005; and Sankaraguruswamy and Whisenant 2003). Building upon the results of the above prior studies on audit fee determinants, we posit the following audit fee model:

$$
\begin{aligned}
AFEE_{jt} = {} & \alpha_0 + \alpha_1 LNTA_{jt} + \alpha_2 NBS_{jt} + \alpha_3 NGS_{jt} + \alpha_4 INVREC_{jt} + \alpha_5 EMPLOY_{jt} \\
& + \alpha_6 ISSUE_{jt} + \alpha_7 FOREIGN_{jt} + \alpha_8 EXORD_{jt} + \alpha_9 LOSS_{jt} + \alpha_{10} LEVE_{jt} \\
& + \alpha_{11} ROA_{jt} + \alpha_{12} LIQUID_{jt} + \alpha_{13} BIG4_{jt} + \alpha_{14} BTM_{jt} \\
& + Industry \,\&\, YearDummies + errorterm
\end{aligned} \tag{1}
$$

where, for client firm j and in year t:

AFEE	=	natural log of fees paid to auditors for their financial statement audits (i.e., audit fees) in thousand dollars
LNTA	=	natural log of total assets in thousand dollars;
NBS	=	natural log of one plus number of business segments;
NGS	=	natural log of one plus number of geographic segments;
INVREC	=	inventory and receivables divided by total assets;
EMPLOY	=	square root of the number of employees;
ISSUE	=	1 if the sum of debt or equity issued during the past 3 years are more than 5% of the total assets, 0 otherwise;
FOREIGN	=	1 if the firm pays any foreign income tax, 0 otherwise;
EXORD	=	1 if the firm reports any extraordinary gains or losses, 0 otherwise;
LOSS	=	1 if the firm reported a loss during the year, 0 otherwise;
LEVE	=	leverage (total liabilities divided by total assets);
ROA	=	return on assets (income before extraordinary items divided by average total assets);
LIQUID	=	current assets divided by current liabilities;
BIG4	=	1 if the auditor is one of Big 4, 0 otherwise;
BTM	=	book-to-market ratio, windsorized at 0 and 4.

In the above, all independent variables are measured as of the end of fiscal year unless otherwise noted. We include *LNTA* and *EMPLOY* to proxy for client size. The demand for audit services is likely to increase with firm size (*LNTA* and *EMPLOY*). We therefore expect that audit fees are positively associated with these variables. 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. We expect that these variables representing client complexity are positively associated with audit fees. In short, all coefficients on the aforementioned variables are expected to be positive.

In Eq. (1), we include *LOSS*, *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 on *LOSS* and *LEVE* are positive while those on *ROA* and *LIQUID* are negative. We include *BIG4* to capture the effect of audit quality differentiation on audit fees. A positive coefficient on *BIG4* means the existence of fee premiums for high-quality, prestigious auditors, namely Big 4 (previously 5, 6, or 8). We include *ISSUE* and *BTM* to capture the effect of a client firm's growth potential on audit fees. Growing firms are more often involved in external financing such as equity and bond offerings. The demand for both audit and non-audit services is greater for high-growth firms than low-growth firms (Choi and Wong 2006). In addition, firms involved in equity and debt offerings are in a greater need of audit services (Reynolds et al. 2004). We therefore expect a positive (negative) coefficient on *ISSUE* (*BTM*).

Using the estimated coefficients on the variables included in Eq. (1), we compute the predicted values of *AFEE*. We call the predicted values of *AFEE* 'normal audit fees.' We then measure abnormal audit fees (*ABAFEE*) by taking differences between *AFEE* and normal audit fees.[7]

[7] Alternatively, we compute the dollar values of abnormal fees by taking differences between actual dollar values of audit fees and normal dollar values of audit fees after we convert the logged normal fees into their dollar values. Whether these dollar values of abnormal audit fees are deflated by actual audit fees or not, they are highly correlated with our original measures and yield almost identical empirical results. Thus, we do not separately report those results for brevity.

For our main analysis, we estimate Eq. (1) using a pooled sample of 9,820 firm-years over the four-year period from 2000 to 2003. As will be further explained later, we also consider alternative methods for estimating Eq. (1) as part of our sensitivity checks: First, we estimate Eq. (1) for each year using annual observations after deleting the year dummies from Eq. (1). Second, we consider a percentage measure of abnormal fees (instead of the level measure), i.e., abnormal audit fees deflated by total fees, as the dependent variable. Finally, we also use an alternative fee metric which takes into account what Chung and Kallapur (2003) call client importance. In particular, we use, as the dependent variable, total fees paid to an auditor in a year divided by total revenue of the auditor in the same year, which is similar in spirit to fee metrics considered by DeAngelo (1981b), Chung and Kallapur (2003), and Larker and Richardson (2004). The results of these alternative estimations are discussed in details in Section 4.

3.2 Measurements of discretionary accruals

Like many other studies, we assume that discretionary or abnormal accruals (*DA*) are an outcome of opportunistic earnings management. In this paper, we consider two different measures of *DA*, that is: (1) discretionary total accruals using the augmented Jones (1991) model of Ball and Shivakumar (2006) which controls for the asymmetric timeliness of accruals in recognizing economic gain and loss; and (2) discretionary total accruals obtained by applying the modified Jones model (Dechow et al. 1995) adjusted for firm performance (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 augmented Jones model of Ball and Shivakumar and the modified Jones model in Eqs. (2) and (3), respectively:

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

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

where, for firm j and in year t (or t - 1), *ACCR* denotes total accruals; *A, ΔREV,* and *PPE* represent total assets, changes in net revenue, and gross property, plant and equipment, respectively; *CFO* represents cash flows from operations; *DCFO* is a dummy variable that equals 1 if *CFO* is negative and 0 otherwise; [8] and ε is an error term.

Our first measure of *DA*, i.e., *DA1*, is computed as follows. Recent studies by Ball and Shivakumar show that accounting accruals recognize economic loss in a timelier manner than economic gain, and that accounting accruals are a piecewise linear function of current-period cash flows from operations. To incorporate this asymmetry between economic gain and loss into our accrual model, we include three additional variables, namely CFO_{jt}/A_{jt-1}, $DCFO_{jt}$, and $(CFO_{jt}/A_{jt-1})*DCFO_{jt}$, in Eq. (2) in addition to the typical Jones-model variables, namely ΔREV_{jt}, ΔREC_{jt} and PPE_{jt}.[9] Using total accruals (*ACCR*) deflated by beginning total assets as the dependent variable, we estimate Eq. (2) for each two-digit SIC code industry and year.[10] Our first measure of

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[8] Note here that *DCFO* serves as a proxy for economic loss; Similar to Ball and Shivarkumar (2006), we also consider alternative proxies for economic loss, i.e., the dummy variable which has the value of 1 for changes in cash flows (*ΔCFO*) < 0, industry median-adjusted *CFO* <0, or excess annual return (annual return minus annual market return) <0; and 0 otherwise. Though not reported, the use of these alternative proxies for economic loss leads to similar results as those shown when we use *DCFO* as a proxy.

[9] Ball and Shivakumar (2006) demonstrate that their nonlinear or piecewise linear models are "a substantial specification improvement, explaining up to three times the amount of variation in accruals as conventional linear specifications" such as Jones (1991) model. (p.3)

[10] As in other studies, total accruals (*ACCR*) is defined as earnings before extraordinary items and discontinued operations minus operating cash flows taken directly from the statement of cash (i.e., cash flow approach). Alternatively, when we measure the total accruals by balance sheet approach (the changes in non-cash current accruals minus changes in current liabilities net of changes in long-term debt included in current liabilities minus depreciation and amortization expenses), the (unreported) results are almost identical.

DA, namely *DA1*, is the difference between actual total accruals 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 and year, we estimate the modified Jones-model in Eq. (3), using cross-sectional observations. Residuals from Eq. (3) are our measure of *DA* before adjusting for firm performance. Kasznik (1999) and Kothari et al. (2005) point out that unadjusted *DA* is significantly influenced by a firm's performance. To obtain performance-adjusted *DA*, we follow the performance-matching procedures used by Kothari et al. We match each firm-year observation with another from the same two-digit SIC code and year with the closest return on assets in the current year. We then compute performance-adjusted discretionary accruals, namely *DA2*, by taking the difference between the original *DA* and the matched firm's *DA*.[11]

3.3 The model for examining the association between abnormal audit fee and earnings management

To test our hypotheses, H1 and H2, we posit the following regression model linking the magnitude of our discretionary accrual measures with our test variable, namely abnormal audit fees (*ABFEE*), and other control variables:

$$
\begin{aligned}
|DA| = {} & \beta_0 + \beta_1\, ABAFEE + \beta_2\, LNTA + \beta_3\, BIG4 + \beta_4\, BTM + \beta_5\, CHGSALE \\
& + \beta_6\, LOSS + \beta_7\, LEVE + \beta_8\, ISSUE + \beta_9\, AUDCHG + \beta_{10}\, CFO \\
& + \beta_{11}\, LAGACCR + industry\ and\ year\ dummies + error\ term
\end{aligned}
\tag{4}
$$

where, for each firm and in each year (the firm and year subscripts subsumed), |*DA*| denotes the absolute values of discretionary accruals; *ABAFEE* represents our measure

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

of abnormal audit fees; *CHGSALE* denotes changes in sales deflated by lagged total assets; *AUDCHG* is the dummy variable that equals 1 if a firm's auditor is in the first year of audit engagement and 0 otherwise; *LAGACCR* represents one-year lagged total accruals; and others are as defined earlier.

In the above, the dependent variable, |*DA*|, is our proxy for the outcome of opportunistic earnings management. As mentioned earlier, we consider two alternative proxies, that is: (1) |*DA1*| which controls for the asymmetry in timeliness of accruals in recognizing economic gain and loss; and (2) |*DA2*| which is adjusted for firm performance.

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. Previous research indicates that Big 4 auditors are effective in constraining managers' abilities to manage reported earnings through discretionary accrual choices (Becker et al. 1998; Francis et al. 1999). Fan and Wong (2004) also document that in East Asian economies, Big 4 auditors are more effective in mitigating agency problems than non-Big 4 auditors. To control for the effect of this audit quality differentiation on our results, we include the dummy variable, *BIG4*. We include the variables, *BTM* and *CHGSALE* to isolate potential effects of firm growth on earnings management from the effect of abnormal audit fees. We include the loss dummy (*LOSS*) to control for potential differences in earnings management behaviors between loss and profit firms. Firms with high leverage may 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). We therefore include *LEVE* to control for this leverage effect. Ashbaugh et al. (2003), Kim et al. (2003), and Chung and Kallapur (2003), among others, find that firms that are involved in financing transactions tend to engage in opportunistic earnings more aggressively than those that are not. We include the *ISSUE* dummy to control for the effect of a firm's involvement in financing transactions on our results. Previous research reports that newly hired auditors are not effective in their early years of audit engagements (Becker et al. 1998: Kim et al. 2003). We include the *AUDCHG* variable to control for this auditor change effect.

Previous research provides evidence indicating that estimated discretionary accruals are positively correlated with firm performance as firms with low (high) cash flows tend to have negative (positive) discretionary accruals (Butler et al. 2004; Kasznik 1999; Kothari et al. 2005). It is therefore important to control for the effect of firm performance on accruals when measuring discretionary accruals using the Jones (1991) model or its variants. To address this potential problem, we include *CFO* in Eq. (4). As in Ashbaugh et al. (2003), Kim et al. (2003) and Chung and Kallapur (2003), we include lagged total accruals (*LAGACCR*) to control for variations in the reversal of accruals over time. Finally, we include industry and year dummies to control for possible variations in accounting standards and regulations across industries and over years. [12, 13]

We first estimate Eq. (4) using a full sample of 9,820 firm-year observations over the four-year period, 2000-2003.[14] We then partition the full sample into two sub-samples based on the sign of abnormal audit fees (*ABAFEE*), namely (1) the sample

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[12] Industry dummies are estimated following Frankel et al. (2002). We also estimate Eq. (5) without industry and year dummies, and obtained the results similar to those reported in the paper.

[13] We also add total non-audit fee or abnormal non-audit fee as an additional control variable in Eq. (4) since the non-audit fee could also influence the discretionary accruals as well as audit fee simultaneously. However, the empirical results are qualitatively similar. We therefore do not separately report the results for brevity.

[14] When we perform a year-by-year estimation of abnormal audit fees using Eq. (1), we also perform year-by-year analyses with Eq. (4). The results are discussed later.

with positive abnormal audit fees (*ABAFEE* > 0); and (2) the sample with negative abnormal audit fees (*ABAFEE* < 0). To test hypotheses, H1 and H2, we estimate Eq. (4) separately for the sample with positive abnormal fees and for the sample with negative abnormal fees. A positive coefficient on *ABAFEE* for the sample with positive abnormal fees is consistent with H1, while an insignificant coefficient on *ABAFEE* for the sample with negative abnormal fees is consistent with H2.

4. Empirical Results

4.1. Sample and data sources

We obtain audit (and non-audit) fee data from the 2004 Compustat audit fees file. We retrieve all other financial data from the 2004 Compustat Industrial annual file. After we retrieve information on auditor identity and auditor changes from the Compustat, we verify its accuracy by referring to the information recorded in actual 10K and 8K reports. We find several errors in the Compustat information and correct them based on the information recorded in 10K and 8K. The sample period for this study is restricted to the four-year period from 2000 to 2003 because the Compustat includes audit and non-audit fee data starting from 2000,[15] and the current version of the Compustat file includes the data only up to fiscal year 2003. We exclude 2,081 firm-year observations for financial institutions and utilities with their SIC codes being 6000-6999 and 4900-4999, respectively. The final list of our samples, which have all the data required for our analysis, consist of 9,820 firm-years over the four-year sample period (1,643, 2,882, 3004, and 2291 for fiscal year 2000, 2001, 2002, and 2003, respectively).

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[15] The SEC's Final Rule S7-13-00 (Revision of the Commission's Auditor Independence Requirements) requires registrants to disclose information about fees paid to the auditor in proxy statements filed on and after February 5, 2001.

4.2. Descriptive statistics

Table 1 presents descriptive statistics for the variables used in this study, except for abnormal audit fees which will be explained later. With respect to the results presented in Table 1, the following are noteworthy: First, the average of the unsigned level of discretionary accruals for our sample firms is 12.23% and 16.30% of lagged total assets when *DA1* and *DA2* are used, respectively.[16] These mean values are significantly larger than median values of 5.38% and 8.72%, respectively, suggesting that the DA-distributions are skewed. Second, the *AFEE* variable, which is the natural log of audit fees in thousand dollars, and the *LNTA* variable are reasonably distributed. Third, on average, 42.69% of our sample firms are involved in substantial financial transactions during the last three-year period, while 45.49% of them pay income taxes for the business operation in non-US tax jurisdictions. Fourth, on average, 44.13% of our samples experience a loss in current fiscal year, and 86.46% of them have their financial statements audited by one of Big 4 auditors. Finally, the distributional properties of other variables are, overall, comparable with those reported in other related studies (e.g., Frankel et al. 2002; Ashbaugh et al. 2003; Chung and Kallapur 2003).

[INSERT TABLE 1 ABOUT HERE!]

4.3. Estimation of the audit fee model

Table 2 report the regression results for our audit fee model. Reported t-values are on an adjusted basis using White's (1980) heteroskedasticity-consistent covariance matrix. As shown in the table, the explanatory power of the model is about 80%, suggesting that our audit fee determinants, taken as a whole, explain a significant

[16] The greater value of *DA2* than *DA1* is consistent with Kothari et al.'s (2005) finding that performance-adjusted *DA* values increase after the adjustment.

portion of the variations in audit fees.[17] Moreover, all individual coefficients on our fee determinants included in Eq. (1) are highly significant with predicted signs.[18] 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 predicted values of audit fees which are viewed as normal audit fees in this paper. We then obtain abnormal audit fee (*ABAFEE*) by taking the difference between *AFEE* and predicted, normal audit fees. Table 3 presents the distributional properties of *ABAFEE* for the full sample (N = 9,820), the subsample of clients with *ABAFEE > 0* (N = 4,870), and for the subsample of clients with *ABAFEE < 0* (N = 4,950).

A close look into the distributional properties of abnormal audit fees indicates that our abnormal fee measure, i.e., residual values from Eq. (1), appears to be small. For example, it is -0.3225 and 0.3284 at the first and third quartile breaks, and the inter-quartile range is 0.6509. However, 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 inter-quartile range becomes larger ($184,093).[19]

[INSERT TABLE 3 ABOUT HERE!]

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[17] Our model provides a relatively higher explanatory power than the models used in prior studies. For comparison purpose, the explanatory powers in Ashbaugh et al.'s (2003) study is 60% for audit fee and 72% for total fee model. In Larcker and Richardson's (2004) study, that of total fee is 75%. Excluding year and industry dummies from Eq. (1) only slightly decrease the explanatory power to 77% and all the subsequent empirical results remain almost identical.

[18] Though not tabulated, we also estimate Eq. (1) with the natural log of total fees (i.e., the sum of both audit and nonaudit fees) (*TOTFEE*) and the natural log of non-audit fees (*NAFEE*) as the dependent variables. The estimated coefficients using *TOTFEE* as the dependent variable are, overall, very similar to those of the audit fee model. This is not surprising, however, given that the Pearson correlation between audit fees and total fees is very high (0.9391). Similarly, the correlation between audit fees and non-audit fees is very high (0.7389). The use of *NAFEE* as the dependent variable produces similar results though the significance of estimated coefficients and the model's explanatory power are lowered. The empirical results using non-audit fees are reported in Section 5.

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

We compare client characteristics between the sample with *ABAFEE* > *0* and the sample with *ABAFEE* < *0* to see if there exist any systematic differences between the two samples. Though not tabulated for brevity, we can report that firms with positive abnormal audit fees are slightly larger (in terms of *LNTA*) than the firms with negative abnormal fees (12.2958 vs. 12.1684, t=3.09). However, they are not significantly different in terms of *ROA* (-0.0961 vs. -0.0920, t=-0.52), *LEVE* (0.4844 vs. 0.4790, t=0.85), *LOSS* (0.4344 vs. 0.4482, t=-1.38), *CFO* (0.0079 vs. 0.0163, t=-1.31), and Zmijewski's (1984) financial distress score (-1.7439 vs. –1.6779, t=-0.96). In conclusion, we find no systematic evidence that clients with positive abnormal fees differ systematically from those with negative abnormal fees in terms of their risk characteristics and operating performance.

4.4. Pairwise correlation among research variables

Table 4 presents the correlation matrix for our research variables that are included in Eq. (4). For our measures of discretionary accruals (i.e., |*DA1*| and |*DA2*|), they are highly correlated with each other (ρ = 0.5847), which suggest the robustness of the estimation methods. For *ABAFEE*, it is not significantly correlated to either |*DA1*| or |*DA2*|. In addition, all of the control variables in Eq. (4) are significantly related to both |*DA1*| and |*DA2*|, suggesting the need to control for their effects on our dependent variables 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-making firms, highly levered firms, issuing firms, firms that change auditors, firms with low cash flows, and firms with low lagged total accruals are associated with a high level of unsigned discretionary accruals.

With respect to the structure of correlation among our explanatory variables, the following are noteworthy: First, firm size (*LNTA*) is significantly correlated with *BIG4*, *LOSS*, and *CFO* with ρ = 0.4314, -0.3290, and 0.3388, respectively, suggesting that large firms are more likely to hire one of 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 above three correlation coefficients, the correlation coefficients for other pairs of variables are not high. Overall, the correlation statistics shown in Table 4 indicate that the results of our multivariate regressions are unlikely to suffer from multi-collinearity problems.[20]

[INSERT TABLE 4 ABOUT HERE!]

4.5 Univariate Analysis

As shown in Table 4, for our full sample, abnormal audit fee metric (*ABAFEE*) is insignificantly associated with our measure of unsigned discretionary accruals (i.e., |*DA1*| and |*DA2*|). To further examine if this association differs systematically between clients with positive abnormal fees and clients with negative abnormal fees, we plot the mean and median |*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, respectively. We then compute the mean and median values of |*DA*| for observations belonging to each interval, and then plot the |*DA*| values against the mid-

[20] In performing regression analyses, we also measure the VIF values to examine potential multi-collineraity problems. But none of the VIF values are high enough to cause the problem. Thus, we do not separately report the values in the paper.

point of *ABAFEE* for each interval.[21] Panel A (B) of Figure 1 reports the results when |*DA1*| (|*DA2*|) is used.

[INSERT FIGURE 1 ABOUT HERE!]

In both Panels A and B, the level of unsigned discretionary accruals increases as *ABAFEE* increases from zero. However, there is no clear trend when *ABAFEE* decreases from zero. Overall, both trends of the mean and median values reveal that the association is much stronger for clients with positive abnormal fees than for those with negative abnormal fees, a finding consistent with our hypotheses, H1 and H2.

4.6. Results of multivariate regressions using the full sample

We first estimate Eq. (4) using the full sample of 9,820 firm-year observations which include observations with both positive and negative abnormal fees over the sample period 2000-2003. Sections A and B of Table 5 report the regression results using |*DA1*| and |*DA2*|, respectively, as the dependent variable. Throughout the paper, reported t-values are on an adjusted basis using White's (1980) heteroskedasticity-consistent covariance matrix. In each section, the first column presents the result of regression using abnormal audit fees (*ABAFEE*) as a measure of auditors' economic bonding to clients while the second column reports the same using actual audit fees (*AFEE*). In the third column, we report the results using absolute value of abnormal audit fees, denoted by |*ABAFEE*|. Our full sample results in Table 5 are comparable with those reported in Frankel et al. (2002) and Ashbaugh et al. (2003) in the sense that in both studies, the associations between discretionary accruals and their audit fee metrics are examined for the full sample with no reference to the sign of abnormal fees.

[21] We calculate the mean values after removing a few outliers with |*DA*| value greater than 1 to remove undue influence of the outliers.

As shown in Table 5, for our full sample, the magnitude of discretionary accruals is not significantly associated with both *ABAFEE* and *AFEE*. The insignificant coefficients on *AFEE*, as reported in Column (2a) and (2b), are inconsistent with evidence reported in Frankel et al. (Ashbaugh et al.) who report a significant (weakly significant or insignificant) coefficient on their audit fee metrics with a negative sign.[22] However, the coefficient on |*ABAFEE*| is significantly positive in Column (3a) and (3b). We will further explore reasons why we observe a significant coefficient on |*ABAFEE*|, but not on *ABFEE* and *AFEE*, in Table 5.

The coefficients on the control variables in Table 5 are, overall, in line with evidence reported in previous earnings management research. Consistent with our expectation, the coefficient on *LNTA* is significantly negative in all cases. The coefficient on *BIG4* is significant with an expected negative sign at less than the 1% level, suggesting that Big 4 auditors are more effective than non-Big 4 auditors in constraining opportunistic earnings management. The coefficient on *BTM* is negatively significant in all cases. This is consistent with the notion that high-growth firms manage earnings more aggressively than low-growth firms. The coefficients on *LOSS* (*LEVE)* are marginally significant with negative sign (significantly positive) when |*DA2*| is used as the dependent variable, but insignificant when |*DA1*| is used. The coefficient on *ISSUE* is significantly positive when |*DA1*| is used as the dependent variable, but insignificant when |*DA2*| is used. The coefficient on *CFO* and *LAGACCR* are highly significant in all cases with an expected negative sign, which is consistent with evidence

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[22] If we use the 2000 data only following Frankel et al.'s and Ashbaugh et al.'s study, we find an insignificant negative coefficient on *AFEE* (-0.0924 with t = -1.57 when *DA1* is used and -0.0137 with t = -0.71 when *DA2* is used). This finding is similar to Ashbaugh et al.'s. Except for year 2000's result, all the other years' results show positive signs. These findings suggest that the negative coefficient documented in Frankel et al.'s and Ashbaugh et al.'s study might be an exceptional case occurred in year 2000.

reported in previous research (e.g., Ashbaugh et al. 2003; Becker et al. 1998; Kim et al. 2003). The coefficients on *AUDCHG* and *CHGSALE* are insignificant in all cases.

[INSERT TABLE 5 ABOUT HERE!]

4.7. Results of multivariate regressions using the partitioned samples

Hypothesis H1 is concerned with the association between the magnitude of earnings management and abnormal audit fees for clients with positive abnormal audit fees while hypothesis H2 is concerned with the association for clients with negative abnormal audit fees. To test these hypotheses, we partition our full sample into two sub-samples using the sign of abnormal audit fees: (1) the sample with *ABAFEE* > 0; and (2) the sample with *ABAFEE* < 0.

Section A of Table 6 presents the regression results using |*DA1*| as the dependent variable, while Section B reports the same using |*DA2*| as the dependent variable. The first two columns of each section report the regression results when the full sample is partitioned into the two sub-samples using the sign of abnormal audit fees (*ABAFEE*).

As shown in Columns (1a) and (2a) of Section A, when |*DA1*| is used as the dependent variable, the coefficient on *ABAFEE* is significantly positive for the sample with *ABAFEE* > 0, which is consistent with our hypothesis H1, whereas it is insignificantly negative for the sample with *ABAFEE* < 0, which supports H2. The above results are in sharp contrast with the full sample results reported in Column (1a) of Table 5 where the coefficient on *ABAFEE* is insignificant for the full sample. As shown in Columns (1b) and (2b) of Section B, the results using |*DA2*| as the dependent variable remain qualitatively identical with those using |*DA1*|.[23, 24]

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[23] Alternatively, we use the following model which uses the absolute value of abnormal fees and performed the analyses with pooled sample rather than dividing the sample into subsamples with positive and negative abnormal fees.

To further examine whether the documented results are sensitive to the sign of discretionary accruals, we partition the sample of firms with *ABAFEE* > 0 into two groups, namely one with income-increasing accruals (*DA*+) and the other with income-decreasing accruals (*DA*-), and then, re-estimate Eq. (4) for each group. Columns (3a) and (3b) report the regression results for the *DA*+ sample, while Columns (4a) and (4b) for the *DA*- sample. We find that the coefficient on *ABAFEE* is significantly positive for both *DA*+ and *DA*- samples, indicating that, for clients with positive abnormal fees, the magnitudes of both income-increasing and income-decreasing discretionary accruals increase as abnormal audit fees increase.[25,26]

[INSERT TABLE 6 ABOUT HERE!]

We now assess economic significance of the impact of abnormal audit fees on income-increasing discretionary accruals. For this purpose, consider the results for the sample with *ABAFEE* > 0 & |DA1+| as reported in Column (3a) of Table 6. When we change *ABAFEE* from 0 to 0.3315 (i.e., the median *ABAFEE* as reported in Table 3) and set all other variables at their respective mean values, the reported coefficient on *ABAFEE* of 0.0493 translates into an increase in positive *DA1* by 1.63%. This increase is considered to be economically significant given that, for our full sample, the median

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$$|DA| = b_0 + b_1\,|ABAFEE| + b_2\,|ABAFEE\_NEG| + b_3\,LNTA + b_4\,BIG4 + b_5\,BTM + b_6\,CHGSALE + b_7\,LOSS + b_8\,LEVE + b_9\,ISSUE + b_{10}\,AUDCHG + b_{11}\,CFO + b_{12}\,LAGACCR + industry\ and\ year\ dummies + error\ term$$

In the model, |*ABAFEE*| is the absolute value of abnormal audit fees and |*ABAFEE_NEG*| is the absolute value of abnormal audit fees if the abnormal fees are negative and zero otherwise. The results are consistent with those reported in Table 6 and thus not reported for brevity.

[24] We also perform all the analyses with only the clients of Big 4 auditors in order to avoid potential endogenous auditor choice by client firms (Choi and Wong 2006). Although not separately tabulated, the results using a sample of only Big 4 clients are qualitatively identical with those reported in the paper.

[25] Though not reported, we also conduct the same analysis for the negative abnormal fee sample, and find that the coefficient on *ABAFEE* is insignificant for both the *DA*+ and *DA*- samples.

[26] We also perform year-by-year analyses to check whether our reported results are driven by potential cross-correlation and/or auto-correlation of audit fees. We find, however, that the results remain qualitatively identical with those reported in Table 6. We revisit the issue in Section 4.3 as part of sensitivity checks. We also compute t-values by estimating clustered standard errors for each firm in the pooled analyses, but our statistical inferences remain unaltered.

DA1 is 5.3% of lagged total assets and the median *ROA* is 1.74% of total assets (as reported in Table 1). Consider the results for the sample with *AFAFEE* > 0 & |DA-| as reported in Column (4a) of Table 3. In this case, the reported coefficient on *ABAFEE* of 0.0248 translates into economic significance of an increase in income-decreasing *DA1* by 0.33% (when we change *ABAFEE* from 0 to its median value and set all other variables at their respective mean values). The above findings suggest that economic significance of the *ABAFEE* effect on the magnitude of earnings management is greater for the sample of clients with positive discretionary accruals than for the sample of clients with negative discretionary accruals.

The significantly positive (insignificantly negative) association between our two measures of earnings management (i.e., |*DA1*| and |*DA2*|) and abnormal audit fees for the sample of clients with positive (negative) abnormal fees supports our first (second) hypothesis, H1 (H2). This finding suggests that abnormal audit fees are associated with more aggressive earnings management only when the fees paid to auditor for their audit services are in excess of their expectation on normal audit fees. Or equivalently, our results indicate that abnormally high audit fees motivate auditors to compromise independence which impairs audit quality and thus financial reporting quality, whereas abnormally low audit fees do not.

Overall, the findings in Table 6 suggest that the insignificant associations between various fee metrics and audit quality measures documented in most previous studies may be due to their failure to incorporate into analysis the asymmetry in the fee-quality relation between the samples with positive and negative abnormal fees. Our results are consistent with the view that economic bonding of the auditor to a client does not arise when the auditor does not generate enough profits from the specific client, and suggest that it is important for researchers to incorporate this asymmetry into their analyses when examining the fee-quality association.

4.8. Sensitivity checks

We perform a variety of sensitivity analyses to examine the robustness of our findings. Because we find that the results using |*DA1*| are, overall, qualitatively similar to those using |DA2|, we explain only the results using |*DA1*| for brevity.

First, we reestimate the regressions in Table 6 using a percentage measure of abnormal audit fees, i.e., the abnormal fees deflated by total audit fees. The use of this alternative measure does not alter our results reported in Table 6. For example, when |*DA1*| is used as the dependent variable, the coefficient on the deflated abnormal audit fee (say, *DABAFEE*) is 0.2793 (t = 3.38) and –0.0909 (t = -1.23), respectively, for the samples of clients with *DABAFEE* > 0 and *DABAFEE* < 0.

Second, our sample period, 2000-2003, includes the year of the 2001 Enron debacle, and the subsequent Anderson collapse and the passage of the Sarbanes-Oxley Act in 2002.[27] In an attempt to control for potential effects of these time-specific factors on our regression results, we include year dummies in Eq. (4). To further check whether the results of our regressions reported in Table 6 are sensitive to time period, we estimate Eq. (4) for each sample year (without including year dummies), and find that the results remain unalterted: When *ABAFEE* is greater than zero, the yearly regressions reveal that the coefficient (t value) of *ABAFEE* is 0.0015 (0.03), 0.0527 (3.04), 0.0454 (2.96), and 0.0446 (2.97) for years 2000, 2001, 20002, and 2003, respectively.[28] These

[27] In October 2001, the SEC announced the investigation of Enron related party transactions. In December 2001, Enron filed for the bankruptcy protection under Chapter 11. In May 2002, Anderson trial on the obstruction of justice begins. In July 2002, the Sarbanes-Oxley Act was signed into law.

[28] The reported results use the abnormal audit fees measured by the residuals from the pooled regression reported in Table 2. We also perform year-by-year regression with Eq. (1), and measure abnormal audit

findings suggest that except for year 2000's result, the results for the other three years are consistent with those reported in Table 6.

Third, Figure 1 shows that there exists a large difference between mean and median values of discretionary accruals, suggesting the existence of outliers. To examine if our OLS results reported in Table 6 are driven by the outliers, we perform OLS analyses after removing observations with our measures of DA greater than one. In this case, the coefficient of *ABAFEE* is 0.0219 (t = 3.03) when *ABAFEE* is greater than 0 and -0.0009 (t = -0.21) when *ABAFEE* is less than zero. Alternatively, we perform analyses after removing outliers of DA with the absolute value of standardized error greater than two or three, but the results remain qualitatively similar. Furthermore, without removing outliers, we perform median quantile regression (MQR) as well as robust regression (RR) which are less sensitive to the influence of the outliers. The coefficient of *ABAFEE* is 0.0084 (t = 2.41) and 0.0066 (t = 2.20) for MQR and RR, respectively, for the sample of clients with *ABAFEE* > 0, suggesting the robustness of our results with respective to the existence of outliers.

Fourth, throughout the paper, our tests use observations pooled over the four-year sample period, 2000-2003. As a result, the same firm's observations are repeated over multiple years, which may cause residual auto-correlations. To address a concern over potential auto-correlation problems, we calculate a clustered standard error for each firm. We find that the results using the clustered standard error are qualitatively similar to those reported in Table 6. For example, t value of model (1a) in Table 6 decreases only slightly to 3.26 from 3.34 when the clustered standard error is used.

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fees for each year using the residuals from this year-by-year regression. We then estimate Eq. (4) using this year-by-year abnormal audit fees as the test variable. We find that the results using this year-by-year estimates of abnormal audit fees are qualitatively identical. Not surprisingly, the year-by-year estimates of abnormal audit fees are highly correlated with the pooled estimates (the Pearson correlation = 0.9792 and the Spearman correlation = 0.9818).

Fifth, as shown in Columns (2a) and (2b) of Table 5, the associations between actual audit fees (*AFEE*) and our measures of unsigned discretionary accruals are insignificant for the full sample. We further examine whether this association is conditioned upon the *level* of audit fee and the *sign* of abnormal audit fee. For this purpose, we first bisect our full sample into two subsamples using the median audit fees of 5.48, namely: (1) the above-median audit fee sample (*AFEE* > 5.48); and (2) the below-median audit fee sample (*AFEE* < 5.48). We then estimate Eq. (4) for each subsample, after replacing *ABAFEE* by *AFEE*. The coefficient on *AFEE* is marginally significant with a positive sign (β_1 = 0.0144; t = 1.82) for the above-median *AFEE* sample, but it is insignificant for the below-median *AFEE* sample. We also partition the full sample into two subsamples using the sign of abnormal audit fees, namely: (1) the positive abnormal fee sample (*ABAFEE* > 0); and (2) the negative abnormal fee sample (*ABAFEE* < 0). We then estimate Eq. (4) for each subsample, after replacing *ABAFEE* by *AFEE*. The coefficient on *AFEE* is significantly positive (β_1 =0.0304; t = 2.87) for the positive *ABAFEE* sample, which is consistent with our hypothesis H1, while it is insignificantly negative for the negative *ABAFEE* sample, which is consistent with our hypothesis H2. These results suggest that abnormal audit fees, rather than the level of actual audit fees, drive our empirical findings.

Finally, since discretionary accruals and audit fees are both influenced by decisions by managers (as well as auditors), an endogeneity issue may arise with respect to the association between discretionary accruals and abnormal audit fees. Abnormally high discretionary accruals of clients could cause their auditors to raise audit fees in a way to compensate for the higher litigation risk exposures associated therewith, whereas the high audit fees motivate auditors to allow opportunistic earnings management by clients. We find, however, that when we add |*DA1*| of current year as an additional independent variable in the normal audit fee estimation model, i.e., Eq. (1), the variable is not significant. This insignificant result suggests that |*DA1*| is not priced by the auditors, which alleviates a concern over a possible reverse causation of greater earnings management leading to higher audit fees. The result of our Hausman test also indicates that the endogenity problem is not serious (F = 0.1573 and p = 0.6916). Even when we use a two-stage regression approach to estimate new measures of abnormal fees by including the predicted value of the endogenous variable, |*DA1*|, in the first-stage regression, the results remain similar.[29] The second-stage regression of the predicted value of |*DA1*| on the predicted abnormal fees and all other control variables in Eq. (4) reveals that the coefficient on the predicted abnormal fees is insignificant for the full sample (-0.0056 with t = -1.01), significantly positive for the sample with predicted *ABAFEE* > 0 (0.0194 with t = 2.99), and insignificant for the sample with predicted *ABAFEE* < 0 (-0.0056 with t = -1.01). These results are all consistent with those reported in Tables 5 and 6, suggesting that the results reported in Tables 5 and 7 are robust to potential endogeneity problems.

4.9 Replication of Larker and Richardson's (2004) study

Unlike all the other studies that report an insignificant or marginally positive association between the extent of earnings management and audit (total or non-audit) fee, Larker and Richardson (2004: LR) report that earnings management decreases as auditors receive more fees in their pooled sample. In addition, LR report that earnings

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[29] Specifically, in the first stage, we model our endogenous variable, |*DA1*|, as a function of all the exogenous variables included in the system of equations, i.e., Eqs. (1) and (4) (a reduced form model). To obtain new estimates of abnormal audit fees, we include in Eq. (1) the predicted value of |DA1| obtained from the reduced form model. In this model, the instrumented endogenous variable will be uncorrelated with the error term, and coefficient estimates are unbiased and consistent.

management decreases with both positive and negative abnormal fees, which is contradictory to our findings.

LR's measure of total fee or non-audit fee is similar to that used by Chung and Kallapur (2003: CK) – what CK call a measure of 'client importance' to auditors. It is measured by the ratio of total fee (or non-audit fee) paid to an auditor to total revenue per year that the auditor receives. Although LR's measure is similar to CK's, LR's finding is different from CK's in that the latter reports an insignificant association between earnings management and their client importance measure. In contrast, when LR use the *RATIO* variable which is the similar to the *FEERATIO* variable used in our study (as in Table 8), their results show that there is a marginally positive association between the magnitude of earnings management and the ratio (as reported in Panel B of Table 5 in their study), which is consistent with the findings of our study and most prior studies. Thus, it seems that the difference between LR and our study (as well as CK) is likely to be driven by the use of different measures/methods used in the LR study.[30]

To reconcile this difference, we replicate the LR study using our sample. In so doing, we measure *TOTFEE* and *NONAUDFEE* using the same method that LR use. The *TOTFEE* (*NONAUDFEE)* variable is the total fee (non-audit fee) that a client paid in a year divided by total revenue of the auditor in that year.[31] Using these fee measures, we perform additional analyses. The findings are reported in Table 7. Because the results using *TOTFEE* and *NONAUDFEE* are qualitatively similar, we only tabulate the results using *TOTFEE*. As shown in Column (1) of Table 7, similar to LR's findings, we

[30] Larker and Richardson (2004) further analyze the influence of corporate governance on this relationship and contribute to the accounting literature showing that corporate governance plays an important role in this relationship. Because we do not have data on the corporate governance, we are not able to replicate that part of their analyses.
[31] For this purpose, we include only the auditors that have at least 10 clients per year. This restriction leads to a slight decrease in sample size to 9,135.

also document a significantly negative association (-0.3283 and t = -2.95). However, when we add control variables, as shown in Column (2), the coefficient on *TOTFEE* becomes insignificant (-0.0842 and t = -0.99). This finding is consistent with that of CK who also include several control variables in their regression model.[32] Our results in Table 7 suggest that the omission (inclusion) of the control variables in LR (CK) causes the discrepancy in the regression results between LR and CK.

[INSERT TABLE 7 ABOUT HERE!]

To provide further evidence on whether the asymmetry in the |*DA*|-*ABAFEE* relation between the positive and negative *ABAFEE* submples still holds even after controlling for *TOTFEE*, we include both TOTFEE and *ABAFEE* in the regression model and re-perform the analyses. As shown in Column (3) of Table 7, the coefficient on *ABAFEE* is not significant in the total (pooled) sample. When we perform the analyses with the *positive* abnormal audit fee observations, as shown in Column (4), the coefficient on *ABAFEE* is positively significant, a finding consistent with that reported in Table 6. When we perform the analyses with the *negative* abnormal fee observations, as shown in Column (5), the coefficient on *ABAFEE* is insignificant with a negative sign. In short, our results reported in Table 6 are robust with respect to the inclusion of the client importance measures, i.e., *TOTFEE*, into the regressions.

5. Further analyses on non-audit fees

When examining the issue of economic dependence of the auditor on the client, previous studies focus their attention on the amount, and/or the relative importance of NAS fees rather than audit fees. To provide further insight into the issue, we re-estimate Eq. (4), using abnormal NAS fees (*ABNAFEE*), the ratio of NAS fees to audit fees

[32] When we drop insignificant control variables from the regression model, the results do not change.

(*FEERATIO1*) and the ratio of NAS fees to total fees (*FEERATIO2*) as the dependent variable.

In Section A of Table 8, we report the results of regressions using abnormal NAS fees as our test variable. We compute abnormal NAS fees using similar procedures used for computing abnormal audit fees: We first predict normal NAS fees by estimating Eq. (1) using NAS fees (instead of audit fees) as the dependent variable. We then obtain abnormal NAS fees, i.e., *ABNAFEE*, by subtracting predicted, normal NAS fees from log values of actual NAS fees. As shown in Columns (1a) and (2a) of Section A, Table 8, the coefficient on *ABNAFEE* is insignificant with a positive sign for both subsamples with *ABNAFEE* >0 and *ABNAFEE* < 0.[33] These overall insignificant results for both subsamples are in line with the finding of several previous studies (e.g., Ashbaugh et al 2003; Chung and Kallapur 2003).[34]

[INSERT TABLE 8 ABOUT HERE!]

In Section B of Table 8, we report the results of regressions using the ratio of NAS fees to audit fees, denoted by *FEERATIO1*, as our test variable to check whether more non-audit fees relative to audit fees impair audit quality. As shown in Columns (1b) and (2b), the coefficient on *FEERATIO1* is insignificant for both subsamples with *FEERATIO1* > 1 and *FEERATIO1* < 1, which is consistent with those reported in most

[33] If we use the abnormal non-audit fees deflated by the total non-audit fees rather than *ABNAFEE*, the coefficient on the variable is marginally significant (t = 1.65) when the variable is greater than zero but insignificant when the variable is smaller than zero. All the other results are similar to those reported in Section A of Table 8.

[34] A possible reason for the insignificant result is that the estimation of normal level of non-audit fee is noisier than the estimation of normal audit fees. Unlike the nature of audit service, the nature of non-audit service is not homogeneous across different auditors and clients. Thus, the high noise term in the estimated abnormal non-audit fees could drive insignificant results in our regression analyses. For example, the explanatory power (adjusted R^2) of the non-audit fee estimation model is 0.65, which is significantly lower than that of audit fee model reported in Table 3 (0.80). Similarly, when Ashbaugh et al. (2003) investigate the determinants of various auditor fees by regressing auditors' fee metrics on a group of determinants (Table 2, p. 619), the adjusted R^2 of non-audit fee model (0.34) or non-audit fee ratio model (0.28) is much lower than that of audit fee model (0.66) or total audit fee model (0.68). DeFond et al. (2002) show similar results too.

previous studies.[35] Following DeFond et al. (2002), when we use an alternative measure, abnormal *FEERATIO1*, which is the residual from Eq. (1) after the dependent variable is replaced with *FEERATIO1*, the results are similar to those reported in Section B of the Table 8.

In Section C of Table 8, we report the results of regressions using, as our test variable, *FEERATIO2* which is the ratio of non-audit fees to total (the sum of audit and non-audit) fees. As shown in Columns (1c) and (2c), the coefficient on *FEERATIO2* is insignificant for both subsamples with *FEERATIO2* > 0.5 and *FEERATIO2* < 0.5, which is again consistent with those reported in most previous studies

6. Summary and Concluding Remarks

In this paper, we develop and test the hypothesis that the incentive structure of auditors and the associated audit quality differ systematically between the two distinct situations, that is when audit fees are in excess of the expected, normal level of fees (i.e., abnormal audit fees are positive) and when they are less than the normal level (abnormal audit fees are negative). If auditors receive more than the normal level of fees from their clients, auditors' economic bonding to the clients is non-trivial, creating incentives for auditors to compromise their audit quality. However, if auditors receive less than a normal level of fees, auditors have few (or relatively weak) incentives to compromise audit quality.

To address the above two predictions, we first decompose actual audit fees into two components, namely normal audit fees and abnormal audit fees, and then estimate various regressions of discretionary accruals on abnormal audit fees and other control

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[35] When the median value (0.613) of *FEERATIO1*, rather than 1, is used to split the sample, the results are also consistent - the coefficient on *FEERATIO1* is 0.0014 (t = 1.33) for the subsample higher than the median and 0.0153 (t = 1.01) for the subsample lower than median.

variables, separately, for the full sample, the subsample with positive abnormal audit fees, and the subsample with negative abnormal audit fees. The results of various regressions using a sample of 9,820 firm-year observations over the 2000-2003 period support these predictions and the results are robust to a variety of sensitivity checks.

Our study provides useful insight into current regulatory debates on economic dependence of the auditor on the client, and help us better understand reasons why previous research provides mixed evidence on the association between various fee metrics and opportunistic earnings management. If the association between abnormal fees and unsigned discretionary accruals is conditional on the sign of abnormal fees, examining the association for a combined sample of clients with both positive and negative abnormal fees most likely leads us to observe insignificant associations as reported in most previous studies (e.g., Antle et al. 2002; Ashbaugh et al. 2003; Chung and Kallapur 2003) as well as in our study. This is so because the two opposing effects may cancel out each other when the combined sample is used. The findings of this study suggest that future research on similar issues should take into account the fact that auditors' incentives to compromise their audit quality differ systematically, depending on whether audit fees are greater or less than auditors' expectation on the normal fee level.

Like many other studies, this study has several limitations: First, we use the magnitude of discretionary accruals as a proxy for opportunistic earnings management. It is now well known that discretionary accrual measures are noisy. In an attempt to alleviate concerns over this problem, we use two advanced approaches to measure discretionary accruals, one suggested by Ball and Shivarkumar (2006) and the other suggested by Kothari et al. (2005). Nevertheless, one cannot rule out the possibility that our results are driven by measurement errors involved in our discretionary accrual measures. Finally, we examine the issue of audit quality in the context of earnings management as audit quality is unobservable and thus difficult to measure. An alternative way to evaluate this issue is to replicate the main thrust of our study, namely the finding of the asymmetry in the fee-quality association between clients with positive and negative abnormal fees in different contexts, such as the propensity of auditors issuing going concern opinions. Further research in this direction is called for.

References

Antle R., E. A. Gordon, G. Narayanamoorthy and L. Zhou, 2002. The Joint determination of audit fees, non-audit fees and abnormal accruals. *Working Paper*, Yale University

Ashbaugh, H., R. LaFond, and B. Mayhew, 2003. Do non-audit services compromise auditor independence? Further evidence. *The Accounting Review* 78 (3): 611-639.

Ball, R. and L. Shivakumar. 2006. The role of accruals in asymmetrically timely gain and loss recognition. *Working Paper*. University of Chicago.

Becker, C., DeFond, M., Jiambalvo, J., and K. Subramanyam, 1998. The effect of audit quality on earnings management, *Contemporary Accounting Research* 15 (1): 1-24.

Beck, P. J., T. J. Frecka, and I. Solomon. 1988. An empirical analysis of the relationship between MAS involvement and auditor tenure: Implications for auditor independence. *Journal of Accounting Literature* 7: 65-84.

Butler, M. A. J. Leone, and M. Willenborg. 2004. An empirical analysis of auditor reporting and its association with abnormal accruals. *Journal of Accounting and Economics* 32 (2): 139-165.

Chaney, P., D. C. Jeter, and L. Shivakumar. 2004. Self-selection of auditors and audit pricing in private firms. *The Accounting Review* 79 (1): 51-72.

Choi, J. –H., J. -B. Kim, X. Liu, and D. A. Simunic. 2005. Audit pricing, legal liability regimes, and Big 4 premiums: Theory and cross-country evidence. *Working Paper*, University of British Columbia.

Choi, J.-H., and T.J. Wong. 2006. Auditors' governance functions and legal environments: An international investigation. *Contemporary Accounting Research* (forthcoming).

Chung, H. and S. Kallapur. 2003. Client importance, non-audit services, and abnormal accruals. *The Accounting Review* 78 (4): 931-955.

Craswell, A., J.R. Francis, and S. Taylor. 1995. Auditor brand name reputations and industry specialization. *Journal of Accounting and Economics* 20 (3): 297-322.

Craswell, A., D. J. Stokes, and J. Laughton, 2002. Auditor independence and fee dependence. *Journal of Accounting and Economics* 33 (2): 253-275.

DeAngelo, L. E. 1981a. Auditor independence, "low balling," and disclosure regulation. *Journal of Accounting and Economics* 3 (2): 113-127.

DeAngelo, L. E. 1981b. Auditor size and audit quality. *Journal of Accounting and Economics* 3 (3): 183-199.

DeChow, P. M. and I. D. Dichev. 2002. The quality accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77 (Supplement): 35-59.

Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1995. Detecting earnings management. *The Accounting Review* 70 (2): 193-225.

DeFond, M., and J. Jiambalvo, 1994. Debt covenant violations and manipulations of accruals. *Journal of Accounting and Economics* 17 (1-2): 145-176.

DeFond, M., K. Raghunandan, and K. Subramanyam, 2002. Do non-audit services fees impair auditor independence? Evidence from going concern audit opinions. *Journal of Accounting Research* 40 (4): 1247-1274.

Dye, R. A. 1991. Infomationally motivated auditor replacement. *Journal of Accounting and Economics* 14 (4): 347-374.

Fan, J. and T. J. Wong. 2005. Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. *Journal of Accounting Research* 43 (1): 35-72.

Francis, J., E, Maydew, and H. C. Sparks. 1999. The role of big six auditors in the credible reporting of accruals. *Auditing: A Journal of Practice and Theory* 18 (2): 17-34.

Francis, J., and D. J. Stokes. 1986. Audit prices, product differentiation, and scale economies: further evidence from the Australian market. *Journal of Accounting Research* 24 (2): 383-393.

Frankel, R., M. Johnson, and K. Nelson, 2002. The relation between auditors' fees for non-audit services and earnings quality. *The Accounting Review* 77 (Supplement): 71-105.

Jones, J., 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29 (1): 193-228.

Kasznik, R. 1999. On the association between voluntary disclosure and earnings management. *Journal of Accounting Research* 37 (1): 57-81.

Kim, J.-B., R. Chung, and M. Firth. 2003. Auditor conservatism, asymmetric monitoring and earnings management. *Contemporary Accounting Research* 20: 323-360.

Kim, K.-T., S. Kwok, and L.-S. Hwang. 2005. Abnormal non-audit fees and income management. *Working Paper*. Seoul National University.

Kinney, W.R. Jr., and R. Libby. 2002. Discussion of the relation between auditors' fees for non-audit services and earnings management. *The Accounting Review* 77 (Supplement): 107-114.

Kinney, W. R. Jr., Z. Palmrose, and S. Scholz. 2004. Auditor independence, non-audit services and earnings restatements: Was the U.S. government right? *Journal of Accounting Research* 42 (3): 561-588.

Kothari, S. P., A. J. Leone, and C. E. Wasley. 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics* 39 (1): 163-197.

Larcker, D. F., and S. A. Richardson. 2004. Fees paid to audit firms, accrual choices, and corporate governance. *Journal of Accounting Research* 42 (3): 625-658.

Magee, R., and M. Tseng. 1990. Audit pricing and independence. *The Accounting Review* 65 (2): 315-336.

Raghunandan, K., J. Read. and S. Whisenant. 2003. Initial evidence on the association between nonaudit fees and restated financial statements. *Accounting Horizon* 17 (3): 223-234.

Reynolds, J.L., D. Deis, and J.R. Francis. 2004. Professional service fees and auditor objectivity. *Auditing: A Journal of Practice and Theory* 23 (1): 29-52.

Ruddock, C., S. Taylor, and S. Taylor. 2005. Non-audit services and earnings conservatism: Is auditor independence Impaired? *Forthcoming at Contemporary Accounting Research.*

Sankaraguruswamy, S., and S. Whisenant. 2003. Pricing initial audit engagements: Empirical evidence following public disclosure of audit fees. *Working paper*. University of Houston.

Simunic, D. 1980. The pricing of audit services: theory and evidence. *Journal of Accounting Research* 18 (1): 161-190.

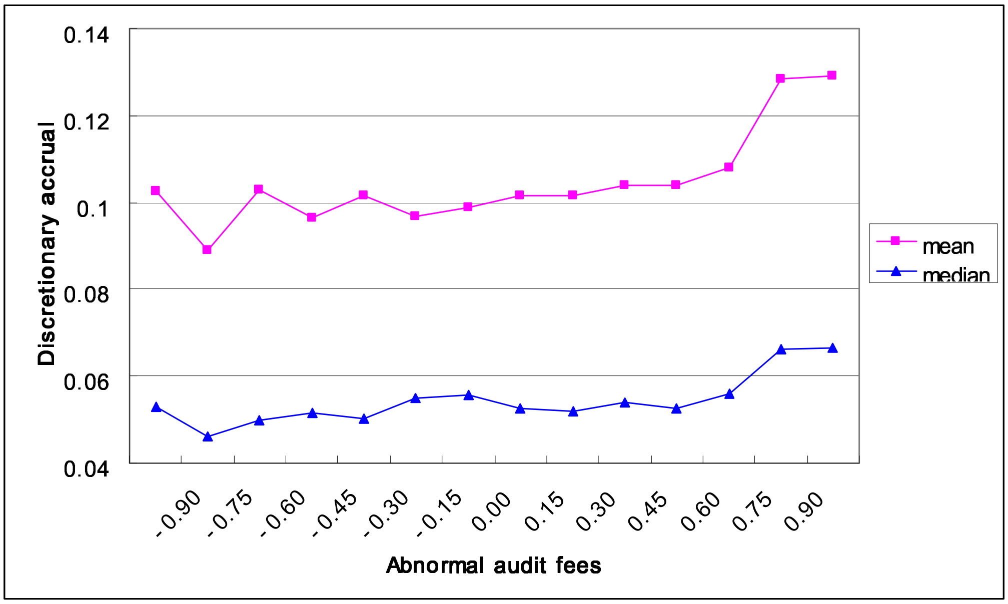
Simunic, D. A. and M. T. Stein. 1996. The impact of litigation risk on audit pricing: a review of the economics and the evidence. *Auditing: A Journal of Practice and Theory* 15 (Supplement): 119-133.

White, H. 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica* 48 (4): 817-838.

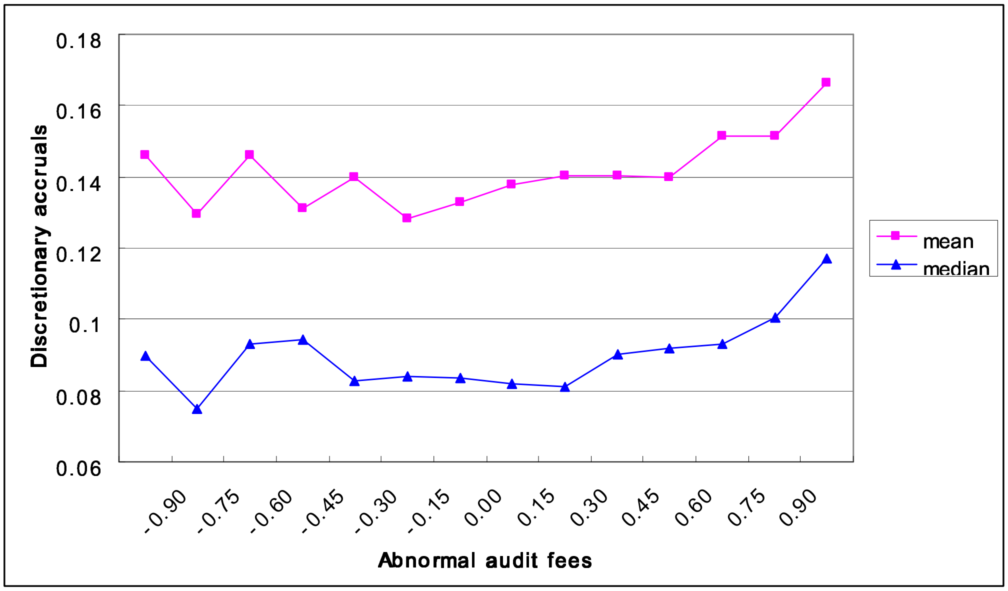
Zmijewski, M. E. 1984. Methodological issues related to the estimation of financial distress perdiction models. *Journal of Accounting Research* 22 (Supplement): 59-82.

Figure 1
The distribution of the magnitude of discretionary accruals categorized by the magnitude of abnormal audit fees

Panel A: Distribution of | *DA1* |



Panel B: Distribution of | *DA2* |



0.18
0.16
0.14
0.12
0.1
0.08
0.06
Discretionary accruals
-0.90
-0.75
-0.60
-0.45
-0.30
-0.15
0.00
0.15
0.30
0.45
0.60
0.75
0.90
Abnormal audit fees
mean
median

Table 1
Distributions of variables

Variable	Mean	Std. Dev.	1%	50%	99%
DA 1	0.1223	0.2852	0.0005	0.0538	1.0120
DA 2	0.1630	0.2779	0.0015	0.0872	1.2171
AFEE	5.6243	1.1539	3.2923	5.4848	8.8818
LNTA	12.2316	2.0403	7.6967	12.2065	17.0875
NBS	0.9924	0.4611	0	0.6931	2.0794
NGS	0.9778	0.6216	0	1.0986	2.3026
INVREC	0.2771	0.1905	0	0.2522	0.7863
EMPLOY	55.9163	70.9413	2.8284	30.9677	352.1363
ISSUE	0.4269	0.4946	0	0	1
FOREIGN	0.4549	0.4980	0	0	1
EXORD	0.2147	0.4106	0	0	1
LOSS	0.4413	0.4966	0	0	1
LEVE	0.4817	0.3128	0.0416	0.4453	1.8538
ROA	-0.0940	0.3901	-1.5136	0.0174	0.3017
LIQUID	3.5525	10.2021	0.2666	2.1699	22.3860
BIG4	0.8646	0.3421	0	1	1
BTM	0.7000	0.7292	0	0.4814	4
CHGSALE	0.0714	0.6072	-0.9172	0.0391	1.4817
AUDCHG	0.1019	0.3025	0	0	1
CFO	-0.0087	0.1018	-0.2709	-0.0007	0.1988
LAGACCR	-0.0108	0.1354	-0.3005	-0.0015	0.2055

Definitions of Variables

DA = discretionary accruals, *DA1* is the discretionary accruals measured by Ball and Shivakumar's (2006) method; *DA2* is the discretionary accruals measured by modified Jones model and adjusted for firm-performance (Kothari et al. 2005);
AFEE = natural log of audit fees;
LNTA = log value of total assets;
NBS = log value of one plus number of business segments;
NGS = log value of one plus number of geographic segments;
INVREC = inventory and receivables divided by total assets;
EMPLOY = square root of the number of employees;
ISSUE = 1 if the sum of debt or equity issued during the past 3 years are more than 5% of the total assets, 0 otherwise;
FOREIGN = 1 if the firm pays any foreign income tax, 0 otherwise;
EXORD = 1 if the firm reports any extraordinary gains or losses, 0 otherwise;
LOSS = 1 if the firm reported a loss during the year, 0 otherwise;
LEVE = leverage (total liabilities divided by total assets);
ROA = return on assets;
LIQUID = current assets divided by current liabilities;
BIG4 = 1 if the auditor is a Big 4 or predecessor auditor, 0 otherwise;
BTM = book-to-market ratio, windsorized at 0 and 4;
CHGSALE = sales change from the prior year to current year scaled by lagged total assets;
AUDCHG = 1 if auditor is in the first year of audit engagement, 0 otherwise;
CFO = cash flow from operation scaled by lagged total assets;
LAGACCR = prior-year total accruals scaled by lagged total assets.

Table 2

Estimation of normal audit fees

Variables	Predicted Sign	Coefficient (t value)
LNTA	+	0.3887 (70.74***)
NBS	+	0.1260 (9.56***)
NGS	+	0.1472 (13.69***)
INVREC	+	0.3449 (10.40***)
EMPLOY	+	0.0020 (11.85***)
ISSUE	+	0.0271 (2.42**)
FOREIGN	+	0.2351 (16.65***)
EXORD	+	0.1507 (10.87***)
LOSS	+	0.1155 (8.04***)
LEVE	+	0.3225 (14.61***)
ROA	-	-0.2184 (-8.00***)
LIQUID	-	-0.0029 (-1.68*)
BIG4	+	0.1787 (10.08***)
BTM	-	-0.0197 (-2.57***)
Constant	?	0.2607 (4.26***)
Industry & Year Dummies		Included
N		9,820
Adjusted R^2		0.7983

All t-statistics in parentheses are calculated using White's (1980) consistent standard error estimates to correct for heteroskedasticity. *, **, *** denotes p-value <10%, p-value<5%, p-value<1%, respectively with two-tailed tests. See Table 1 for the definitions of variables.

Table 2 (Continued)

Definitions of Variables

AFEE	= natural log of audit fees;
LNTA	= log value of total assets;
NBS	= log value of one plus number of business segments;
NGS	= log value of one plus number of geographic segments;
INVREC	= inventory and receivables divided by total assets;
EMPLOY	= square root of the number of employees;
ISSUE	= 1 if the sum of debt or equity issued during the past 3 years are more than 5% of the total assets, 0 otherwise;
FOREIGN	= 1 if the firm pays any foreign income tax, 0 otherwise;
EXORD	= 1 if the firm reports any extraordinary gains or losses, 0 otherwise;
LOSS	= 1 if the firm reported a loss during the year, 0 otherwise;
LEVE	= leverage (total liabilities divided by total assets);
ROA	= return on assets;
LIQUID	= current assets divided by current liabilities;
BIG4	= 1 if the auditor is a Big 4 or predecessor auditor, 0 otherwise;
BTM	= book-to-market ratio, windsorized at 0 and 4;

Table 3
Distributions of abnormal audit fees

Variable	*ABAFEE*	*ABAFEE>0*	*ABAFEE<0*
Mean	-0.0071	0.3861	-0.3939
Std. Dev.	0.4999	0.2810	0.3410
1%	-1.1908	0.0071	-0.0049
25%	-0.3225	0.1545	-0.1529
Median	-0.0042	0.3315	-0.3185
75%	0.3284	0.5679	-0.5539
99%	1.0000	1.0000	-1.3257
N	9,820	4,870	4,950

Table 4: Pearson correlation among regression variables

	│DA 1│	│DA 2│	ABAFEE	LNTA	BIG4	BTM	CHGSALE	LOSS	LEVE	ISSUE	AUDCHG	CFO
│DA 2│	0.5847 (<0.001)											
ABAFEE	-0.0019 (0.8498)	0.0082 (0.4177)										
LNTA	-0.1820 (<0.001)	-0.2164 (<0.001)	0.0002 (0.9869)									
BIG4	-0.0766 (<0.001)	-0.0957 (<0.001)	0.0017 (0.8656)	0.4314 (<0.001)								
BTM	-0.0626 (<0.001)	-0.0878 (<0.001)	0.0003 (0.9757)	-0.0805 (<0.001)	-0.0834 (<0.001)							
CHGSALE	0.0271 (0.0072)	0.0209 (0.0385)	-0.0147 (0.1458)	0.0528 (<0.001)	0.0128 (0.2033)	-0.1229 (<0.001)						
LOSS	0.1634 (<0.001)	0.1766 (<0.001)	-0.0022 (0.8251)	-0.3290 (<0.001)	-0.0853 (<0.001)	0.1143 (<0.001)	-0.1330 (<0.001)					
LEVE	0.0270 (0.0075)	0.0467 (<0.001)	-0.0003 (0.9753)	0.0893 (<0.001)	-0.0771 (<0.001)	-0.1231 (<0.001)	-0.0532 (<0.001)	0.0569 (<0.001)				
ISSUE	0.0865 (<0.001)	0.1045 (<0.001)	-0.0026 (0.7977)	0.0128 (0.2048)	-0.0045 (0.6532)	-0.1403 (<0.001)	0.1036 (<0.001)	0.0738 (<0.001)	0.1846 (<0.001)			
AUDCHG	0.0190 (0.0593)	0.0082 (0.4172)	-0.0513 (<0.001)	-0.0948 (<0.001)	-0.1306 (<0.001)	0.0347 (0.0006)	-0.0421 (<0.001)	0.0383 (0.001)	0.0585 (<0.001)	-0.0122 (0.2251)		
CFO	-0.3091 (<0.001)	-0.4138 (<0.001)	-0.0112 (0.2676)	0.3388 (<0.001)	0.1016 (<0.001)	0.0543 (<0.001)	0.0505 (<0.001)	-0.4350 (<0.001)	-0.0604 (<0.001)	-0.1879 (<0.001)	-0.0271 (0.0073)	
LAGACCR	-0.1115 (<0.001)	-0.1224 (<0.001)	-0.0168 (0.0965)	0.0439 (<0.001)	0.0091 (0.3678)	0.0213 (0.0350)	-0.0162 (0.1082)	-0.0923 (<0.001)	-0.0246 (0.0149)	-0.0276 (0.0062)	-0.0030 (0.7650)	0.0784 (<0.001)

Two-tailed p values are presented in the parentheses. See Table 1 for the definitions of variables**.**

Table 4 (Continued)

Definitions of Variables

DA = discretionary accruals, *DA1* is the discretionary accruals measured by Ball and Shivakumar's (2005) method; *DA2* is the discretionary accruals measured by modified Jones model and adjusted for firm-performance (Kothari et al. 2005);
ABAFEE = abnormal audit fees;
LNTA = log value of total assets;
BIG4 = 1 if the auditor is a Big 4 or predecessor auditor, 0 otherwise;
BTM = book-to-market ratio, windsorized at 0 and 4;
CHGSALE = sales change from the prior year to current year scaled by lagged total assets;
LOSS = 1 if the firm reported a loss during the year, 0 otherwise;
LEVE = leverage (total liabilities divided by total assets);
ISSUE = 1 if the sum of debt or equity issued during the past 3 years are more than 5% of the total assets, 0 otherwise;
AUDCHG = 1 if auditor is in the first year of audit engagement, 0 otherwise;
CFO = cash flow from operation scaled by lagged total assets;
LAGACCR = prior-year total accruals scaled by lagged total assets.

Table 5
Full sample results on the association of unsigned discretionary accruals with abnormal audit fees, audit fees, and absolute abnormal audit fees

Variable	Pred. sign	Section A Using |*DA1*| as the dependent variable			Section B Using |*DA2*| as the dependent variable		
		(1a)	**(2a)**	**(3a)**	**(1b)**	**(2b)**	**(3b)**
ABAFEE	?	-0.0030 (-0.35)			0.0019 (0.35)		
AFEE	?		0.0054 (0.77)			0.0052 (1.01)	
|*ABAFEE*|	?			0.0365 (2.60***)			0.0232 (2.70***)
LNTA	-	-0.0106 (-4.76***)	-0.0132 (-2.60***)	-0.0112 (-5.36***)	-0.0110 (-4.71***)	-0.0135 (-3.42***)	-0.0114 (-4.82***)
BIG4	-	-0.0237 (-3.06***)	-0.0244 (-3.22***)	-0.0221 (-2.88***)	-0.0302 (-3.61***)	-0.0293 (-3.53***)	-0.0277 (-3.33***)
BTM	-	-0.0154 (-3.88***)	-0.0153 (-3.87***)	-0.0150 (-3.77***)	-0.0214 (-4.72***)	-0.0208 (-4.62***)	-0.0206 (-4.60***)
CHGSALE	+	0.0131 (0.41)	0.0133 (0.41)	0.0132 (0.41)	0.0121 (0.33)	0.0114 (0.31)	0.0113 (0.31)
LOSS	+	0.0030 (0.33)	0.0025 (0.26)	0.0023 (0.25)	-0.0206 (-1.65*)	-0.0214 (-1.73*)	-0.0214 (-1.71*)
LEVE	+	0.0187 (1.8)	0.0158 (1.26)	0.0176 (1.28)	0.0264 (1.91*)	0.0251 (1.85*)	0.0272 (1.97**)
ISSUE	+	0.0118 (1.73*)	0.0118 (1.73*)	0.0112 (1.65*)	0.0093 (1.26)	0.0088 (1.20)	0.0085 (1.16)
AUDCHG	+	0.0060 (0.42)	0.0067 (0.46)	0.0044 (0.31)	-0.0095 (-1.09)	-0.0093 (-1.07)	-0.0109 (-1.26)
CFO	-	-0.2294 (-6.52***)	-0.2285 (-6.46***)	-0.2280 (-6.50***)	-0.3361 (-5.81***)	-0.3340 (-5.72***)	-0.3339 (-5.73***)
LAGACCR	-	-0.0289 (-2.28**)	-0.0288 (-2.28**)	-0.0288 (-2.28**)	-0.0539 (-2.34**)	-0.0280 (-1.87*)	-0.0280 (-1.87*)
Constant	?	0.2933 (11.20***)	0.2949 (10.79***)	0.2859 (10.35***)	0.3643 (13.95***)	0.3640 (13.86***)	0.3577 (13.95***)
Industry &Year Dummies		Included	Included	Included	Included	Included	Included
N		9,820	9,820	9,820	9,820	9,820	9,820
Adjusted R^2		0.1378	0.1358	0.1394	0.2142	0.2143	0.2167

All t-statistics in parentheses are calculated using White's (1980) consistent standard error estimates to correct for heteroskedasticity. *, **, *** denotes p-value <10%, p-value<5%, p-value<1%, respectively with two-tailed tests. See Table 1 for the definitions of variables.

Table 5 (Continued)

Definitions of Variables

DA	= discretionary accruals, *DA1* is the discretionary accruals measured by Ball and Shivakumar's (2006) method; *DA2* is the discretionary accruals measured by modified Jones model and adjusted for firm-performance (Kothari et al. 2005);
ABAFEE	= abnormal audit fees;
AFEE	= natural log of audit fees;
LNTA	= log value of total assets;
BIG4	= 1 if the auditor is a Big 4 or predecessor auditor, 0 otherwise;
BTM	= book-to-market ratio, windsorized at 0 and 4;
CHGSALE	= sales change from the prior year to current year scaled by lagged total assets;
LOSS	= 1 if the firm reported a loss during the year, 0 otherwise;
LEVE	= leverage (total liabilities divided by total assets);
ISSUE	= 1 if the sum of debt or equity issued during the past 3 years are more than 5% of the total assets, 0 otherwise;
AUDCHG	= 1 if auditor is in the first year of audit engagement, 0 otherwise;
CFO	= cash flow from operation scaled by lagged total assets;
LAGACCR	= prior-year total accruals scaled by lagged total assets.

Table 6

Subsample results on the association between discretionary accruals and abnormal audit fees

	Section A Using |DA1| as the dependent variable				**Section B** Using |DA2| as the dependent variable			
Sample	**(1a) ABAFEE> 0**	**(2a) ABAFEE<0**	**(3a) ABAFEE> 0 & |*DA 1+*|**	**(4a) ABAFEE>0 & |*DA 1-*|**	**(1b) ABAFEE> 0**	**(2b) ABAFEE<0**	**(3b) ABAFEE> 0 & |*DA 2+*|**	**(4b) ABAFEE>0 & |*DA 2-*|**
ABAFEE	0.0384 (3.34***)	-0.0331 (-1.57)	0.0493 (2.99***)	0.0248 (2.42**)	0.0338 (2.41**)	-0.0140 (-1.35)	0.0248 (1.73*)	0.0474 (2.63***)
LNTA	-0.0142 (-6.84***)	-0.0079 (-2.06**)	-0.0189 (-8.11***)	-0.0105 (-5.88***)	-0.0139 (-3.90***)	-0.0088 (-2.66***)	-0.0138 (-2.88***)	-0.0179 (-5.92***)
BIG4	-0.0175 (-1.79*)	-0.0312 (-2.48**)	-0.0123 (-0.98)	-0.0179 (-1.54)	-0.0234 (-1.92*)	-0.0349 (-2.98***)	-0.0371 (-2.47**)	-0.0092 (-0.45)
BTM	-0.0151 (-2.50**)	-0.0177 (-3.73***)	-0.0044 (-0.77)	-0.0168 (-3.72***)	-0.0214 (-3.24***)	-0.0223 (-4.13***)	-0.00002 (-0.00)	-0.0356 (-3.98***)
CHGSALE	-0.0247 (-0.50)	0.0397 (1.24)	0.0406 (2.21**)	-0.0027 (-0.13)	-0.0320 (-0.58)	0.0406 (1.11)	0.0275 (1.13)	-0.0795 (-1.00)
LOSS	-0.0161 (-1.30)	0.0225 (1.71*)	-0.0951 (-5.48***)	0.0666 (8.03***)	-0.0308 (-1.36)	-0.0093 (-0.65)	-0.0978 (-3.59***)	0.0556 (3.74***)
LEVE	0.0257 (1.49)	0.0129 (0.66)	0.0560 (2.98***)	0.0111 (0.74)	0.0398 (1.94*)	0.0174 (1.01)	0.0518 (2.18**)	0.0199 (0.65)
ISSUE	0.0135 (1.55)	0.0095 (0.93)	0.0073 (0.87)	0.0094 (1.45)	0.0128 (1.06)	0.0060 (0.66)	-0.0059 (-0.42)	0.0332 (2.51**)
AUDCHG	-0.0016 (-0.10)	0.0122 (0.54)	-0.0262 (-2.44**)	0.0064 (0.53)	-0.0178 (-1.23)	-0.0039 (-0.36)	-0.0393 (-2.33**)	0.0026 (0.11)

Table 6
(Continued)

CFO	-0.2127 (-4.21***)	-0.2332 (-4.58***)	-0.2527 (-5.54***)	-0.0910 (-2.54**)	-0.3065 (-2.90***)	-0.3486 (-5.28***)	-0.5063 (-4.12***)	0.0437 (0.72)
LAGACCR	-0.0179 (-1.93*)	-0.0403 (-1.62)	-0.0054 (-1.36)	-0.0366 (-2.42**)	-0.0223 (-2.02**)	-0.0344 (-1.17)	-0.0088 (-1.84*)	-0.0426 (-1.84*)
Constant	0.3290 (11.59***)	0.2395 (5.24***)	0.3874 (13.48***)	0.2285 (9.62***)	0.3778 (10.46***)	0.3352 (9.66***)	0.3715 (8.78***)	0.3809 (8.88***)
Industry & Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included
N	4,870	4,950	2,691	2,179	4,870	4,950	2,361	2,509
Adjusted R^2	0.1753	0.1335	0.2360	0.2572	0.2045	0.2423	0.4241	0.1466

All t-statistics in parentheses are calculated using White's (1980) consistent standard error estimates to correct for heteroskedasticity. *, **, *** denotes p-value <10%, p-value<5%, p-value<1%, respectively with two-tailed tests. See Table 1 for the definitions of variables.

Definitions of Variables

DA = discretionary accruals, *DA1* is the discretionary accruals measured by Ball and Shivakumar's (2006) method; *DA2* is the discretionary accruals measured by modified Jones model and adjusted for firm-performance (Kothari et al. 2005);
ABAFEE = abnormal audit fees;
LNTA = log value of total assets;
BIG4 = 1 if the auditor is a Big 4 or predecessor auditor, 0 otherwise;
BTM = book-to-market ratio, windsorized at 0 and 4;
CHGSALE = sales change from the prior year to current year scaled by lagged total assets;
LOSS = 1 if the firm reported a loss during the year, 0 otherwise;
LEVE = leverage (total liabilities divided by total assets);
ISSUE = 1 if the sum of debt or equity issued during the past 3 years are more than 5% of the total assets, 0 otherwise;
AUDCHG = 1 if auditor is in the first year of audit engagement, 0 otherwise;
CFO = cash flow from operation scaled by lagged total assets;
LAGACCR = prior-year total accruals scaled by lagged total assets.

Table 7

Replication of Larker and Richardson's study with |*DA1*|

Sample partitioning	(1) Total Sample	(2) Total Sample	(3) Total Sample	(4) ABAFEE> 0	(5) ABAFEE<0
TOTFEE	-0.3283 (-2.95***)	-0.0842 (-0.99)	-0.0736 (-0.96)	-0.1094 (-0.79)	-0.0564 (-0.57)
ABAFEE			-0.0026 (-0.30)	0.0367 (3.16***)	-0.0335 (-1.53)
LNTA		-0.0086 (-3.48***)	-0.0087 (-3.58***)	-0.0136 (-6.09***)	-0.0043 (-0.99)
BIG4		-0.0233 (-2.47**)	-0.0234 (-2.47**)	-0.0189 (-1.55)	-0.0275 (-1.83*)
BTM		-0.0146 (-3.44***)	-0.0146 (-3.44***)	-0.0151 (-2.44**)	-0.0159 (-3.04***)
CHGSALE		0.0088 (0.25)	0.0088 (0.25)	-0.0296 (-0.58)	0.0370 (1.04)
LOSS		0.0117 (1.23)	0.0116 (1.23)	-0.0095 (-0.74)	0.0332 (2.37**)
LEVE		-0.0011 (-0.08)	-0.0010 (-0.07)	0.0198 (1.15)	-0.0179 (-0.86)
ISSUE		0.0127 (1.80*)	0.0127 (1.80*)	0.0139 (1.57)	0.0107 (1.01)
AUDCHG		0.0064 (0.39)	0.0061 (0.38)	-0.0031 (-0.18)	0.0141 (0.55)
CFO		-0.2234 (-5.64***)	-0.2235 (-5.62***)	-0.2049 (-3.70***)	-0.2319 (-3.84***)
LAGACCR		-0.0280 (-2.18**)	-0.0280 (-2.18**)	-0.0179 (-1.89*)	-0.0379 (-1.55)
Constant	0.1178 (38.56***)	0.2723 (9.34***)	0.2728 (9.64***)	0.3236 (11.06***)	0.1963 (3.71***)
Year & Industry Dummies	Included	Included	Included	Included	Included
N	9,135	9,135	9,135	4,608	4,527
Adjusted R^2	0.0003	0.1245	0.1245	0.1712	0.1172

All t-statistics in parentheses are calculated using White's (1980) consistent standard error estimates to correct for heteroskedasticity. *, **, *** denotes p-value <10%, p-value<5%, p-value<1%, respectively with two-tailed tests. *TOTFEE* = a proxy for the client importance measured by the ratio of total fee paid to an auditor by a client to total revenue of the year that the auditor receives. See Table 1 for the definitions of variables.

Table 7 (Continued)

Definitions of Variables

DA	= discretionary accruals, *DA1* is the discretionary accruals measured by Ball and Shivakumar's (2006) method; *DA2* is the discretionary accruals measured by modified Jones model and adjusted for firm-performance (Kothari et al. 2005);
TOTFEE	= total fee that a client pay to an auditor divided by total revenue of the auditor in that year;
ABAFEE	= abnormal audit fees;
LNTA	= log value of total assets;
BIG4	= 1 if the auditor is a Big 4 or predecessor auditor, 0 otherwise;
BTM	= book-to-market ratio, windsorized at 0 and 4;
CHGSALE	= sales change from the prior year to current year scaled by lagged total assets;
LOSS	= 1 if the firm reported a loss during the year, 0 otherwise;
LEVE	= leverage (total liabilities divided by total assets);
ISSUE	= 1 if the sum of debt or equity issued during the past 3 years are more than 5% of the total assets, 0 otherwise;
AUDCHG	= 1 if auditor is in the first year of audit engagement, 0 otherwise;
CFO	= cash flow from operation scaled by lagged total assets;
LAGACCR	= prior-year total accruals scaled by lagged total assets.

Table 8
Results of regressions of |*DA1*| on abnormal non-audit fees and fee ratios

	Section A		Section B		Section C	
Sample partitioning	**(1a)** **ABNAFEE>0**	**(2a)** **ABNAFEE<0**	**(1b)** **FEERATIO1 >1**	**(2b)** **FEERATIO1 <1**	**(1c)** **FEERATIO2 >0.5**	**(2c)** **FEERATIO2 <0.5**
ABNAFEE	0.0103 (1.46)	0.0010 (0.39)				
FEERATIO1			0.0004 (0.42)	0.0139 (1.54)		
FEERATIO2					0.0620 (1.03)	0.0222 (1.30)
LNTA	-0.0097 (-2.87***)	-0.0115 (-4.39***)	-0.0055 (-0.95)	-0.0165 (-10.55***)	-0.0068 (-1.18)	-0.0164 (-10.41***)
BIG4	-0.0196 (-1.72*)	-0.0281 (-3.00***)	-0.0138 (-0.54)	-0.0247 (-3.23***)	-0.0156 (-0.60)	-0.0257 (-3.35***)
BTM	-0.0203 (-3.54***)	-0.0093 (-2.53**)	-0.0174 (-2.04**)	-0.0174 (-4.27***)	-0.0172 (-1.99**)	-0.0182 (-4.41***)
CHGSALE	0.0061 (0.14)	0.0275 (2.33**)	0.0574 (1.54)	-0.0289 (-0.78)	0.0575 (1.55)	-0.0282 (-0.76)
LOSS	0.0166 (1.22)	-0.0130 (-1.43)	0.0337 (1.59)	-0.0149 (-1.82*)	0.0334 (1.59)	-0.0130 (-1.57)
LEVE	-0.0146 (-0.73)	0.0637 (4.39***)	-0.0561 (-1.80*)	0.0526 (4.25***)	-0.0562 (-1.80*)	0.0554 (4.50***)
ISSUE	0.0212 (2.12**)	-0.0016 (-0.20)	0.0140 (0.94)	0.0127 (2.06**)	0.0138 (0.93)	0.0129 (2.10**)
AUDCHG	0.0219 (0.74)	-0.0040 (-0.50)	0.0553 (0.87)	-0.0063 (-0.88)	0.0565 (0.89)	-0.0062 (-0.87)
CFO	-0.2249 (-5.28***)	-0.2248 (-3.74***)	-0.3312 (-3.64***)	-0.1736 (-7.04***)	-0.3316 (-3.63***)	-0.1793 (-7.20***)
LAGACCR	-0.0266 (-1.93*)	-0.0372 (-3.07***)	-0.0231 (-1.75*)	-0.0455 (-3.63***)	-0.0540 (-2.29**)	-0.0179 (-0.66)
Constant	0.2929 (7.53***)	0.2799 (9.34***)	0.2436 (3.39***)	0.3426 (15.29***)	0.2223 (2.57***)	0.3464 (15.28***)
Year & Industry Dummies	Included	Included	Included	Included	Included	Included
N	5,593	4,227	3,271	6,549	3,259	6,549
Adjusted R^2	0.1255	0.2088	0.1359	0.2047	0.1346	0.1985

Table 8 (Continued)

All t-statistics in parentheses are calculated using White's (1980) consistent standard error estimates to correct for heteroskedasticity. *, **, *** denotes p-value <10%, p-value<5%, p-value<1%, respectively with two-tailed tests. *ABNAFEE* = abnormal non-audit fees. *FEERATIO1* = non-audit fees / audit fees. *FEERATIO2* = non-audit fees / total fees. See Table 1 for the definitions of other variables.

Definitions of Variables

DA = discretionary accruals, *DA1* is the discretionary accruals measured by Ball and Shivakumar's (2006) method; *DA2* is the discretionary accruals measured by modified Jones model and adjusted for firm-performance (Kothari et al. 2005);
ABNAFEE = abnormal non-audit fees;
FEERATIO1 = non-audit fee divided by audit fees;
FEERATIO2 = non-audit fee divided by total fees;
LNTA = log value of total assets;
BIG4 = 1 if the auditor is a Big 4 or predecessor auditor, 0 otherwise;
BTM = book-to-market ratio, windsorized at 0 and 4;
CHGSALE = sales change from the prior year to current year scaled by lagged total assets;
LOSS = 1 if the firm reported a loss during the year, 0 otherwise;
LEVE = leverage (total liabilities divided by total assets);
ISSUE = 1 if the sum of debt or equity issued during the past 3 years are more than 5% of the total assets, 0 otherwise;
AUDCHG = 1 if auditor is in the first year of audit engagement, 0 otherwise;
CFO = cash flow from operation scaled by lagged total assets;
LAGACCR = prior-year total accruals scaled by lagged total assets.