HAVE AUDITORS BECOME MORE CONSERVATIVE IN THE POST-SOX ERA? A STUDY OF ACCRUALS QUALITY, FEES, AND AUDITOR RESIGNATIONS

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ABSTRACT

This study investigates the relationship between accruals quality and auditors' resignation decisions in the post-SOX era. We find that in the pre-SOX era auditors are *less* likely to resign from clients with low accruals quality. However, we find the opposite for the post-SOX era due to strengthened legal environment. However, audit fees moderate the relation between poor accruals quality and auditor resignations. This moderation effect appears in both pre- and post-SOX periods. This is consistent with the notion that auditors manage risk by charging higher fees. Further analyses are conducted to examine whether the above findings vary by auditor type, i.e., big N, second tier, and smaller auditors. Second tier auditors are shown to be even more conservative than big N auditors when considering the fees' moderating effect. Modest evidence is observed to support that smaller auditors have greater tolerance of poor accruals quality. Overall, the results shed light on the role of accruals quality in auditors' client retention decisions, the role of fees in mitigating the accruals quality related risk, among various types of auditors, in both pre- and post-SOX periods.

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1. INTRODUCTION

Accruals quality, a measure of how well accounting earnings map into cash flows, has received much attention in extant research (Francis et al. 2004, 2005; Doyle et al. 2007; and Krishnan et al. 2008a). However, much of this research focuses on investors, i.e., investor pricing of accruals quality. We extend the literature on accruals quality by examining how auditors respond to concerns over clients' accruals quality, particularly in the post-Sarbanes-Oxley (SOX) era. Empirical evidence on how accruals quality impacts auditors' decision-making is potentially useful to regulators, investors, and other participants of the capital markets. For example, if auditors exhibit a greater tolerance for poor accruals quality associated with their clients, then the PCAOB and other regulators need to be more vigilant to minimize the risk of misstated financial statements and accounting fraud. Similarly, the members of the audit committee need to take additional steps to ensure the accuracy and reliability of financial statements. This study examines the relation between the audit client's accruals quality and auditors' resignation decisions.

Articles in the popular press suggest that the Big 4 auditors have become more conservative in the post-Enron/post-SOX era. Hindo (2003) reports that PricewaterhouseCoopers, Deloitte & Touche, and Ernst & Young have resigned from more than 1,200 clients in the wake of the Enron-Andersen scandal. An examination of the reasons behind the resignations is of fundamental importance to the auditors, managers, investors, and regulators. Auditors' resignation could be triggered by perceived higher litigation risk (Krishnan and Krishnan 1997; and Lee et al. 2004). One key determinant of litigation risk is accruals

quality (Lys and Watts 1994; Heninger 2001). Our first objective is to examine whether auditors consider accruals quality in making resignation decisions, especially in the post-SOX era. Accruals quality reflects the mapping between accounting earnings and cash flows. It captures the influence of accounting policies and estimates on the quality of earnings. Accruals quality is argued to contain important information signaling the information risk affecting costs of capital (Francis et al. 2005), earnings manipulation risk leading to misstatements (Richardson et al. 2006), or severe internal control problems (Doyle et al. 2007). In presence of income-increasing accruals, the probability of litigation is increasing (Lys and Watts 1994). As to whether auditors use accruals related information in their various contexts of decision-making, prior literature provides inconclusive evidence (Francis and Krishnan 1999; Bradshaw et al. 2001; Butler et al. 2004), primarily using pre-SOX data. More closely related to this paper, a few earlier studies have attempted to study the impact of accruals on auditors' resignation decisions. For instance, Krishnan and Krishnan (1997) found no association between total accruals and the likelihood of auditor resignations. In a sample of firms that changed auditors, DeFond and Subramanyam (1998) find that discretionary accruals are income decreasing during the last year with the predecessor auditor.

The inconclusive evidence found in prior research calls for additional research to investigate the association between accruals quality and auditor resignation decisions. More importantly, evidence documented using earlier sample periods is not generalizable to current environment due to the changing litigation regime over time, because auditor incentives and behavior can be affected by alternative legal liability regimes. For instance, auditors are found to relax their risk-management policies and become less conservative due to the reduced legal exposure under The Private Securities Litigation Reform Act (PSLRA) of 1995 (Francis and

Krishnan 2002, Lee and Mande 2003). SOX is viewed as one of the most important piece of legislation affecting the practice of public accounting since the US securities laws of the early 1930s. The Public Accounting Oversight Board (PCAOB) was created to oversee the auditors. Section 104 of SOX requires PCAOB to conduct a continuing program of inspections of registered public accounting firms. In addition, conflicts of interests are prohibited, and civil and criminal liabilities are imposed for any violations. Consequently, SOX has substantially increased legal liability for auditors (Wegman 2005; Elder et al. 2008). The intensity of auditor turnover increased after the passage of SOX. There is very little empirical evidence on the relationship between accruals quality and auditor resignation in the post-SOX era, and whether the relationship has changed from the pre-SOX to the post-SOX period due to the increased legal liability imposed by SOX.

Our second main objective is to examine whether audit fees have any risk-moderating effect on the relation between accruals quality and auditor resignations. A higher tolerance for risk might be potentially lucrative for the auditors but significantly increases the risk of audit failure with adverse consequences for the participants of the capital markets[1]. While auditing standards do not discuss whether auditors should engage in risk-pricing by charging higher fees upon riskier clients, empirical evidence is documented to support the risk-moderating effect of higher fees. Specifically, audit fees have been found to have risk-balancing effects upon going-

[1] For example, Brown and Sender (2002) note that as early as February 2001, Arthur Andersen's senior partners in Houston and in its Chicago headquarters debated if they should keep Enron as a client. The partners were aware of the accounting issues that eventually led to the downfall of Enron and also recognized that Enron could pay $100 million a year at some point in the future, up from $52 million earned in 2000. The partners concluded that Andersen is capable of managing the engagement. While this example sheds light on how Andersen traded risk vs. fees of Enron engagement, surprisingly there is very little empirical evidence on how auditors in general balance the risk of litigation with fees.

concern risk and the client's public trading status (Johnstone and Bedard 2004), and internal control risk (Elder et al. 2008). However, prior research has not examined whether audit fees can moderate the relation the relation between accruals quality and auditors' resignation decisions.

Our third objective is to explore whether different types of auditors have different levels of tolerance for accruals quality related risk when making client retention decisions, and whether their aggressiveness in using fees as a client risk management strategy differs across auditor type. Extensive empirical evidence indicates that higher audit quality is associated with Big N auditors relative to non-Big N auditors (e.g., Palmrose 1988; Becker et al. 1998). Pre-SOX evidence indicates that clients of Big N auditors report more conservative accruals (Francis and Krishnan 1999) and are more likely to comply with generally accepted accounting principles (Krishnan and Schauer 2000). This study extends this line of research by examining whether Big N auditors are less tolerant of accruals quality risk than non-Big N auditors (i.e., national second tier and smaller local auditors). Pricing risk into fees is a more aggressive risk-management strategy than resignation (Elder et al. 2008). Since Big N auditors are argued to be more conservative, we empirically test whether the use of audit fees as a risk-balancing effect is weaker among Big N auditors relative to the non-Big N auditors.

We examine a sample of auditor resignations and a control sample covering both pre- and post-SOX periods. Two sets of control samples are used: a set of firms that retained their incumbent auditor and a set of firms that dismissed their incumbent auditor. For our main analysis, we measure accruals quality by levels of performance adjusted discretionary current accruals. To investigate the effect of accruals quality on auditors' resignation decisions, we regress resignation against ranks of accruals quality and determinants of auditor resignations

identified in prior research. We find that as a client's accruals quality deteriorates the likelihood of resigning from the client rather than retaining it increases. However, no difference in accruals quality is observed between resignation group and dismissal group.

To examine the effect of SOX on the association between accruals quality and auditor resignation, we add an indicator variable for the post-SOX period (year 2002 to 2005), and interact this variable with accruals quality. As expected, the SOX interaction is significantly positive, indicating auditors are more likely to resign from clients with poorer accruals quality in the post-SOX era. This SOX effect is observed when either control group (retained group or dismissed group) is used. This finding is consistent with the notion that auditors act more conservatively in the post-SOX period, probably due to a more stringent litigation environment.

To explore the moderating effect of fees, we interact audit fees and accruals quality. The fee interaction term is observed to be significantly negative, reflecting that higher fees lessen the likelihood of resignations from clients with poor accruals quality. The results hold for both control groups, for different fee components (i.e., audit fees, non-audit fees, and total fees), and for both nominal fees and abnormal (unexpected) fees. Interestingly, the fees' moderating effect on accruals-related risk continues to exist in the post-SOX period.

The results discussed so far are based on an analysis of Big N companies only. To address auditor-size related issues, we extend our sample to national auditors (second-tier) and smaller local auditors. Our results indicate that the effect of accruals quality upon resignation does not differ among Big N, national, and local auditors. Although fees-balancing effect does not differ between Big N and national auditors, we observe a stronger fees-moderating effect among smaller auditors. In other words, smaller auditors are less likely to walk away from high-

accruals-risk clients paying higher audit fees. This observation adds to the stream of literature concluding that smaller local auditors are less conservative and are often associated with lower audit quality.

We conduct additional analyses using alternative proxies for accruals quality: performance-adjusted discretionary total accruals, Dechow and Dichev (2002)'s measure of accruals quality, and restatement of financial statements. Our results are generally robust to alternate proxies for accruals quality.

This study's primary contributions are summarized as follows. First, we extend the literature on auditor resignation by identifying accruals quality as a determinant of auditor resignation. To the best of our knowledge, this study is the first to explicitly explore the association between *accruals quality* and auditor resignation using a set of widely-used proxies for accruals quality. Second, the study sheds light on auditors' risk management strategies when making client retention decisions. Our results suggest that if trade-off between the return and accruals quality is at an acceptable level, auditors are willing to stay with clients who pay higher fees. Third, our study contributes to the nascent literature that studies auditor behavior change from pre- to post- SOX periods. Pre-SOX literature provides mixed evidence regarding whether auditors use accrual information in making audit decisions. We find that auditors are more likely to resign from clients with high accrual risk in the post-SOX period. However, even in the post-SOX periods, auditors continue to employ fees as a risk-moderating strategy when evaluating accruals quality to make their post-SOX client retention decisions. Four, our study contributes to the literature on auditor size and audit quality. Interestingly, we find that auditors, regardless of type (i.e., big N, national, and smaller auditors), are more likely to resign from clients with

poorer accruals quality. However, smaller auditors are more likely to stay with risky clients who pay lucrative fees. In other words, smaller auditors appear to exhibit a higher tolerance for risk posed by poor accruals quality. Overall, our findings are potentially useful in understanding auditors' resignation decision and their risk-management strategies in the post-SOX environment.

The rest of the paper is organized as follows: Section two discusses related literature and develops the hypotheses. Section three describes the research design and sample selection. In section four we present the results, and section five concludes.

2. PRIOR LITERATURE AND HYPOTHESES DEVELOPMENT

2.1 Accruals Quality and Auditor Resignations

One role of accruals is to shift or adjust the recognition of cash flows over time so that the adjusted numbers (earnings) better measure firm performance (Dechow and Dechev 2002). Accruals quality indicates how well accounting earnings map into cash flows. A poor mapping, or low accruals quality, can be attributed to managers' discretionary manipulations or due to non-discretionary errors in estimations associated with business natures (such as financial distress, volatile sales and cash flows, longer operating cycles, etc.). Accruals quality can be viewed as a proxy for information risk associated with earnings (Francis et al. 2005), or a proxy for earnings manipulation risk (Richardson et al. 2006). Poor accruals quality empirically is found to be associated with weaker internal controls (Doyle et al. 2007), larger costs of debt and

equity (Francis et al. 2005), higher likelihood of financial reporting misstatement (Dechow et al. 1996; Beneish 1997).[2]

Prior literature provides mixed evidence regarding whether auditors use accruals information in making audit decisions. For instance, using pre-SOX data, Bradshaw et al. (2001) find no evidence that auditors signal the future earnings problems associated with high accruals through either their audit opinions or through audit changes. On the other hand, it may be argued that low accruals quality increases the litigation risk and auditors are expected to act more conservatively for clients with low accruals quality. For instance, Francis and Krishnan (1999) argue that high- accruals clients are more prone to have undetected asset realizations or going concern problems. One way that auditors can compensate for this risk exposure is to lower their threshold for issuing modified audit reports. Francis and Krishnan (1999) empirically find that auditors are more likely to issue modified audit reports to clients with high abnormal accruals. However, Butler et al. (2004) hold a divergent view. They find that the documented relation between modified audit opinions and abnormal accruals rests with companies with going concern opinions. These companies have large negative accruals that are likely due to severe financial distress. Thus, prior literature provides mixed evidence on the role of accruals in audit decisions. We contribute to this literature by examining the role of accruals in auditor resignation decisions, particularly in the post-SOX era.

From the perspective of efficient resource allocation, client-auditor realignments represent efficient responses to changes in client operations and activities over time. For instance, clients

[2] We control for internal control weakness and use restatement of financial statements as an alternate proxy for accruals quality.

are found to be more likely to switch to larger audit firms if they experience growth, better financial performance, or increased external financing demand (Johnson and Lys 1990). Auditor change can be either client-initiated dismissals, or voluntary auditor resignations, which are often triggered by different reasons. Resignations are often perceived as a risk management strategy taken by auditors as they anticipate an unacceptable litigation risk level. Auditor resignations are found to be associated with client size, financial reporting reliability issues evidenced by internal control weaknesses or disagreements between the client and the auditor, going-concern issues, performance, financial leverage, etc. (Stice 1991; Krishnan and Krishnan 1997; and Lee et al. 2004). Do auditors evaluate accruals quality when making resignation decisions? A few studies have provided mixed evidence using pre-SOX and even pre-PSLRA data. For instance, using 1986-1994 auditor resignation cases, Krishnan and Krishnan (1997) did not find that the level of total accruals is related to auditor resignations. Based upon a 1990-1993 sample of auditor change firms composed of a heavy proportion of dismissals and small proportion of resignations, DeFond and Subramanyam (1998) find that discretionary accruals are income decreasing during the last year with the predecessor auditor. They perceive that the findings are consistent with litigation risk concerns providing incentives for auditors to prefer conservative accounting choices, and with managers dismissing incumbent auditors in the hope of finding a more reasonable successor. However, they cannot rule out financial distress as a potential alternative explanation of their results.

As discussed earlier, low accruals quality is found to be associated with higher likelihood of financial reporting misstatement manifested by subsequently filed restatement or fraud,

indicating that higher earnings manipulation risk and information risk.[3] Prior research finds that auditors are likely to be sued when clients have income-increasing accruals or higher abnormal accruals (Lys and Watts 1994 and Henninger 2001). Thus, low accruals quality increases the risk of litigation against the auditor. Therefore, we expect that auditors are more likely to resign from clients with low accruals quality. Our first hypothesis focusing on the relationship between auditor resignation and accruals quality is stated in alternative:

H1: Auditors are more likely to resign from clients with low accruals quality.

2.2 Effects of SOX

SOX was passed in 2002 in response to a spate of highly publicized corporate reporting failures such as Enron and WorldCom and is the most important piece of legislation affecting corporate governance, financial disclosure and the practice of public accounting since the US securities laws of the early 1930s. SOX brought sweeping changes for both auditors and their clients. The legal liability has significantly increased for the accounting profession in the post-SOX regime. It is believed that auditors face greater litigation risk in the post-Enron/SOX period (Wegman 2005; Elder et al. 2008). Prior research finds that earnings conservatism has increased in the post-Enron/SOX period (Krishnan 2007; Lobo and Zhou 2006). Li (2008) finds that auditors report more conservatively in the post-SOX period when issuing going-concern opinions. The increased audit conservatism in the post-SOX period likely provides more motivation for auditors to resign from perceived risky clients, i.e., clients with lower accruals quality in the context of our study. This line of reasoning leads to our second hypothesis stated as alternative:

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[3] Jones et al. (2008) report that total accruals are more positive (income-increasing) for fraud firms relative to non-fraud firms and total accruals have explanatory power for predicting fraud.

H2: The likelihood of auditor resignations from clients with low accruals quality has increased in the post-SOX era.

2.3 Balancing Accruals-Related Risk with Fees

We further examine how auditors trade-off the risk arising from low quality accruals and audit fees earned from clients. This important question is related to the literature on auditors' risk-management decisions. Existing experimental or archival evidence is inconclusive as to the extent that auditors are engaged in risk-pricing. Some studies support the practice of risk-pricing (Davis et al. 1993; Pratt and Stice 1994; Houston et al. 1999; Johnstone and Bedard 2001; Elder et al. 2008), while others do not (O'Keefe et al. 1994; Simunic and Stein 1996; Bell et al. 2001). Audit fee data were not publicly available prior to 2000, and thus prior research did not examine the role of fees earned by the auditor in client retention and resignation decisions. Johnstone and Bedard (2003) using proprietary data from a large audit firm study whether risk management strategies, such as the use of specialist audit personnel and higher billing rate moderate the effect of risk on client acceptance decisions. They find that higher billing rates are effective in mitigating the risk related to client financial failure or public trading status. Johnstone and Bedard (2004) examine client acceptance and continuance decisions and find that the audit firm is shedding the riskier clients in its portfolio and the firm's newly recruited clients are less risky than its continuing clients. Further, they find audit risk factors to be more important than financial risk factors in client management decisions and did not find audit pricing (billing rates) to be a factor in client management decisions. Among studies using post-SOX data, Ettredge et al. (2007) examine whether higher audit fees following the passage of SOX are associated with auditor switching in the post-SOX period and find that clients that pay higher fees tend to dismiss their auditors. Elder et al. (2008) document empirical relations between internal control

weaknesses and various auditors' client risk management strategies including fees. They find that clients with internal control weaknesses pay higher audit fees, and experience larger increases in audit fees.

In summary, prior literature provides some evidence that fees do play a role in auditor changes, and that fees moderate certain risk factors in client acceptance decisions. In this paper, we examine the role of fees in balancing accruals-quality-related risk in auditor resignation decisions. Fees create the economic bond between auditors and clients. Even though poor accruals quality potentially increases litigation risk, auditors may still retain such risky clients with low accruals quality if they perceive expected returns are sufficient to cover the expected cost, including the cost of litigation. Our third hypothesis examines the moderating effect of fees upon the relationship between accruals quality and resignation decisions, stated in alternative:

H3: Higher fees moderate the expected positive relationship between low accruals quality and auditor resignation (i.e., a negative interaction between fees and low accruals quality).

Previously we have discussed that auditors tend to behave more conservatively in the post-SOX regime. Both pricing risk and resignation can be viewed as auditors' risk moderating strategies. Resignation from risky clients is a more conservative strategy than retaining the clients by pricing risk into fees. This implies that fees' moderating effect upon auditor resignation is likely to be weakened in the post-SOX period. This leads to our fourth hypothesis:

H4: The fees' risk-moderating effect upon the association between low accruals quality and auditor resignation in the post-SOX period is weaker than that in the pre-SOX period.

2.4 Auditor Type and Auditor Resignation

Prior literature documents extensively that audit quality or perceived audit quality varies by auditor type (size). For example, brand name (big N) auditors play a better role in mitigating the agency problems (DeFond 1992), are less likely to be associated with fraudulent clients (Farber 2005). Clients of big N auditors tends to report more conservative accruals (Becker et al. 1998) and tend to comply with Generally Accepted Accounting Principles (Krishnan and Schauer 2000). Because investors are unable to directly observe audit quality and determine whether the reported information is an unbiased indicator of firms' financial performance, auditor reputation serves as an important proxy for the quality and accuracy of client financial statements (DeAngelo 1981). Empirical evidence exists to support this view. For example, markets are observed to react stronger to earnings surprises of big-N clients (Teoh and Wong 1993), suggesting that investors have more confidence in earnings numbers that are audited by Big N auditors. Krishnamurthy et al. (2006) find that investor react more positively to auditor switches following the demise of Andersen LLP when clients switched to Big 4 firms. Controlling for other factors that may affect audit quality such as audit efficiency and effectiveness, a higher quality of audit corresponds to a more conservative audit. Since Big N auditors are found to provide better quality of audit work, to preserve the quality level, they are more likely to resign from risky clients with low accruals quality relative to non-Big-N auditors. This leads to our next hypothesis:

H5: Big N auditors are more likely to resign from clients with low accruals quality than non-Big-N auditors.

Our last hypothesis examines whether fees' risk-moderating effect varies by auditor type. Big N auditors are likely to respond more conservatively to a given risk level associated with accruals quality than Non-Big-N auditors. Resigning from clients is a more severe response to risk than increasing fees (Elder et al. 2008). This means that fees' moderating effect is likely to be lower among Big N auditors than non-Big-N auditors.

H6: The fees' risk-moderating effect on the association between low accruals quality and auditor resignation among Big N auditors is weaker than the effect among non-Big-N auditors.

4. RESEARCH DESIGN AND SAMPLE

4.1 Sample Selection

We use a sample of Big N auditors to test hypotheses *H1-H4*. By restricting the sample to the clients of the Big N auditors we hold audit quality constant across the auditors. To test *H5-H6*, we expand the sample to include non-Big-N auditors. Our sample is from *Audit Analytics* which provides auditor resignation and dismissal information. The sample spans from year 2001 to 2005. We start with 41,148 firm-year observations for which previous year's audit fees data is available in *Audit Analytics*. After deleting observations with missing information on accruals and control variables, we have a sample of 18,885 firm-year observations to test *H5-H6*. This includes 498 resignations, 1,296 dismissals, and 17,091 auditor-retained observations. After further deleting firm-year observations audited by non-Big-N auditors, we obtain a final sample of 14,446 for testing *H1-H4*. This final sample consists of 296 auditor resignations, 868 dismissals, and 13,282 auditor-retaining observations. See table 1 for sample selection description by year.

[Insert Table 1 About Here]

4.2 Models and Variables

4.2.1 Model for H1 and H2

H1 tests on a positive association between low accruals quality and the likelihood of auditor resignation. We use discretionary current accruals (higher discretionary current accruals indicate lower accruals quality) to proxy for the quality of accruals, which is labeled *REDCA*. Our control variables are drawn from prior literature on determinants of auditor resignation (e.g. Stice 1991; Krishnan and Krishnan 1997; Johnstone and Bedard 2003; and Lee et al. 2004). Consistent with prior literature, we expect auditors are more likely to resign from clients with smaller size, going concern problem, poor financial performance, higher leverage, and higher litigation risk, and experiencing a disagreement with their auditors[4]. We also control for audit fees but do not offer a predicted sign. On one hand, lucrative fees may attract auditors to retain the risky clients and therefore reduce the likelihood of auditor resignation. On the other hand, outgoing auditors can charge higher fees, in part, to compensate for the additional costs and risks that, eventually, lead to a resignation. When those additional costs and risks exceed a threshold, the auditor exercises the option to resign. If this is the case, we will observe a positive association between resignation and fees, as in Griffin and Lont (2005).

We estimate the following logistic regression model for testing H1 is:

$$RESIGN = \beta_0 + \beta_1 REDCA + \beta_2 FEEVAR + \beta_3 CSIZE + \beta_4 GC + \beta_5 LOSS + \beta_6 LEV + \beta_7 LRISK + \beta_8 DISAGREE \quad (1)$$

where:

[4] *DISAGREE* information is not available for retained auditors. Therefore it is omitted from our model when auditor-retained sample is used as control.

RESIGN = 1 if the auditor resigns from its client in year t, 0 otherwise;

REDCA = Rank (from 0 to 9) of performance adjusted discretionary current accruals for year t - 1. See Appendix A for calculation details;

FEEVAR = Natural log of audit fees, ranked from 0 to 9 for year t - 1;

CSIZE = Natural log of client's total assets for year t - 1;

GC = 1 if a firm receives a going concern opinion for year t - 1, 0 otherwise;

LOSS = 1 if a firm's return on assets for year t - 1 is less than 0, 0 otherwise;

LEV = Long-term debt (*Compustat* item # 9)/total assets (item # 6) for year t - 1;

LRISK = Litigation risk for year t – 1 estimated from Stice (1991), ranked from 0 to 9. LRISK = 315.74 – 0.273AR + 0.423INV + 1.053GROWTH -0.18FC +2.276NAME – 1.517TENURE – 323.44INDEPNT + 2725.8VAR + 0.269MV. See Stice (1991) for variable definitions.

DISAGREE = 1 if a firm's Form 8-K indicates that there was a disagreement on some matters of accounting principles or practices, financial statement disclosure, or auditing scope or procedure issue with the company's auditor, and 0 otherwise.

We predict a positive sign on *REDCA*, our variable of interest.

To examine *H2* - the SOX effect upon the association between auditor resignation and accruals quality, we form model (2) by adding two variables into model (1): an indicator variable of pre- or post-SOX period (*SOX*) and its interaction with accruals quality:

$$RESIGN = \beta_0 + \beta_1 REDCA + \beta_2 FEEVAR + \beta_3 SOX + \beta_4 SOX \times REDCA + \beta_5 CSIZE + \beta_6 GC + \beta_7 LOSS + \beta_8 LEV + \beta_9 LRISK + \beta_{10} DISAGREE \quad (2)$$

where:

SOX = 1 if the sample year is year 2002 and thereafter, 0 otherwise.

SOX×REDCA = The interaction between SOX and *REDCA*.

We expect a positive coefficient for our test variable *SOX×REDCA*. We also expect a positive sign on *SOX* when using the auditor-retained sample as control. However, we do not offer a prediction for *SOX* when dismissal group is used as control, as recent studies have observed an increasing trend of auditor-client realignment including both resignation and dismissal in the post-SOX regime (Taub 2004; Ettredge et al. 2007; Elder et al. 2008; Cassell et al. 2007).

4.2.2 Models for H3 and H4

H3 predicts that fees have a moderating effect upon the association between accruals quality and auditor resignation. To test *H3*, we regress resignation against accruals quality, fees, an interaction term between fees and accruals quality, and other control variables, as expressed in Equation (3):

$$RESIGN = \beta_0 + \beta_1 REDCA + \beta_2 FEEVAR + \beta_3 FEEVAR \times REDCA + \beta_4 CSIZE + \beta_5 GC + \beta_6 LOSS + \beta_7 LEV + \beta_8 LRISK + \beta_9 DISAGREE \quad (3)$$

A negative coefficient on β_3 is consistent with *H3*: fees moderate the risk arising from accruals.

H4 hypothesizes that fees' moderating effect will become weaker in the post-SOX era. We estimate model (4), which includes *SOX* and a three-way interaction among SOX, fees and accruals quality (*SOX×FEEVAR×REDCA*), and other variables in model (3).

$$RESIGN = \beta_0 + \beta_1 REDCA + \beta_2 FEEVAR + \beta_3 FEEVAR \times REDCA + \beta_4 SOX + \beta_5 SOX \times FEEVAR \times REDCA + \beta_6 CSIZE + \beta_7 GC + \beta_8 LOSS + \beta_9 LEV + \beta_{10} LRISK + \beta_{11} DISAGREE \quad (3)$$

A positive sign on the test variable of *SOX×FEEVAR×REDCA* will reflect a weaker moderating effect of fees upon accruals risk in the post-SOX era.

4.2.3 Models for H5 and H6

To examine *H5* – the effect of accruals-related risk upon resignation varies by auditor type, two indicator variables of second tier national auditors and small auditors, and their interactions with accruals quality proxy are added into the resignation model, to form Model (5):

$$RESIGN = \beta_0 + \beta_1 REDCA + \beta_2 TIER2 + \beta_3 SMALL + \beta_4 TIER2 \times REDCA + \beta_5 SMALL \times REDCA + \beta_6 FEEVAR + \beta_7 CSIZE + \beta_8 GC + \beta_9 LOSS + \beta_{10} LEV + \beta_{11} LRISK + \beta_{11} DISAGREE \quad (5)$$

where:

TIER2 = 1 if the auditor (departing auditor for resignation or dismissal group) is Grant Thornton or BDO; 0 otherwise;

SMALL = 1 if the auditor (departing auditor for resignation or dismissal group) is neither Big N nor Tier 2 auditor; 0 otherwise.

If non-Big N auditors are more tolerant of accruals-based risk as hypothesized, we will observe negative signs on β_4 and β_5.

To investigate whether fees' moderating effect is stronger among non-big-N auditors, we add to model (5) the interaction between fees and accruals quality proxy (*FEEVAR×REDCA*), and three-way interactions among auditor type (*TIER2*, or *SMALL*), fees and accruals quality proxy:

$$RESIGN = \beta_0 + \beta_1 REDCA + \beta_2 FEEVAR + \beta_3 FEEVAR \times REDCA + \beta_4 TIER2 + \beta_5 SMALL + \beta_6 TIER2 \times REDCA + \beta_7 SMALL \times REDCA + \beta_8 TIER2 \times FEEVAR \times REDCA + \beta_9 SMALL \times FEEVAR \times REDCA + \beta_{10} CSIZE + \beta_{11} GC + \beta_{12} LOSS + \beta_{13} LEV + \beta_{14} LRISK + \beta_{15} DISAGREE \quad (6)$$

We expect negative signs on β8 and β9 which, if observed, indicates that non-Big N auditors are more tolerant of accruals-quality-related risk when faced with higher fees.

5. EMPIRICAL RESULTS

Panel A of Table 2 presents basic descriptive statistics for all variables. In our study sample, about 8% of firm-year observations experience auditor turnover, with 2% resignations and 6% dismissals. The average raw (unranked) discretionary current accruals is 0.001 millions, and the average raw (unranked) audit fees is 1.01 millions. The average company size is $335 millions and the average leverage is 50.7 percent. 4.2 percent of the entire sample received going concern opinions and 40.3 percent reported losses. Sample firms have an average Stice litigation score of 4.5, on a scale of 0-9. 0.4 percent of the sample has auditor-client disagreement. Panel B of Table 2 provides comparison statistics for auditor resigned sample, auditor dismissed sample, and auditor-retained sample. Relative to the dismissed sample, the resigned sample has higher mean value of discretionary accruals (lower accruals quality), though this difference is insignificant. Compared to retained sample, resigned sample has significantly higher mean and median values of discretionary accruals (p = 0.03 two tailed). This provides some support for *H1*. Audit fees are higher for resignation sample when compared to retaining sample. Among control variables, it appears that comparing to clients dismissing their auditors or retaining their

incumbent auditors, clients associated with auditor resignations, on average, are smaller (*CSIZE*), are more likely to have going-concern opinions (*GC*), losses (*LOSS*), and have higher litigation risk (LRISK). Resignation group is also more likely to have auditor-client disagreements (*DISAGREE*) than dismissal group.

[Insert Table 2 About Here]

Table 3 includes correlations among variables, with top triangle presenting Pearson correlations and bottom triangle presenting Spearman correlations. Results on two types of correlations are similar. The correlation between *RESIGN* and *REDCA* is significantly positive (*p=0.05* one-tailed), supporting *H1*. *RESIGN* has highly significant correlations with *CSIZE*, *GC*, *LOSS*, *LEV*, and *DISAGREE* in the expected directions. The spearman correlation between *RESIGN* and *FEEVAR* is significantly negative, indicating that resignation is less likely when fees are higher. A few correlations among control variables are higher than 0.35, so we perform sensitivity tests by keeping only one of those variables in the model at one time and our main results are not affected.

[Insert Table 3 About Here]

Table 4 presents the multivariate analysis results on the effect of accruals quality on auditor resignation (model 1). Accruals quality proxy (*REDCA*) is marginally significantly in the resignation vs. retain analysis, however insignificant in the resignation vs. dismiss analysis. This provides a weak support for *H1*: low accruals quality is positively associated with the likelihood of auditor resignation. Audit fees (*FEEVAR*) is significantly positive in both sets of analyses. This is consistent with the notion that outgoing auditors charge higher fees, in part, to compensate for the additional costs and risks that, eventually, lead to a resignation (Griffin and

Lont 2005). Most of the control variables are highly significant in the expected directions, i.e., auditors are more likely to resign from clients with smaller size, receiving going concern opinions and suffering losses. In the resignation vs. dismissal analysis, we also observe that resignation group has a higher Stice litigation risk score, and is more likely to experience auditor-client disagreement.

[Insert Table 4 About Here]

Table 5 examines the SOX effect upon the association between accruals quality and auditor resignation. As expected, the test variable SOX×*REDCA* is significantly positive in the analysis of either using dismissal control group ($p = 0.03$) or retaining control group ($p = 0.04$). This provides strong support for *H2*: the positive association between low accruals quality and auditor resignation is stronger after SOX. This finding adds to the literature that evidence enhanced auditor conservatism in the post-SOX era (Krishnan 2007; Lobo and Zhou 2006; Li 2008) probably due to stringent legal environment. The main effect *REDCA* is significantly negative, indicating auditors in fact are less likely to resign from clients with low accruals quality before SOX, probably tempted by the higher fees earned. The main effect SOX variable is significantly positive in the resignation vs. retain analysis, indicating an increasing rate of resignation post-SOX[5]. *FEEVAR* and other control variables behave the same as previously discussed for *H1*. In summary, results in Table 5 reveal why *REDCA* is insignificant for resign *vs.* dismiss analysis (or weakly significant for resign *vs.* retain analysis) in Table 4. Note that while *REDCA* is

[5] Untabulated results indicate that the rate of resignation, dismissal, and retaining in our study sample respectively is 0.6%, 5.2%, and 94.2% pre-SOX, while the corresponding rate changes to 2.9%, 7.1%, and 90% post-SOX. Untabulated univariate analysis indicates that the rate of auditor resignation significantly increased post-SOX relative to the rate of dismissal or the retaining sample (p = 0.00).

negative and significant, *SOX×REDCA* is positive and significant. Thus, when observations are pooled across years, the two divergent effects of accruals quality on auditor resignation offset each other and thus, *REDCA* is not significant in the pooled model (Table 4).

[Insert Table 5 About Here]

Results on the moderating effect of fees upon the association between accruals quality and auditor resignation are presented in Table 6. As expected, the interaction between fees and accruals quality (*FEEVAR×REDCA*) is significantly negative in analysis using either dismissal control group (p = 0.00) or retaining control group (p = 0.03). This provides strong support to H3: fees do have a moderating effect. This finding adds to the stream of literature supporting that auditors employ fees as a risk-management strategy (e.g., Johnstone and Bedard 2003; Elder et al. 2008). After controlling for the audit fees and audit fees' interaction with *REDCA*, the main effect *REDCA* variable becomes significantly positive (p = 0.01 in dismissal control group and p = 0.01 in retaining control group). This provides further stronger support for *H1*.

[Insert Table 6 About Here]

Table 7 evaluates whether audit fees' risk-moderating effect has become weaker in the post-SOX era by examining a three-way interaction among fees, SOX indicator and accruals quality (SOX×*FEEVAR*×*REDCA*). The interaction is positive as expected, however insignificant. This does not support H4. The lack of support for H4 implies that the extent to which auditors use fees to balance accruals quality related risk after SOX is similar to that before SOX.

[Insert Table 7 About Here]

Panel A of Table 8 reports the results of model (5) on the association between *REDCA* and *RESIGN* conditioned on auditor size. The main effect, *REDCA* is not significant for the

dismissed group but significant for the retain group. None of the interactions between *REDCA* and Non-big-N indicators is significant, implying different types of auditors (Big N, TIER2, and SMALL) are equally likely to resign from clients with low accruals quality. This provides no support to *H5*. Panel B of Table 8 examines whether the fees versus accruals quality trade-off differs among different types of auditors. Interestingly, the three-way interaction among fees, accruals quality and second tier auditors is significantly positive (*p = 0.00* for dismissal group and *p = 0.01* for retain group). It implies that second-tier auditors are more conservative in terms of using fees to moderate accruals risk when making resignation decisions. Although this is opposite to H6's expectation, it is consistent with some recent research findings that tier 2 auditors are catching up with the Big N auditors for better audit quality (Krishnan et al. 2008b). The insignificant result on the three-way interaction of fees, accruals quality, and small auditors (*SMALL×FEEVAR×REDCA*) indicates that small auditors do not use fees as a risk-managing strategy more aggressively than Big-N auditors. Interestingly, the two-way interaction *SMALL×REDCA* shows significantly negative (p = 0.09), providing some moderate evidence that smaller auditors are more reluctant to resign from clients with poor accruals quality. Overall, our results suggest that second tier auditors are at least as conservative as Big-N auditors, and provide some moderate support that smaller auditors are more aggressive and more tolerant of risk than Big-N auditors.

[Insert Table 8 About Here]

6. Additional Analysis

6.1 Alternative Proxies for Accruals Quality

We perform additional analyses using several other commonly used proxies for accruals quality, including performance adjusted total discretionary accruals (Jones 1991; Kothari et al.

2005), restatements (Doyle et al. 2007), and cross-sectional estimates of the Dechow and Dichev (2002) accruals quality measure as modified by McNichols (2002) and Francis et al. (2005). Definitions and estimation procedures of these accruals quality proxies are provided in Appendix A. With some variation on the significance level[6], analysis results using these alternative accruals quality proxy are similar to those using *REDCA* as reported in the main body of the paper. These results indicate that our results are generally robust to alternative proxies of accruals quality.

6.2 Alternative Fees Measures

We perform additional analysis by replacing nominal audit fees with nominal total fees and nominal non-audit fees. Our fee-related results still hold. Then we replicate our analyses using abnormal fees (abnormal audit fees, abnormal non-audit fees, and abnormal total fees). Abnormal fees are residuals estimated from the fee models presented in Appendix B. With some variation in significance levels, similar conclusions can be drawn for testing H1-H5. When testing H6 using abnormal fees, we observe that the three way interaction among second Tier auditors, abnormal fees, and accruals quality is insignificant, while the three way interaction among small auditors, abnormal fees, and accruals quality is significantly negative. This result indicates that smaller auditors are more aggressive in using fees to moderate accruals related risk.

[6] The significance levels using DAROA are similar to those using *REDCA*. The significance levels using RESTATE is stronger than those using *REDCA*. The significance levels using DDAQ is weaker, probably due to significant attrition of sample size due to missing data for DDAQ calculation 6,785.

6.3 Change in Accruals Quality and Change in Fees

Our main results are based upon levels of accruals quality and levels of fees. In this section, we replace level variable with a change variable, i.e., change in *REDCA*. We observe similar results: deteriorating accruals quality from year t-2 to year t-1 is associated with a higher likelihood of auditor resignation in year t. Further, this positive association is moderated by increasing fees from year t-2 to year t-1.

7. CONCLUSIONS

Lately, auditors, particularly the Big N auditors have been shedding clients at a record number. Understanding the reasons behind auditor resignation is potentially useful to regulators, investors and other participants of the capital markets. Accruals quality represents the earnings quality and conveys important information to capital market participants. This study provides empirical evidence on the relation between the audit client's accrual quality and auditors' resignation decisions.

We hypothesize and empirically find that poor accruals quality is a significant determinant of auditor resignation, after controlling for other determinants of auditor resignations. The determining effect of accruals quality on resignation is amplified in the post-SOX era probably due to stringent legal environment. However, audit fees moderate the positive association between low accruals quality and the likelihood of auditor resignation. This indicates that auditors employ fees as a risk-management strategy when making client retention decisions. The fee's risk-balancing effect is observed in both pre- and post-SOX periods. Further, the tendency of resigning from clients with low accruals quality is commonly observed among all auditors: Big-N auditors, second tier auditors and smaller auditors. Some weak evidence is observed that

small auditors are less likely to resign from clients with low accruals quality. When evaluating fee versus accrual quality trade off in making resignation decisions, second-tier auditors are at least as conservative as Big-N auditors. However some moderate evidence (obtained from analysis using abnormal fees) seems to suggest that smaller auditors are more tolerant of accruals related risk when facing lucrative fees.

Our main results are based upon nominal audit fees and performance adjusted discretionary current accruals as a proxy for accruals quality. We perform additional analyses by utilizing nominal total fees, nominal non-audit fees, and abnormal fees as well as alternate proxies of accruals quality and our main results still hold. We also examine the change in accruals quality and find that worsening accruals quality is associated with a higher likelihood of resignation, and that rising fees attracts auditors to retain clients with deteriorating accruals quality.

To summarize, findings of this study shed light upon the role of accruals quality in auditor resignation and client retention decisions, and how this role has changed from pre- to post-SOX era. Fee-related results help understand whether and how auditors employ fee as an accruals-risk-management strategy when making resignation decisions. Auditor-type related analyses help understand whether and how different types of auditors treat clients with poor accruals quality differently and balance the accruals quality versus fee trade-off differently. With that said, our studies do have limitations. Like other studies focusing on accruals quality, we must rely on a proxy for accruals quality. Although we perform sensitivity analyses using several commonly used proxies, as with any measure, ours are subject to certain limitations (e.g., McNichols 2002; Wysocki 2006; Doyle et al. 2007) and might measure the accruals quality construct with noise.

Further, our study focuses on accruals quality preceding auditors' resignation. It is interesting to explore accruals quality following auditors' resignation. **Implications . . .**

Appendix A: Calculation of Performance Adjusted Discretionary Current Accruals – REDCA

In order to calculate *REDCA,* we partition the entire population of Compustat firms, excluding financial sector firms by two-digit SIC code, and industries with fewer than 15 firms are deleted. We estimate parameters for normal accruals for each two-digit SIC firms by year using the following equation:

$$CA_t = \beta_0 + \beta_1 (1/TA_{t-1}) + \beta_2 (\Delta Rev_t)) + \varepsilon_t \qquad (A.1.1)$$

Where:

Ca_t	=	Current accruals, reflected by net income before extraordinary items (Compustat date item # 123) plus depreciation and amortization (Compustat data item # 125) minus operating cash flows (Compustat data item # 308) scaled by the beginning of year total assets.
TA_{t-1}	=	Total assets at the beginning of the fiscal year t-1.
ΔRev_t	=	Net sales (Compustat data item #12) in year t less net sales in year t-1 scaled by the beginning of the year total assets;

All variables are winsorized at 1st and 99th percentile. The parameters estimated from equation (1) are used to calculate expected current accruals (ECA):

$$ECA_t = \beta_0 + \beta_1 (1/TA_{t-1}) + \beta_2 (\Delta Rev_t - \Delta AR_t) \qquad (A.1.2)$$

where

ΔAR_t	=	Accounts receivable (Compustat item #2) in year t less accounts receivable in year t-1, scaled by the beginning of year total assets.

The discretionary current accruals (*REDCA*) are calculated as follows:

$$REDCA_t = CA_t – ECA_t. \qquad (A.1.3)$$

Appendix B: Performance Adjusted Discretionary Total Accruals – DAROA

We estimate performance adjusted discretionary accruals (DA) following Ashbaugh, LaFond and Mayhew (2003) and Kothari, Leone and Wasley (2005). Specifically, we partition the entire population of Compustat firms by two-digit SIC code. Industries with fewer than 15 firms are deleted. We estimate parameters for normal accruals for each two-digit SIC firms by year using the following equation:

$$TAcc_t = \beta_0 + \beta_1 (1/TA_{t-1}) + \beta_2 (\Delta Rev_t - \Delta AR_t) + \beta_3 (PPE_t) + \beta_4 (ROA_{t-1}) + \varepsilon_t \quad (A.2.1)$$

Where:

$TAcc_t$	=	Income before extraordinary items and discontinued operations (Compustat data item # 123) minus net cash flow from operating activities (Compustat data item # 308) adjusted for the extraordinary items and discontinued operations (Compustat data item # 124) reported on the statement of cash, scaled by the beginning of the year total assets;
TA_{t-1}	=	Total assets (Compustat data item #6) at beginning of year t;
ΔRev_t	=	Net sales (Compustat data item #12) in year t less net sales in year t-1 scaled by the beginning of the year total assets;
ΔAR_t	=	Accounts receivable (Compustat data item #2) in year t less accounts receivable in year t-1 scaled by the beginning of the year total assets;
PPE_t	=	Gross Property and Plant Equipment (*Compustat* data item # 7) in year t, scaled by beginning of the year total assets.
ROA_{t-1}	=	Income before extraordinary items (*Compustat* data item # 18) scaled by total assets in year t-1.

All variables are winsorized at 1st and 99th percentile.

Using coefficients estimated from the equation above, we estimate DA as:

$$DA_t = TAcc_t - \{\beta_0 + \beta_1 (1/TA_{t-1}) + \beta_2 (\Delta Rev_t - \Delta AR_t) + \beta_3 (PPE_t) + \beta_4 (ROA_{t-1})\} \quad (A.2.2)$$

Appendix C: Dechow and Dichev (2002) Accruals Quality Measure as Adjusted by McNichols (2002) and Francis et al. (2005) – DDAQ

DDAQ calculation follows Doyle et al. (2007). Specifically, the proxy for accruals quality is measured by estimating the following regression by industry and year:

$$\Delta WC_t = \beta_0 + \beta_1 CFO_{t-1} + \beta_2 CFO_t + \beta_3 CFO_{t+1} + \beta_4 \Delta Rev_t + \beta_5 PPE + \varepsilon_t \quad \text{(A.3.1)}$$

Where

ΔWC_t	=	The change in working capital accruals from year *t*–1 to *t* as ΔWC = ΔAccounts Receivable + ΔInventory – ΔAccounts Payable – ΔTaxes Payable + ΔOther Assets, or ΔWC = –(data item 302 + data item 303 + data item 304 + data item 305 + data item 307), scaled by average total assets (data item 6) in year t-1 and t.
CFO_{t-1}	=	Cash flow from operations in year t-1(data item 308), scaled by average total assets (data item 6) in year t-1 and t.
CFO_t	=	Cash flow from operations in year t (data item 308), scaled by average total assets (data item 6) in year t-1 and t.
CFO_{t+1}	=	Cash flow from operations in year t+1 (data item 308), scaled by average total assets (data item 6) in year t-1 and t.
ΔRev_t	=	the current year change in sales ΔREV = (data item 12), scaled by average total assets (data item 6) in year t-1 and t.
PPE_t	=	the current year level of property, plant, and equipment (data item 7), scaled by average total assets (data item 6) in year t-1 and t.

The residuals from the regression measure the extent to which current accruals (WC) do not effectively map into past, present, or future cash flows (CFO). Following both McNichols (2002) and Francis et al. (2005), we also include the current year change in sales (ΔREV = (data item 12)) and the current year level of property, plant, and equipment (PPE = data item 7). The inclusion of these two variables links the Dechow and Dichev (2002) measure to the Jones (1991) model of discretionary accruals. We estimate the above regression cross-sectionally, by year, and by two-digit SIC. If an industry group has fewer than 20 observations in any given year, those observations pertaining to that industry are deleted. We use annual Compustat data

for the past nine years ending year t + 1, which results in seven years of observations, since the regression requires data from the past and future years. We then aggregate the residuals by firm and calculate the standard deviation of residuals (DDAQ), by firm, requiring a minimum of four years of data out of the seven years. A higher standard deviation indicates lower accruals quality.

Appendix D: Calculation of Abnormal Fees

Abnormal fees are calculated as the estimated residuals from a regression by regressing audit fees (or non-audit fees, total fees) on variables that are associated with audit fees (or non-audit fees, total fees), suggested by prior literature (Francis 1984, Simon and Francis 1988; Craswell et al. 1995; Menon and Williams 2001; Ireland and Lennox 2002). The following equations present the models we used to estimate abnormal fees. Model (B.1) is used for abnormal fees in the pre-SOX Section 404 period (year 2001 to 2003). Model (B.2) is used for abnormal fees in the post-SOX Section 404 period (year 2004 to 2005).

$$\begin{aligned} FEE = {} & a + b_1 BIG5 + b_2 \ln MVE + b_3 MERGER + b_4 FIN + b_5 MB + b_6 LEV + b_7 ROA + b_8 AR\_IN \\ & + b_9 NROA + b_{10} SPECL + b_{11} LNSEG + b_{12} FORTRAN + b_{13} RESTRUCT + b_{14} GC + b_{15} LIQ \\ & + b_{16} ADJSALE + b_{17} DELAY + b_{18} BUSY + \sum_{i=1}^{13} INDUSTRYDUMMIES_i + \varepsilon \end{aligned} \quad \text{(B.1)}$$

$$\begin{aligned} FEE = {} & a + b_1 BIG5 + b_2 \ln MVE + b_3 MERGER + b_4 FIN + b_5 MB + b_6 LEV + b_7 ROA + b_8 AR\_IN \\ & + b_9 NROA + b_{10} SPECL + b_{11} LNSEG + b_{12} FORTRAN + b_{13} RESTRUCT + b_{14} GC + b_{15} LIQ \\ & + b_{16} ADJSALE + b_{17} DELAY + b_{18} BUSY + b_{19} ACCEL + b_{20} ICMW + \sum_{i=1}^{13} INDUSTRYDUMMIES_i + \varepsilon \end{aligned} \quad \text{(B.2)}$$

Where:

FEE	=	the natural log of the audit fee (LAUDIT) or the natural log of the nonaudit fee (LNAUDIT) or the natural log of the total fee (LTOTAL);
BIG5	=	1 if the firm is audited by Arthur Andersen, Deloitte & Touche, Ernst & Young, KPMG, or PricewaterhouseCoopers (identified by Compustat data item 149) and 0 otherwise;
ln MVE	=	the natural log of the firm's market value of equity defined as the firm's price per share at fiscal year end (item 199) multiplied by the number of shares outstanding (item 2) measured in millions of dollars;
MERGER	=	1 if the firm is engaged in a merger or acquisition (identified by Compustat AFTNTI) and 0 otherwise;
FIN	=	1 if merger is not equal to 1 and number of shares outstanding increased by at least 10 percent, or long-term debt increased by at least 20 percent, or the firm first appeared on the CRSP monthly returns database during the 2000 fiscal year, and 0 otherwise;
LEV	=	the firm's total assets (item 6) less its book value (item 60) divided by its total assets;
MB	=	the firm's market-to-book ratio defined as its market value of equity divided by book value;
ROA	=	the firm's return-on-asset ratio calculated as net income before extraordinary items (item 18) divided by beginning of the year total assets (item 6);

AR_IN	=	the sum of the firm's receivables (item 2) and inventory (item 3) divided by its total assets;
NROA	=	1 if the firm's ROA is negative, and 0 otherwise;
SPECL	=	1 if the firm reports special items (item 17), and 0 otherwise;
LNSEG	=	logarithm of the sum of the number of operating segments reported by the Compustat Segments database;
FORNTRAN	=	1 if the firm has a non-zero foreign currency translation (item 150), 0 otherwise;
RESTRUCT	=	1 if aggregate restructuring charges (item 376) in years t and t–1 is negative, 0 otherwise;
GC	=	1 if auditor issues going concern opinion, 0 otherwise;
LIQ	=	current ratio at year end (item 4 /item 5);
ADJSALE	=	sales (item 12) divided by total assets (item 6);
DELAY	=	number of days from a company's fiscal year-end to the date that auditor sign the audit report;
BUSY	=	1 if client fiscal year end is between December 1 and March 31, 0 otherwise;
ACCEL	=	1 if companies are accelerated issuers of SOX 404, 0 if companies are not required to provide SOX 404;
ICMW	=	1 if companies reported internal control material weakness, 0 if companies reported effective internal control.

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Table 1
Sample Selection

Sample	2001	2002	2003	2004	2005	Total
Companies with previous year's audit fees data available in Audit Analytics Database	4,739	6,967	8,874	10,481	10,087	41,148
Less:						
Companies with financial variables missing to compute accruals	(1,631)	(2,436)	(4,179)	(5,840)	(5,599)	(19,685)
Companies with other financial variables missing	(767)	(984)	(273)	(222)	(332)	(2,578)
Companies audited by big 4 auditors	(356)	(663)	(980)	(1,153)	(1,287)	(4,439)
Final Sample	1,985	2,884	3,442	3,266	2,869	14,446

Table 2
Descriptive Statistics

Panel A. Basic statistics

Variable	Mean	Median	Min	Max	Std Dev
AUDCHG	0.081	0.000	0.000	1.000	0.272
RESIGN	0.020	0.000	0.000	1.000	0.142
DISMISS	0.060	0.000	0.000	1.000	0.238
REDCA	4.498	5.000	0.000	9.000	2.741
FEEVAR	5.362	6.000	0.000	9.000	2.492
CSIZE	5.814	5.720	-1.726	13.825	2.052
GC	0.042	0.000	0.000	1.000	0.200
LOSS	0.403	0.000	0.000	1.000	0.490
LEV	0.507	0.488	0.001	8.621	0.320
LRISK	4.533	5.000	0.000	9.000	2.667
DISAGREE	0.004	0.000	0.000	1.000	0.062

Panel B. Comparison statistics

	Auditor Resigned (1) N = 296		Auditor Dismissed (2) N = 868		Auditor Retained (3) N = 13282		Difference (1) vs. (2) Chi-sq	Difference (1) vs. (3) Chi-sq
Variable	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**	**P-value**	**P-value**
REDCA	4.956	5.000	4.734	5.000	4.473	4.000	0.271	0.029
FEEVAR	4.899	5.000	4.745	5.000	5.412	6.000	0.225	0.003
CSIZE	4.375	4.350	4.831	4.651	5.910	5.817	0.044	0.000
GC	0.196	0.000	0.097	0.000	0.035	0.000	0.000	0.000
LOSS	0.639	1.000	0.455	0.000	0.394	0.000	0.000	0.000
LEV	0.550	0.511	0.528	0.479	0.505	0.489	0.282	0.481
LRISK	5.503	6.000	4.789	5.000	4.495	4.000	0.000	0.000
DISAGREE	0.078	0.000	0.037	0.000	0.000	0.000	0.004	n/a

P-values are two-tailed.

Where:

RESIGN	=	1 if the auditor resigns from its client in year t, 0 otherwise.
DISMISS	=	1 if the auditor is dismissed by its client in year t, 0 otherwise.
AUDCHG	=	1 if the auditor resigns or is dismissed in year t, 0 otherwise.
REDCA	=	See Appendix A for definition.
FEEVAR	=	Natural log of audit fees, ranked from 0 to 9.
CSIZE	=	Natural log of client's total assets;
GC	=	1 if a firm receives a going concern opinion in the previous year, 0 otherwise;
LOSS	=	1 if a firm's ROA (return on assets) is less than 0 in the previous year, 0 otherwise;
LEV	=	Long-term debt (*Compustat* item # 9), divided by total assets (item # 6).
LRISK	=	Litigation risk estimated from Stice (1991), ranked from 0 to 9. LRISK = 315.74 – 0.273AR + 0.423INV + 1.053GROWTH -0.18FC +2.276NAME – 1.517TENURE – 323.44INDEPNT + 2725.8VAR + 0.269MV. See Stice (1991) for variable definitions.
DISAGREE	=	1 if a firm's Form 8-K indicates that there was a disagreement on some matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure issue with the company's auditor, and 0 otherwise.

Table 3
Correlations

Variable	AUDCHG	*RESIGN*	DISMISS	*REDCA*	*FEEVAR*	*CSIZE*	*GC*	*LOSS*	*LEV*	LRISK	*DISAGREE*
AUDCHG		0.537	0.803	0.021	-0.019	-0.064	0.096	0.076	0.041	0.046	0.210
		(0.000)	*(0.000)*	*(0.156)*	*(0.194)*	*(0.000)*	*(0.000)*	*(0.000)*	*(0.006)*	*(0.002)*	*(0.000)*
RESIGN	0.537		-0.071	0.025	-0.015	-0.063	0.092	0.048	0.068	0.011	0.186
	(0.000)		*(0.000)*	*(0.101)*	*(0.303)*	*(0.000)*	*(0.000)*	*(0.001)*	*(0.000)*	*(0.462)*	*(0.000)*
DISMISS	0.803	-0.071		0.008	-0.012	-0.031	0.049	0.056	0.000	0.046	0.117
	(0.000)	*(0.000)*		*(0.603)*	*(0.420)*	*(0.039)*	*(0.001)*	*(0.000)*	*(0.981)*	*(0.002)*	*(0.000)*
REDCA	0.021	0.025	0.007		-0.016	-0.001	-0.020	-0.030	0.018	0.038	-0.002
	(0.164)	*(0.090)*	*(0.653)*		*(0.295)*	*(0.927)*	*(0.173)*	*(0.047)*	*(0.230)*	*(0.011)*	*(0.899)*
FEEVAR	-0.023	-0.031	-0.006	-0.008		0.667	-0.167	-0.078	-0.040	0.079	0.060
	(0.119)	*(0.037)*	*(0.713)*	*(0.607)*		*0.000*	*(0.000)*	*(0.000)*	*(0.008)*	*(0.000)*	*(0.000)*
CSIZE	-0.068	-0.061	-0.037	-0.008	0.660		-0.420	-0.318	-0.176	-0.051	0.027
	(0.000)	*(0.000)*	*(0.014)*	*(0.601)*	*0.000*		*(0.000)*	*(0.000)*	*(0.000)*	*(0.001)*	*(0.068)*
GC	0.096	0.092	0.049	-0.014	-0.172	-0.417		0.338	0.146	0.110	0.019
	(0.000)	*(0.000)*	*(0.001)*	*(0.365)*	*(0.000)*	*(0.000)*		*(0.000)*	*(0.000)*	*(0.000)*	*(0.209)*
LOSS	0.076	0.048	0.056	-0.028	-0.079	-0.321	0.338		0.064	0.234	0.013
	(0.000)	*(0.001)*	*(0.000)*	*(0.065)*	*(0.000)*	*(0.000)*	*(0.000)*		*(0.000)*	*(0.000)*	*(0.374)*
LEV	0.059	0.062	0.026	0.014	0.069	-0.103	0.350	0.141		0.056	-0.002
	(0.000)	*(0.000)*	*(0.085)*	*(0.347)*	*(0.000)*	*(0.000)*	*(0.000)*	*(0.000)*		*(0.000)*	*(0.889)*
LRISK	0.045	0.012	0.045	0.044	0.086	-0.040	0.112	0.228	0.028		0.031
	(0.003)	*(0.438)*	*(0.003)*	*(0.003)*	*(0.000)*	*(0.008)*	*(0.000)*	*(0.000)*	*(0.061)*		*(0.036)*
DISAGREE	0.210	0.186	0.117	0.000	0.056	0.030	0.019	0.013	0.022	0.030	
	(0.000)	*(0.000)*	*(0.000)*	*(0.977)*	*(0.000)*	*(0.047)*	*(0.209)*	*(0.374)*	*(0.134)*	*(0.049)*	

Top triangle presents Pearson correlations and bottom triangle presents Spearman correlations. *p*-values are in parenthesis and are two-tailed. See Table 2 for variable definitions.

Table 4
Results of Logistic Regression of Auditor Resignations on Accrual Quality and Controls

	Resignation vs. Dismissal			*Resignation vs. Retaining*		
Variable	**Estimate**	**Chi-Sq.**	**P-value**	**Estimate**	**Chi-Sq.**	**P-value**
Intercept	-1.551	*27.071*	*0.000*	-2.642	*85.641*	*0.000*
REDCA	0.010	*0.189*	*0.332*	0.027	*1.969*	*0.081*
FEEVAR	0.168	*15.997*	*0.000*	0.321	*72.470*	*0.000*
CSIZE	-0.196	*11.871*	*0.001*	-0.626	*145.557*	*0.000*
GC	0.453	*4.250*	*0.018*	1.017	*31.973*	*0.000*
LOSS	0.416	*6.741*	*0.004*	0.266	*3.316*	*0.034*
LEV	-0.074	*0.157*	*0.346*	0.002	*0.000*	*0.480*
LRISK	0.044	*2.678*	*0.051*	0.009	*0.131*	*0.358*
DISAGREE	0.724	*6.091*	*0.007*			
R^2	0.054			0.023		
Chi-sq.	61.047			319.071		

p-values are one-tailed. See Table 2 for variable definitions.

Table 5
Results of Logistic Regression of Auditor Resignations on Accrual Quality Conditional on SOX and Controls

	Resignation vs. Dismissal			*Resignation vs. Retaining*		
Variable	**Estimate**	**Chi-Sq.**	**P-value**	**Estimate**	**Chi-sq.**	**P-value**
Intercept	-1.950	*11.818*	*0.000*	-3.308	*40.919*	*0.000*
REDCA	-0.185	*2.987*	*0.042*	-0.143	*2.119*	*0.073*
FEEVAR	0.142	*11.205*	*0.000*	0.286	*55.952*	*0.000*
SOX	0.316	*0.386*	*0.267*	0.635	*1.969*	*0.080*
SOX×REDCA	0.202	*3.405*	*0.032*	0.177	*3.090*	*0.039*
CSIZE	-0.165	*8.228*	*0.002*	-0.585	*126.383*	*0.000*
GC	0.438	*3.889*	*0.024*	1.057	*34.074*	*0.000*
LOSS	0.425	*6.956*	*0.004*	0.257	*3.104*	*0.039*
LEV	-0.059	*0.094*	*0.380*	-0.010	*0.006*	*0.470*
LRISK	0.060	*4.797*	*0.014*	0.027	*1.073*	*0.150*
DISAGREE	0.839	*7.847*	*0.003*			
R^2	0.068			0.025		
Chi-sq.	71.267			331.864		

p-values are one-tailed. See Table 2 for variable definitions.

Table 6
Results of Logistic Regression of Auditor Resignation on Accrual Quality, Audit Fees and Controls

	Resignation vs. Dismissal			*Resignation vs. Retaining*		
Variable	**Estimate**	**Chi-Sq**	**P-value**	**Estimate**	**Chi-Sq**	**P-value**
Intercept	-2.206	*31.470*	*0.000*	-2.993	*74.668*	*0.000*
REDCA	0.132	*6.608*	*0.005*	0.099	*5.348*	*0.010*
FEEVAR	0.294	*21.500*	*0.000*	0.401	*49.814*	*0.000*
FEEVAR×REDCA	-0.027	*7.228*	*0.004*	-0.016	*3.589*	*0.029*
CSIZE	-0.191	*11.365*	*0.000*	-0.632	*147.303*	*0.000*
GC	0.468	*4.490*	*0.017*	1.023	*32.340*	*0.000*
LOSS	0.431	*7.172*	*0.004*	0.269	*3.377*	*0.033*
LEV	-0.025	*0.017*	*0.448*	0.010	*0.006*	*0.469*
LRISK	0.044	*2.655*	*0.052*	0.007	*0.079*	*0.390*
DISAGREE	0.714	*5.931*	*0.007*			
R^2	0.060			0.023		
Chi-sq.	66.904			321.406		

p-values are one-tailed. See Table 2 for variable definitions.

Table 7
Results of Logistic Regression of Auditor Resignation on Accrual Quality, Audit Fees, SOX, and Controls

	Resignation vs. Dismissal			*Resignation vs. Retaining*		
Variable	**Estimate**	**Chi-Sq.**	**P-value**	**Estimate**	**Chi-Sq.**	**P-value**
Intercept	-2.911	*24.102*	*0.000*	-4.078	*57.979*	*0.000*
REDCA	0.128	*6.134*	*0.007*	0.096	*4.848*	*0.014*
FEEVAR	0.266	*17.135*	*0.000*	0.364	*39.843*	*0.000*
FEEVAR × REDCA	-0.052	*4.274*	*0.019*	-0.030	*1.833*	*0.088*
SOX	0.659	*1.894*	*0.084*	1.087	*6.279*	*0.006*
SOX×FEEVAR×REDCA	0.027	*1.363*	*0.122*	0.016	*0.563*	*0.227*
CSIZE	-0.162	*8.007*	*0.002*	-0.592	*128.330*	*0.000*
GC	0.438	*3.882*	*0.024*	1.061	*34.410*	*0.000*
LOSS	0.440	*7.385*	*0.003*	0.262	*3.207*	*0.037*
LEV	0.004	*0.000*	*0.492*	0.002	*0.000*	*0.494*
LRISK	0.060	*4.838*	*0.014*	0.026	*0.942*	*0.166*
DISAGREE	0.817	*7.503*	*0.003*			
R^2	0.071			0.025		
Chi-sq.	75.25			333.09		

p-values are one-tailed.
Where
SOX = 1 if sample period is 2002, 2003, 2004 or 2005, 0 otherwise.
See Table 2 for other variable definitions.

Table 8
Results of Logistic Regression of Auditor Resignation on Accruals Quality for Second Tier Auditors and Smaller Auditors

Panel A. The effect of accrual quality on resignation

	Resignation vs. Dismissal			*Resignation vs. Retaining*		
Variable	**Estimate**	**Chi-Sq**	**P-value**	**Estimate**	**Chi-Sq**	**P-value**
Intercept	-1.283	*28.392*	*0.000*	180.164	*0.000*	*0.000*
REDCA	0.016	*0.456*	*0.250*	3.199	*0.074*	*0.037*
TIER2	-0.406	*1.508*	*0.110*	0.164	*0.685*	*0.343*
SMALL	0.389	*2.687*	*0.051*	0.132	*0.717*	*0.358*
TIER2×REDCA	0.057	*1.132*	*0.144*	0.417	*0.518*	*0.259*
SMALL×REDCA	-0.006	*0.023*	*0.439*	0.052	*0.819*	*0.409*
FEEVAR	0.123	*13.600*	*0.000*	52.540	*0.000*	*0.000*
CSIZE	-0.155	*12.404*	*0.000*	119.037	*0.000*	*0.000*
GC	0.359	*6.011*	*0.007*	30.248	*0.000*	*0.000*
LOSS	0.273	*4.600*	*0.016*	6.560	*0.010*	*0.005*
LEV	0.006	*0.182*	*0.335*	0.106	*0.745*	*0.373*
LRISK	0.003	*0.029*	*0.432*	0.053	*0.819*	*0.409*
DISAGREE	0.800	*12.210*	*0.000*			
R^2	0.046			0.022		
Chi-sq.	79.188			399.238		

p-values are one-tailed. See Table 2 for variable definitions.

Panel B. The mitigating effect of audit fees

	Resignation vs. Dismissal			*Resignation vs. Retaining*		
Variable	**Estimate**	**Chi-Sq**	**P-value**	**Estimate**	**Chi-Sq**	**P-value**
Intercept	-1.417	*22.376*	*0.000*	-3.184	*0.000*	*0.000*
REDCA	0.061	*1.911*	*0.083*	0.093	*0.017*	*0.008*
FEEVAR	0.150	*9.220*	*0.001*	0.260	*0.000*	*0.000*
FEEVAR×REDCA	-0.010	*1.487*	*0.111*	-0.013	*0.084*	*0.042*
TIER2	-0.409	*1.440*	*0.115*	-0.082	*0.790*	*0.395*
SMALL	0.474	*3.206*	*0.037*	0.213	*0.393*	*0.196*
TIER2×*REDCA*	-0.073	*1.051*	*0.153*	-0.076	*0.241*	*0.121*
SMALL×*REDCA*	-0.036	*0.543*	*0.231*	-0.058	*0.178*	*0.089*
TIER2×*FEEVAR*×*REDCA*	0.040	*8.235*	*0.002*	0.028	*0.013*	*0.007*
SMALL×*FEEVAR*×*REDCA*	-0.001	*0.012*	*0.456*	0.007	*0.467*	*0.234*
LNAT	-0.151	*11.650*	*0.000*	-0.430	*0.000*	*0.000*
GC	0.363	*6.103*	*0.007*	0.719	*0.000*	*0.000*
LOSS	0.285	*4.970*	*0.013*	0.282	*0.012*	*0.006*
LEV	0.006	*0.174*	*0.338*	-0.003	*0.765*	*0.383*
LRISK	0.001	*0.003*	*0.479*	0.000	*0.983*	*0.491*
DISAGREE	0.776	*11.404*	*0.000*			
R^2	0.050			0.022		
Chi-sq.	85.714			404.084		

p-values are one-tailed. TIER2 = 1 if the departed auditor is Grant Thornton LLP or BDO; 0 otherwise. *SMALL* = 1 if the departed auditor is neither a Big 4 nor a Tier 2 auditor and 0 otherwise. See Table 2 for variable definitions.