FINANCIAL STATEMENT MISSTATEMENTS, AUDITOR LITIGATION, AND

SUBSEQUENT AUDITOR BEHAVIOR

A Dissertation

by

JAIME JOY SCHMIDT

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2009

Major Subject: Accounting

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Approved by:

Chair of Committee,	Michael Wilkins
Committee Members,	Lynn Rees
	Nathan Sharp
	Asghar Zardkoohi
Head of Department,	James Benjamin

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ABSTRACT

Financial Statement Misstatements, Auditor Litigation, and Subsequent Auditor Behavior.

(May 2009)

Jaime Joy Schmidt, B.S., Kansas State University; M.S., Kansas State University;

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Chair of Advisory Committee: Dr. Michael S. Wilkins

This paper examines the occurrence and outcome of auditor litigation related to financial statement misstatements and the effect of auditor misstatement-based litigation on subsequent auditor behavior. The study is motivated by recent calls to limit auditor legal liability and the need to examine the ability of litigation to deter non-Generally Accepted Accounting Principles (GAAP) financial reporting. I find that misstatement severity is the primary driver of auditor litigation. Specifically, I find that auditor misstatement-based litigation is more likely when the misstatement is associated with fraud, a regulatory investigation, a larger stock price decline, and/or a greater number of accounting application [i.e., Financial Accounting Standards Board (FASB)/GAAP] failures. In addition, I find that auditor misstatement-based litigation is more likely to occur when the misstatement is associated with engagement fees that consist of a greater magnitude or a greater proportion of non-audit service fees. Further, I find that misstatement severity and the size of the plaintiffs' claims are the primary drivers of auditor settlements resulting from misstatement-based litigation. Specifically, I find that an

auditor settlement resulting from misstatement-based litigation is more likely to occur when the misstatement is associated with fraud, a greater amount of alleged income or equity inflation over the class action time period, and/or a larger alleged percentage drop in share price over the class action time period. With respect to subsequent auditor behavior, I find evidence that auditor litigation results in more conservative subsequent auditor behavior across a litigated auditor's office-wide client portfolio (that excludes the litigated client). Specifically, in the year following auditor litigation, I find evidence that litigation results in increased auditor constraint of client-reported positive and signed discretionary accruals, as well as longer audit report lags.

DEDICATION

For my family

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CHAPTER I

INTRODUCTION

This paper examines the occurrence and outcome of auditor litigation related to financial statement misstatements and the effect of auditor litigation on subsequent auditor behavior. Auditor legal liability and litigation reform has been a topic of discussion since the late 1970s (Latham and Linville 1998). However, the recent increase in auditor litigation[1] and the collapse of Arthur Andersen has spurred debate among regulators and auditors about the appropriate level of auditor legal liability. Advocates for legal liability reform argue that auditor lawsuits are often without merit (Latham and Linville 1998) and that lawsuits may jeopardize the sustainability of the profession (Taub 2007). According to Cynthia Fornelli, executive director of the Center for Audit Quality, "It could take only one or two cases where settlement is not reached to threaten a[nother] firm's existence" (Rappeport 2008). The loss of an additional major accounting firm could prevent public companies from obtaining timely audits and could therefore, significantly disrupt the global capital markets (Advisory Committee on the Auditing Profession 2008).

Critics of legal liability reform argue that litigation provides a vital role in ensuring accountability and confidence in our financial markets (Advisory Committee on the Auditing Profession 2008). They argue that reductions in auditor liability would make auditors less vigilant and would reduce audit quality (Taub 2007). However, advocates for legal liability reform argue that the professional standards, PCAOB inspections, and firm-specific quality control practices provide adequate incentive to ensure professional auditor behavior

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This dissertation follows the style and format of *Auditing: A Journal of Practice & Theory*.

[1] A recent study by the European Commission reports that litigation costs for U.S. audit practices has risen by almost eight percent between 1999 and 2004 (Advisory Committee on the Auditing Profession 2008).

(Advisory Committee on the Auditing Profession 2008). In response to these conflicting views, the U.S. Treasury Department Advisory Committee on the Auditing Profession included a discussion of the role of the civil litigation system in public audits and the potential need for auditor legal liability reform in their comprehensive analysis of the condition and future of the auditing profession. However, in their final report to the U.S. Treasury in October 2008, the committee stated that they were unable to find a consensus on the issue of liability reform because there were strongly held views on both sides of the debate (Advisory Committee on the Auditing Profession 2008). This suggests that auditor exposure to civil litigation is an important and controversial issue and one that will be continually debated. My study provides insights relevant to this controversy by examining the determinants of litigation following financial statement misstatements and the impact of litigation on subsequent auditor behavior. Any evidence that litigation improves subsequent auditor performance would suggest that litigation does play a role in maintaining audit quality.

Achieving the appropriate level of auditor legal liability requires limiting unnecessary litigation risk while simultaneously maintaining audit quality. Legal liability has often been viewed as a deterrence mechanism against non-GAAP[2] financial reporting (Palmrose and Scholz 2004). Similarly, auditor legal liability may also be viewed as a deterrent for substandard audit quality. In this paper, I investigate the non-GAAP deterrence effect of auditor litigation in two ways. First, I use annual financial statement misstatements to proxy for audit failures, and I examine the circumstances through which misstatements result in

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[2] Generally Accepted Accounting Principles.

auditor litigation and/or auditor settlements.[3] Second, I examine the effect of auditor

litigation on subsequent auditor behavior. Specifically, I examine the effect of prior litigation

on the likelihood that auditors employed at a litigated office constrain client discretionary

accruals (DAC) and lengthen the audit report lag (ARL) across their office-wide client

portfolio (that excludes the litigated client). Changes in auditor behavior resulting from prior

litigation would consequently affect financial statement quality and thus, may have a non-

GAAP deterrence effect on auditors.[4] In addition, positive changes in auditor behavior would

indicate that auditor litigation does play an important role in improving and/or maintaining

audit quality.

I find that several measures of misstatement severity are positively associated with

the likelihood that a misstatement results in auditor litigation. Specifically, I find that auditor

litigation is more likely to follow misstatements that are associated with fraud, regulatory

investigations, and/or larger stock price declines at the misstatement disclosure date. In

addition, I find that litigation is more likely to follow misstatements associated with a greater

number of accounting rule application (i.e. FASB/GAAP[5]) failures, especially when the

failures involve revenue recognition. These findings are similar to those of Palmrose and

Scholz (2004), who find that core restatements (i.e. misstatements of earnings from primary

operations), more pervasive restatements (i.e. misstatements involving more accounting

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[3] I exclude quarterly misstatements because Generally Accepted Auditing Standards (GAAS) require annual (quarterly) financial statements to be audited (reviewed). Thus, annual misstatements are a better proxy for audit failures.

[4] Because financial statements are the joint product of management and auditor decisions, it is difficult to directly examine the effect of auditor behavior changes on the adherence of financial statements to GAAP. Consistent with prior literature, I rely on discretionary accruals as my measure for changes in financial statement quality which ultimately contribute to GAAP compliance. I do not examine subsequent non-GAAP reporting (i.e. misstatements) because I am predominantly interested in changes in *auditor behavior* that ultimately impact GAAP compliance. While misstatements may be the best measure of GAAP compliance, their occurrence is often driven by the actions of several parties including management, auditors, and those charged with overseeing the financial reporting process. My primary interest is in the actions of auditors that comprise one component of GAAP compliance.

[5] Financial Accounting Standards Board.

issues), and misstatements disclosing the presence of fraud or irregularities are associated with auditor litigation.

With respect to auditor characteristics, I find that auditor misstatement-based litigation is more likely when the misstatement is associated with engagement fees that consist of a greater magnitude or a greater proportion of non-audit service fees. This result suggests that non-audit fees may affect the plaintiff's perception of auditor independence and audit quality associated with an accounting misstatement.[6] However, my tests also reveal that this relationship only exists in the post-Sarbanes Oxley Act (SOX) time period. Thus, the perception of non-audit services to impair independence directly corresponds with the SOX prohibition of certain non-audit services.[7] This suggests that the SOX emphasis on the potential of non-audit services to impair auditor independence may have consequently affected how non-audit services are viewed by marketplace participants. In addition, my tests do not reveal that auditor tenure is associated with the likelihood that a misstatement will result in auditor litigation. However, my tests do reveal that, after controlling for other determinants, misstatements by Big N auditors are less likely to result in litigation than misstatements by non-Big N auditors. These findings suggest that the perception that longer auditor-client relationships are associated with higher quality audits may not apply to litigation associated with misstatements. However, the perception that Big N auditors provide

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[6] For example, in Kmart Corporation court documents, the plaintiff uses financial reliance, primarily in the form of non-audit fees, as evidence for PricewaterhouseCoopers' participation in the material false and misleading financial statements [*D.E. & J. Ltd. P'ship v. Conaway, et als.,* No. 02-70684 at 56 (E.D. Mich. 2002) (Plaintiff's consolidated amended complaint)].

[7] The Sarbanes Oxley Act of 2002 prohibits audit firms from providing any of the following services to a publicly traded audit client: (1) bookkeeping and related services; (2) design or implementation of financial information systems; (3) appraisal or valuation services; (4) actuarial services; (5) internal audit outsourcing; (6) management or human resources services; (7) investment or broker/dealer services; (8) legal and expert services (SOX 2002).

higher quality audits than non-Big N auditors may apply to litigation associated with misstatements.

With respect to client characteristics, I find that the likelihood that a misstatement results in auditor litigation is greater (smaller) for larger (older) clients and greater for those clients that file for bankruptcy within a year following the misstatement. These results are similar to Carcello and Palmrose (1994) and suggest that larger clients may either have more shareholders who are willing to pursue litigation or may have suffered a greater total loss to incentivize the pursuit of litigation. These results also suggest that shareholders of older clients may have less incentive to pursue auditor litigation. Finally, consistent with the prior literature, these results indicate that client bankruptcy is a frequent source of auditor litigation (e.g., Palmrose 1987; Carcello and Palmrose 2004).

I then investigate the circumstances where auditor misstatement-based litigation results in an auditor settlement. I find that misstatement severity and the size of the plaintiffs' claims are the primary drivers of auditor settlements resulting from misstatement-based litigation. Specifically, I find that misstatement-based litigation is more likely to result in an auditor settlement when the misstatement involves fraud. However, I do not find the other measures of misstatement severity to be positively associated with the likelihood of an auditor settlement. Rather, I find that misstatement-based litigation is more likely to result in an auditor settlement when the amount of alleged income or equity inflation is greater and/or when the alleged percentage drop in share price over the class action period is more severe. These results are consistent with those members of the Advisory Committee who favor auditor legal liability reform and who believe that audit "firms are forced to settle cases…because the size of the claims mean that if the firm does not prevail at trial, the

resulting award could destroy the firm" (Advisory Committee on the Auditing Profession 2008, VII:27).

In addition, I find that an auditor settlement resulting from misstatement-based litigation is less likely in the post-SOX time period and when there is a greater diffusion of shareholders. These results suggest that the majority of settlements occurred prior to SOX and that a greater diffusion of shareholders makes an agreed-upon settlement more difficult to obtain. I also find that auditor settlements are more likely to result from misstatements issued by clients who recently issued an IPO. This suggests that the increased liability burden that auditors must bear under the Securities Act of 1933 affects the likelihood of an auditor to settle misstatement-based litigation.[8] I do not find any of the other auditor characteristics to be associated with an auditor settlement resulting from misstatement-based litigation in the hypothesized direction. These insignificant results suggest that the characteristics of the auditor (e.g., engagement fees, auditor tenure, and auditor size) may be less important in predicting the likelihood that an auditor settlement results from misstatement-based litigation than in predicting the likelihood that auditor litigation results from a financial statement misstatement.[9] In sum, my first contribution to prior literature is an investigation of the relationship between various auditor, misstatement, and client characteristics associated with misstatements and the occurrence and outcome of auditor litigation.

With respect to the effect of litigation on subsequent auditor behavior, I find evidence that auditors engage in more conservative behavior following litigation. Specifically, I find that in the year following litigation, auditors employed at a litigated office are more likely than auditors not employed at a litigated office to constrain signed and positive discretionary

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[8] Auditors are liable for any level of negligence under the Securities Act of 1933 whereas auditors are only liable for scienter or gross negligence under Rule 10b-5 of the Securities Act of 1934.
[9] However, this conclusion is tenuous because it relies on a null finding.

accruals across their office-wide client portfolio (that excludes the litigated client).[10] My

results suggest that, following litigation, auditors require more conservative financial

reporting from their clients predominantly by constraining client income-increasing financial

reporting behavior.[11] In addition to the discretionary accruals results, I find that, in the year

following litigation, auditors employed at a litigated office have longer post-litigation audit

report lags than do auditors not employed at a litigated office. These findings suggest that

litigation increases the amount of time auditors spend on subsequent audit engagements

(again, across the auditor's office-wide client portfolio that excludes the litigated client).[12]

Overall, my findings suggest that, with respect to the reporting of accruals and the time spent

on an audit, auditor litigation does have a significant effect on subsequent auditor behavior.

My findings should be of interest to regulators and auditors. Specifically, when

assessing the current level of auditor legal liability, regulators may wish to understand the

circumstances under which auditors are held liable for past audit failures and how litigation

may affect subsequent auditor behavior (which ultimately may impact financial reporting

quality). Because of the reputational and financial costs of lawsuits, auditors may wish to

understand the extent to which auditor and misstatement characteristics affect auditor

liability and the likelihood of an auditor settlement.

The remainder of the paper is organized as follows. In the next section, I discuss

related research and develop my hypotheses. The third section describes the data and my

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[10] My empirical tests exclude clients that were involved in the auditor litigation because I am interested in a widespread increase in auditor conservatism across an auditor's portfolio of clients not associated with the initial litigation.

[11] However, my results are limited to a matching procedure that assigns a non-litigated auditor to a litigated auditor based on total *clients* audited in the year prior to litigation.

[12] However, my results are limited to a matching procedure that assigns a non-litigated auditor to a litigated auditor based on total *assets* audited in the year prior to litigation.

sample selection procedures. Following that, I present my methodology, model development, and variable definitions. Finally, I present the empirical results and conclude.

CHAPTER II

RELATED RESEARCH AND HYPOTHESIS DEVELOPMENT

Financial Statement Misstatements Resulting in Auditor Litigation

Financial statements are the primary means by which detailed financial information is communicated to those outside the company. Prior research suggests that financial statements are the joint product of decisions made by the auditor and by company management (Antle and Nalbuff 1991). The auditor enhances financial reporting quality by detecting material errors and omissions before the financial statements are issued. A misstatement is the failure of an auditor to detect a material error or omission in the financial statements. A restatement is the subsequent detection, disclosure, and correction of a prior period misstatement. As such, a restatement is: (1) an acknowledgement that previously issued financial statements did not comply with GAAP; and (2) an indication of an audit failure because GAAS requires an auditor to detect material errors and omissions in financial statements prior to their issuance.[13]

Litigation is a potential costly consequence of an audit failure, yet not all audit failures result in litigation (Carcello and Palmrose 1994; Palmrose and Scholz 2004). The ability of litigation to deter non-GAAP financial reporting associated with substandard audits can only occur when litigation acts as a mechanism holding auditors accountable for past audit failures. Prior behavioral research indicates that accountability, or the prospect of accountability, increases the vigilance of auditors (Nelson and Tan 2005). Thus, the

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[13] However, an auditor is required to provide reasonable assurance rather than absolute assurance that financial statements do not contain material errors or omissions.

occurrence of litigation associated with substandard audits is necessary if auditors are to perceive litigation or the threat of litigation as a mechanism by which they are held accountable. In this paper, I use a financial statement misstatement, defined as a subsequently restated 10-K, as my proxy for an audit failure. I investigate the characteristics of a financial statement misstatement associated with subsequent auditor litigation. This approach allows me to identify the circumstances under which auditors are held liable for a past misstatement and the circumstances under which litigation may have the potential to act as a future non-GAAP deterrence mechanism for auditors.

Prior research has examined the characteristics of audited financial statements that are associated with auditor litigation (Stice 1991; Henninger 2001; Lys and Watts 2004), but these studies do not condition on actual audit failures. Specifically, these studies match a sample of firm-year financial statement observations that resulted in litigation to a sample of firm-year financial statement observations that did not result in litigation without examining whether or not the financial statements were misstated. Overall, these studies find that client size, financial condition, prior stock price changes, abnormal discretionary accruals, and various auditor characteristics (e.g. audit revenues, applied audit technology, and the audit opinion) are significantly associated with auditor litigation (St. Pierre and Anderson 1984; Stice 1991; Carcello and Palmrose 1994; Lys and Watts 1994; Henninger 2001). My study differs in that it conditions on an observable audit failure (i.e., misstatement) so that I may examine the characteristics associated with auditor liability when an audit failure is already known.

Carcello and Palmrose (1994) conduct a study where they condition on bankruptcy and investigate the client and auditor characteristics that affect the likelihood of auditor

litigation. They find that auditor litigation is more likely for clients who do not receive going concern audit opinions (GCO) prior to bankruptcy, for larger clients, for clients with SEC enforcement actions, and for clients with net income on their last pre-bankruptcy financial statements. My study differs in that I condition on an observed audit failure (i.e., misstatement) rather than bankruptcy, and I include various characteristics that describe and partition auditors (e.g., engagement fees and auditor tenure). Generally accepted auditing standards require an auditor to evaluate the going concern capability of a client and issue a modified opinion (i.e., GCO) if the auditor has substantial doubt about the client's ability to remain financially viable for one year following the client's fiscal year-end (AICPA 1988). While the failure of an auditor to issue a GCO to a subsequently bankrupt company is often associated with subsequent litigation (Carcello and Palmrose 1994), it is not a clear audit failure. Rather, the failure of an auditor to make the going concern assessment would constitute an audit failure. Thus, my study examines an actual audit failure (i.e., financial statement misstatement) and the circumstances where a financial statement misstatement results in auditor litigation and/or an auditor settlement in order to determine when litigation might have the potential to act as a future non-GAAP deterrence mechanism for auditors.

Palmrose and Scholz (2004) conduct a study similar to mine where they condition on misstatements and investigate the characteristics of the misstatements that affect the likelihood of auditor litigation. They find that core restatements (i.e. those associated with earnings from primary operations), restatements involving fraud or irregularities, restatements with a greater number of accounting issues, restatements with a greater stock price decline at the disclosure date, and restatements issued by clients experiencing a recent

IPO are more likely to result in auditor litigation.[14] The first part of my study extends their analysis by adding various characteristics that describe and partition auditors (e.g., engagement fees and auditor tenure). These characteristics are important because prior research suggests that auditor tenure (Ghosh and Moon 2005) and engagement fees (Gul 1991; Hay et al. 2006) affect a third party's perception of audit quality. Thus, I expect that differences in auditor tenure and engagement fees may affect perceived audit quality and therefore, may affect the responsibility assigned to an auditor for a past misstatement. My study extends the literature on auditor litigation by investigating whether or not various auditor characteristics affect auditor culpability for past misstatements.

Effect of Auditor Litigation on Subsequent Auditor Behavior

While the occurrence of litigation may have the potential to deter non-GAAP financial reporting, there is no known empirical evidence that litigation does, indeed, deter non-GAAP financial reporting.[15] For litigation to have this effect, it must affect the subsequent actions and choices of auditors (Latham and Linville 1998). Because prior research suggests that financial statements are the joint product of decisions made by the auditor and by company management (Antle and Nalbuff 1991), any changes in auditor behavior that result from litigation should ultimately affect the quality of subsequent financial statements. In this paper, I investigate the effect of auditor litigation on subsequent auditor behavior.[16]

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[14] Restatements are the subsequently disclosed and corrected prior period misstatements.

[15] However, (Chang et al. 2008) find that auditor disciplinary actions in Taiwan result in more conservative subsequent auditor behavior as evidenced by a constraint in client-reported discretionary accruals.

[16] My study is limited in that it does not directly examine the effect of changes in auditor behavior on subsequent GAAP compliance. Rather, it relies on discretionary accruals as its measure of changes in financial statement quality that ultimately contribute to GAAP compliance.

Prior *empirical* research examines the effect of legal liability and litigation risk on auditor behavior. Lee and Mande (2003) examine the effect of the Private Securities Litigation Reform Act of 1995 (PSLRA) on client reported discretionary accruals. The PSLRA reduced auditor liability by replacing joint and several liability with proportionate liability. Lee and Mande (2003) find that income-increasing discretionary accruals for Big-6 audit clients rose following the passage of the PSLRA. They suggest that the legal liability reform of the PSLRA reduced audit quality. Cahan and Zhang (2006) examine the effect of increased litigation risk of ex-Andersen clients on successor auditor behavior. After controlling for other litigation risk factors, they find that successor auditors required more conservative accounting from ex-Andersen clients through lower levels and larger decreases in abnormal accruals. In sum, their results suggest that litigation risk invokes more conservative auditor behavior. I extend this literature by controlling for litigation risk factors and investigate if *actual* litigation results in more conservative subsequent auditor behavior.

Prior *analytical* research also examines the effect of legal liability and litigation exposure on audit quality. Balachandran and Nagarajan (1987) find that alternative legal systems (i.e., strict liability versus negligence) can impact the level of due care chosen by an auditor, but this level of care is also dependent on the auditor's perception of a client's financial condition. Thoman (1996) finds that additional legal exposure can induce auditors to either increase audit effort or report more conservatively. Latham and Linville (1998, 201) state that "…although several analytical pieces examine the effect of litigation on audit quality, additional empirical verification of the models' results would be helpful." My study addresses this need by empirically examining the effect of auditor misstatement-based litigation on auditor reporting decisions and audit effort. Specifically, I investigate two

subsequent auditor behaviors: (1) the likelihood of auditors to constrain client-reported discretionary accruals, and (2) the length of the audit report lag.

Hypothesis Development

Financial Statement Misstatements Resulting in Auditor Litigation

While prior research has examined the circumstances in which financial statement misstatements result in auditor litigation, my study extends the literature by adding various characteristics that describe and partition auditors (i.e., engagement fees and auditor tenure). First, I investigate whether the amount or proportion of non-audit fees charged by an engaged auditor affects auditor culpability for past misstatements. Prior literature provides mixed evidence regarding the effect of non-audit services on auditor *performance* (e.g., DeFond et al. 2002; Frankel et al. 2002; Ashbaugh et al. 2003); however, prior literature indicates that engagement fees do affect the *perception* of auditor independence and auditor performance (Gul 1991; Hay et al. 2006). I examine both the magnitude of non-audit service fees and the proportion of total engagement fees that consist of non-audit service fees because both may affect the perception of auditor independence. A greater magnitude of non-audit service fees may indicate a failure of an auditor to maintain economic independence. A greater proportion of engagement fees that consist of non-audit engagement fees may indicate a failure of an auditor to maintain managerial independence.[17] If third parties believe that an auditor has failed to maintain an independent mindset during an audit, they may be more inclined to assign blame to an auditor for a past misstatement. Second, I examine auditor tenure to assess whether the positive relationship between auditor tenure and perceived audit quality (Ghosh

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[17] AICPA Code of Professional Conduct Rule 101 states that an auditor must maintain independence by not having a direct financial interest in a client and by not performing management functions on behalf of a client (AICPA 2006).

and Moon 2005) influences auditor culpability for past misstatements. This leads me to my first two formal hypotheses (stated in the alternative form):

H1: The likelihood that auditor litigation results from a past financial statement misstatement is greater when the misstatement involves engagement fees that consist of a greater magnitude or a greater proportion of non-audit service fees.

H2: The likelihood that auditor litigation results from a past financial statement misstatement is greater when the misstatement involves a shorter auditor-client relationship.

Misstatement-based Litigation Resulting in an Auditor Settlement

My study also extends the literature by modeling the factors that affect the likelihood that litigation associated with a past financial statement misstatement results in an auditor settlement. Advocates for auditor legal liability reform argue that audit firms are often forced to settle lawsuits regardless of the merit of the plaintiffs' claims because the size of the claims are so large that an unsuccessful resolution would unduly jeopardize the viability of the firm (Advisory Committee on the Auditing Profession 2008). I investigate this argument by examining the incremental effect of the size of the claims, the severity of the misstatement, and various auditor characteristics (e.g., engagement fees, auditor tenure, and auditor size) on the likelihood that the auditor pays a settlement in a lawsuit resulting from a misstatement. While Palmrose and Scholz (2004) provides descriptive statistics of auditor resolution amounts and a summary of multivariate regression results, to my knowledge, this is the first study that presents a multivariate model that examines the incremental effect of the size of plaintiff's claims on the likelihood that an auditor defendant pays a settlement in a lawsuit resulting from a misstatement. Because the prior literature is inconclusive as to whether or not the merits of a lawsuit matter with respect to auditor litigation (Palmrose 1997), I am primarily interested in whether it is the size of the plaintiffs' claims or the

characteristics of the misstatement that drive auditor settlements. While all misstatements

represent an alleged audit failure, I expect that misstatement-based litigation that places a

greater amount of audit firm resources at risk are more likely to be settled. As noted

previously, because advocates for auditor legal liability reform argue that it is the size of the

plaintiffs' claims that drive auditor settlements (Advisory Committee on the Auditing

Profession 2008), I expect a positive association between the size of the plaintiff's claims and

the likelihood that auditor litigation resulting from a misstatement results in an auditor

settlement. This leads me to my third formal hypothesis (stated in the alternative form):

> **H3: An auditor settlement is more likely to result from auditor misstatement-based litigation when the size of the plaintiffs' claims is larger.**

Effect of Auditor Litigation on Subsequent Auditor Behavior

Prior research defines auditor conservatism as an "auditor's preference for income-

decreasing accounting choices" (Kim et al. 2003, 327) and indicates that auditor litigation is

more likely to result from an auditor's failure to behave conservatively (St. Pierre and

Anderson 1984). Thoman (1996) finds that additional legal exposure can induce auditors to

either report more conservatively or increase audit effort. Thus, I predict that litigation will

induce auditors[18], in all subsequent audit engagements, to engage in more conservative

behavior by monitoring and reducing management's reporting flexibility (i.e., reducing client

reported discretionary accruals) and increasing the amount of time spent on audit

engagements (i.e., lengthening the audit report lag). This section describes my formal

hypotheses related to these auditor behaviors.

Accrual-based earnings involve estimates about future events and are jointly affected

by client and auditor preferences. These estimates about future events introduce estimation

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[18] My analysis is conducted at the auditor city (i.e., audit office) level rather than the national (i.e., audit firm name) level because the occurrence of litigation would not vary at the national level.

error because clients and auditors have conflicting incentives. Clients have an incentive to use accruals to manage earnings[19], whereas auditors must decide on the appropriate level of accruals that are consistent with GAAP. I examine the likelihood that auditors constrain client reported discretionary accruals because prior research shows that accruals are often associated with the incidence of subsequent litigation (Lys and Watts 1994; Heninger 2001) and because auditors have an incentive to require more conservative accruals when litigation risk is high (DeFond and Subramyam 1998). Thus, I predict that litigation will induce auditors to engage in more conservative behavior evidenced by additional monitoring and reduction of management's reporting flexibility (i.e., reducing client reported discretionary accruals) in subsequent audit engagements. Because Henninger (2001) finds that the probability of *subsequent* auditor litigation increases as a client reports more income-increasing discretionary accruals, I predict that auditors employed at a litigated office will constrain income-increasing and signed discretionary accruals across their office-wide client portfolio (that excludes the litigated client) in order to avoid *future* litigation. I also examine the absolute value of discretionary accruals because Klein (2002) suggests that this measure should capture the magnitude of financial reporting decisions regardless of the directional effect of those decisions. While auditors may be primarily interested in constraining income-increasing behavior, they may also be inclined to constrain all discretionary behavior.[20] This leads me to my fourth formal hypothesis (stated in the alternative form):

> **H4: Following litigation, the magnitude of positive, signed, and absolute value discretionary accruals reported by clients of litigated auditors is smaller than the magnitude of positive, signed, and absolute value discretionary accruals reported by clients of non-litigated auditors.**

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[19] This assertion relies on the assumption that accruals are opportunistically manipulated by management. It is possible that accruals represent a signal from management regarding future prospects.

[20] Client income-decreasing discretionary behavior can lead to "cookie-jar" reserve accounting that may unduly smooth net income and mislead financial investors about the true financial performance of the company.

In addition to investigating the effect of litigation on the constraint of client accruals, I also examine the effect of litigation on the audit report lag (ARL). The ARL represents the length of time auditors require to complete an audit (Bamber et al. 1993). Consistent with prior research, I define the ARL as the number of days between a client's fiscal year-end and the audit report date (Ashton et al. 1987; Ashton et al. 1989; Bamber et al. 1993). Prior research provides evidence that the ARL increases with audit complexity and risk. Specifically, prior research shows that, on average, the ARL is positively associated with qualified audit opinions (Whittred 1980: Bamber et al. 1993), restatements of prior period financial statements (Kinney and McDaniel 1993), losses (Ashton et al. 1989; Bamber et al. 1993), and extraordinary items (Ashton et al. 1989; Bamber et al. 1993). I control for these audit and client characteristics known to increase the ARL, and I predict that litigation will induce auditors employed at a litigated office to lengthen the ARL across their office-wide client portfolio (that excludes the litigated client). A lengthening of the ARL would suggest that litigated auditors are spending more time (and perhaps are exercising more caution) in completing their audits. This leads me to my fifth formal hypothesis (stated in the alternative form):

> **H5: Following litigation, the ARL for clients of litigated auditors is longer than the ARL for clients of non-litigated auditors.**

In sum, I predict that litigation will result in more conservative auditor behavior. Because financial reports are a joint product of decisions made by the auditor and company management, changes in auditor behavior should ultimately affect overall financial reporting quality. If observed changes in auditor behavior, specifically more conservative auditor

behavior, improve financial statement quality then this may suggest that litigation deters – at least to some extent – non-GAAP financial reporting.[21]

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[21] It is difficult to directly examine the effect of changes in auditor behavior on financial reporting quality. I rely on discretionary accruals as my measure of changes in financial statement quality.

CHAPTER III

SAMPLE AND DATA

Financial Statement Misstatements Resulting in Auditor Litigation

I identify all annual financial statement misstatements from the Audit Analytics database using restatements of previously audited annual financial statements disclosed from January 1, 2000, through December 31, 2007. Using audit opinion data available from the Audit Analytics database, I identify the engaged auditor during the misstated time period. Because misstated time periods often cover multiple fiscal year-ends, I retain only one unique firm-year observation per misstatement and assume that the auditor engaged at the end of the misstated time period is the auditor most likely to be sued.[22] My initial misstatement sample consists of 1,673 observations with the data necessary to run my tests.[23]

I use the Audit Analytics database to identify all instances of auditor litigation disclosed as of June 18, 2008.[24] The Audit Analytics database provides material legal proceedings and federal litigation filed against the top 100 accounting firms. I read each proceeding and limit my sample to litigation that alleges the financial statements to be misleading[25], where the company Central Index Key (i.e., CIK) identifier and litigation date

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[22]The auditor engaged at the end of the misstated time period is the auditor sued in five of six lawsuits in my litigation sample where multiple auditors are engaged during the misstated time period.

[23]I use the Audit Analytics, Compustat, CRSP, and Thompson Financial SDC databases to obtain the data necessary to construct my control variables.

[24] I limited my analysis to auditor litigation listed in the following Audit Analytics categories: Accounting and Auditing Enforcement; Accounting malpractice; Ch 11 and Ch 7 bankruptcy; Class action; Financial reporting; IPO; Mergers & acquisitions; Professional liability; Other securities law; Stockholder suits. Several lawsuits were duplicated and categorized in several locations. I retained only one occurrence of the lawsuit and eliminated any lawsuit where the auditor was not listed as a defendant on the court docket.

[25] My screen eliminates litigation resulting from employer-employee relations, auditor-client contractual disagreements, and independence concerns.

could be determined[26], and where the auditor affected by litigation is located within the United States. Thus, my final empirical sample is summarized in Table 1 and consists of 65 misstatements (3.9 percent) that result in litigation and 1,608 misstatements (96.1 percent) that do not result in litigation.

Misstatement-based Litigation Resulting in Auditor Settlements

In order to examine the resolution of the auditor litigation, I use the Audit Analytics database and the Stanford Law School Class Action Clearinghouse to identify which auditor lawsuits resulted in an auditor settlement. Of the 65 auditor lawsuits, the outcome of 13 lawsuits could not be determined. In these instances, the court proceedings suggested that the lawsuit reached resolution. However, the court documents were unclear as to whether or not an auditor settlement was reached. Therefore, I eliminate these lawsuits from my analysis. I then read each proceeding to identify the plaintiffs' alleged equity, income, or stock inflation. In two instances, the plaintiffs' claims could not be determined. I eliminate these lawsuits from my analysis. Thus, my final empirical sample is summarized in Table 1 and consists of 20 auditor misstatement-based lawsuits (40 percent) that result in an auditor settlement and 30 auditor misstatement-based lawsuits (60 percent) that do not result in an auditor settlement.

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[26] The CIK identifier is necessary so that I can identify which misstatements resulted in litigation.

TABLE 1
Sample Selection:
Financial Statement Misstatements Resulting in Litigation and/or Auditor Settlements

Sample #1: Financial Statement Misstatements Resulting in Litigation[2]

	Frequency	Percent of Total
Annual misstatements disclosed as restatements in the Audit Analytics database from 1/1/01 – 12/31/07	1,673	
Annual misstatements that resulted in litigation as disclosed in the Audit Analytics database as of 1/22/08:	65	3.9

Sample #2: Auditor Misstatement-Based Litigation Resulting in an Auditor Settlement

	Frequency	Percent of Total
Annual misstatements that resulted in litigation as disclosed in the Audit Analytics database as of 1/22/08:	65	
Less: Auditor misstatement-based litigation where the outcome could not be determined[4]:	13	
Less: Auditor misstatement-based litigation where the alleged equity, income, or stock inflation could not be identified in the lawsuit:	2	
Auditor misstatement-based litigation that resulted in an auditor settlement as of 10/13/08[3]:	20	40
Final Empirical Sample	50	

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[2] My empirical tests require data from the Compustat, CRSP, and Thomson Financial SDC databases. My sample consists of only observations with data available from these databases.

[4] The available court documents suggest that the lawsuit reached resolution. However, the court documents were unclear as to whether or not an auditor settlement was reached.

[3] I utilized the Audit Analytics database and the Stanford Law School Securities Class Action Clearinghouse to identify auditor settlements.

Effect of Auditor Litigation on Subsequent Auditor Behavior

The second part of my study is conducted at the auditor city (i.e., audit office) level, and my empirical tests examine the subsequent auditor behavior associated with all clients (except the litigated client) serviced by a given office. In other words, my tests are aimed at determining whether litigation involving Auditor A and Client B is associated with changes in Auditor A's behavior across Auditor A's office-wide client portfolio (excluding Client B) in the year following litigation. Ball (2008) suggests that the penalties of a scandal resulting from poor audit office-level oversight typically fall on one or more partners but do not threaten the entire audit firm. Thus, my study focuses on auditor behavior at the audit office level. Prior literature finds an increase in financial reporting conservatism since the passage of the Sarbanes Oxley Act in 2002 (Lobo and Zhou 2006; Cohen et al. 2008). Because my sample of auditor litigation is comprised of lawsuits between 2000 and 2007, I use a matched-pairs design to control for the increase in auditor conservatism over this time period. Specifically, I match a litigated auditor to a similarly-sized non-litigated auditor, and I compare the behavior of both auditors across their office-wide client portfolios (excluding the litigated client) in the year following litigation.

To begin my analysis, I first use the Audit Analytics database to identify the auditor city location for the auditors represented in my litigation sample. My litigation sample consists of 65 misstatements. In four instances, two separate company misstatements are combined into a single lawsuit against one auditor. Thus, my initial sample consists of 61 unique auditor city locations cited with misstatement-based litigation. I then identify a control sample of similarly sized non-litigated auditors using one of three different match criteria. First, I match each audit office cited with misstatement-based litigation (i.e., litigated

auditor) to a similarly sized audit office not cited with litigation (i.e., non-litigated auditor) based on the total *assets* audited in the year prior to litigation.[27] Second, I rematch the litigated auditors to non-litigated auditors based on total *clients* audited in the year prior to litigation. Lastly, I rematch the litigated auditors to non-litigated auditors based on total *assets* audited in the year prior to litigation but I also require the control (i.e. non-litigated) auditor to be of the same firm name. In sum, in three separate analyses, I match a litigated auditor to a non-litigated auditor with a similar office size in the prior year.[28] These matches are based on auditor size because I want my litigated and non-litigated auditors to have similar resources, personnel, and audit workload so that my empirical tests will have the best chance of isolating differences in auditor behavior that are attributable to litigation. My third match is structured to control for firm-wide effects litigation may have on auditor behavior. I eliminate three litigated auditor office locations from the analysis because they are missing prior year data necessary for the matching procedures. I also eliminate six litigated auditor office locations from the analysis because they are cited with multiple lawsuits and it would be difficult to isolate behavior changes separately around each lawsuit.[29] I require my control

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[27] Using the Audit Analytics database, I review all available auditor litigation and ensure that my control offices are without *any* litigation (not just misstatement-based litigation).

[28] If an audit office is the closest in size to multiple litigated offices, I assign it to the litigated office most similar in size (i.e. with the smallest absolute value difference in total assets audited in the prior year). I then take the next best match for the remaining litigated office. This prevents control office observations from entering my empirical models more than once.

[29] I include these auditor office locations in subsequent sensitivity analyses.

audit offices to audit between 50 and 150 percent of the total assets audited by my litigated audit offices. This screen eliminates four litigated and non-litigated audit offices from my sample.[30] My final auditor sample is summarized in Table 2 and consists of 41 litigated audit offices matched to 41 non-litigated audit offices.[31]

Next, I collect all financial statements issued by clients engaged by the litigated and non-litigated audit offices in the year prior and subsequent to the litigation commencement date.[32] I eliminate from my sample any financial statements issued by clients involved in the litigation because I expect auditor behavior to be more conservative for these clients and I do not want these observations to drive my results. Instead, I aim to examine the effect of litigation on auditor reporting behavior for all *other* clients. My final empirical sample consists of the client-year observations between 2000 and 2007 (both one year prior to and one year subsequent to litigation) with available Audit Analytics and Compustat data to run each of my empirical tests.[33]

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[30] This screen eliminate ten litigated and non-litigated audit offices under my third matching procedure that requires the non-litigated office to have the same audit firm name.

[31] My final auditor sample consists of 35 litigated audit offices matched to 35 non-litigated audit offices under my third matching procedure that requires the non-litigated audit office to have the same audit firm name.

[32] I vary this time span in subsequent sensitivity analyses.

[33] The number of observations will vary according to data availability for each of my empirical models. Consistent with prior literature (Frankel et al. 2002; Cahan and Zhang 2006), I exclude all observations with two-digit SIC codes 60 – 69 from the accruals analysis.

TABLE 2
Sample Selection:
Effect of Auditor Litigation on Subsequent Auditor Behavior

Panel A: Litigated Auditor Sample Selection	Match #1: Total Assets	Match #2: Total Clients	Match #3: Total Assets and Firm Name
Auditor office locations affected by misstatement-based litigation as disclosed in Audit Analytics as of 12/31/07[34]	61	61	61
Less: Auditor office locations with missing prior year data necessary for matching procedures	(3)	(3)	(3)
Less: Six auditor office locations cited with multiple lawsuits[35]	(13)	(13)	(13)
Less: Auditor office locations without a similarly sized non-litigated audit office[3]	(4)	(4)	(10)
Final sample of litigated auditor office locations:	41	41	35

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[34] In four instances, two separate misstatements are combined into a single lawsuit against an auditor. As a result, only 61 unique office locations are affected by misstatement-based litigation.
[35] One auditor office location was cited with three lawsuits.
[3] I require my control audit office to audit between 50 – 150 percent of the total assets (clients) audited by my litigated office.

CHAPTER IV

METHODOLOGY

Financial Statement Misstatements Resulting in Auditor Litigation

In this section, I discuss the empirical models I use to test my predictions. First, I estimate the following logistic regression model to investigate the occurrence of auditor litigation related to financial statement misstatements:

$$
\begin{aligned}
Litig = \beta_0 &+ \beta_1\, Fees + \beta_2\, Tenure + \beta_3\, BigN + \beta_4\, Sox + \beta_5\, Revenue + \beta_6\, Num\_Issues + \quad (1)\\
&\beta_7\, Fraud + \beta_8\, Misstate\_Length + \beta_9\, Price\_Change + \beta_{10}\, Reg\_Invest +\\
&\beta_{11}\, Time\_Lapse + \beta_{12}\, Client\_Size + \beta_{13}\, Bankrupt\_Delist + \beta_{14}\, Merger +\\
&\beta_{15}\, IPO + \beta_{16}\, Sales\_Growth + \beta_{17}\, Lit\_Ind + \beta_{18}\, Receivables\_Ratio +\\
&\beta_{19}\, Inventory\_Ratio + \beta_{20}\, Client\_Age + \beta_{21}\, Share\_Diffusion + \beta_{22\text{-}28}\textstyle\sum_{i=1}^{7}\, Years +\\
&\varepsilon
\end{aligned}
$$

where:

Litig	= an indicator set to 1 if the misstatement[36] results in auditor litigation in any subsequent year, and 0 otherwise;

Auditor Characteristics:

Fees	= the natural logarithm of the total non-audit fees *(LFees)* or the ratio of non-audit fees to total fees *(Fee_Ratio)* charged to the client in the misstated fiscal year;
Tenure	= the number of consecutive years the client had retained their current auditor as of the misstatement date;
BigN	= an indicator set to 1 if the auditor engaged during the misstatement was a Big N auditor, and 0 otherwise;
Sox	= an indicator set to 1 if the restatement is disclosed after July 31, 2002, and 0 otherwise;

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[36] I identify restatements of annual financial statement disclosed from January 1, 2000 through December, 31, 2007 in the Audit Analytics database and determine which prior year's financial statements were misstated. The misstatement is determined by the date on the initial financial statements rather than by the date of the restatement.

Misstatement Characteristics:

Revenue = an indicator set to 1 if the misstatement includes a revenue recognition issue, and 0 otherwise;

Num_Issues = the number of accounting rule (i.e., FASB/GAAP) application failures identified in the misstatement;

Fraud = an indicator set to 1 if the misstatement includes fraud, irregularities, or misrepresentations, and 0 otherwise;

Misstate_Length = the number of days between the misstatement period beginning and ending date;

Price_Change = the three-day market-adjusted return around the misstatement disclosure date based on a value-weighted market index[37];

Reg_Invest = an indicator set to 1 if the SEC, PCAOB, or another regulatory body is investigating the registrant, and 0 otherwise;

Time_Lapse = the number of days between the restatement disclosure date and the misstatement period ending date;

Client Characteristics:

Client_Size = the natural logarithm of the client's total assets;

Bankrupt_Delist = an indicator set to 1 if the client went bankrupt or delisted from the stock exchange within 365 days of the issuance of the misstated financial statements, and 0 otherwise;

Merger = an indicator set to 1 if the client went through a merger in the year prior to the misstatement, and 0 otherwise;

IPO = an indicator set to 1 if the client issued an IPO within three years[38] prior to the beginning of the misstated time period, and 0 otherwise;

Sales_Growth = the client's total sales less the client's prior year total sales divided by the client's prior year total sales[39];

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[37] Raw returns yield directly comparable results.
[38] Consistent with Palmrose and Scholz (2004), I choose a three year time period because this represents the statute of limitations for auditor legal liability under the Securities Act of 1933.
[39] I winsorize *Sales_Growth* to the one and 99 percentiles to reduce the influence of outliers.

Lit_Ind = an indicator set to 1 if the client operates in an industry with a high incidence of shareholder litigation[40], and 0 otherwise;

Receivables_Ratio = the client's total account receivables divided by the client's total assets;

Inventory_Ratio = the client's total inventory divided by the client's total assets;

Client_Age = the number of years the client has been on Compustat since 1974;

Share_Diffusion = the number of common shares outstanding divided by the number of common shareholders;

and

Years = year dummies (i.e., indicators set to 1 if the client's fiscal year-end falls in 2000 - 2007, respectively, and 0 otherwise).

My main variables of interest are the auditor characteristics of the misstatement: *Fees, Tenure, BigN,* and *Sox.* I include the magnitude or proportion of engagement fees comprised of non-audit service fees (*Fees*) because prior research suggests that the perception of auditor independence may be affected by the amount of non-audit services provided by an engaged auditor (Hay et al. 2006).[41] I include *Tenure* to assess whether the positive relationship between auditor tenure and perceived audit quality (Ghosh and Moon 2005) influences auditor culpability for past misstatements. Consistent with Palmrose and Scholz (2004), I include a Big N (*BigN*) indicator variable because Palmrose (1988) finds that Big N auditors have a lower rate of litigation than non-Big N auditors. I also investigate whether the amount of responsibility assigned to an auditor for a past misstatement varies following the Sarbanes Oxley Act *(Sox).*

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[40] Consistent with Francis et al. (1994), I identify the biotechnology industry (SIC codes 2833-2836, 8731-8734), computer industry (SIC codes 3570-3577, 7370-7374), electronic industry (SIC codes 3600-3674), and retailing industry (SIC codes 5200-5961) as an industry with a high incidence of shareholder litigation.
[41] As a sensitivity test, I examine the ratio of non-audit fees to total engagement fees. Results are robust to this specification.

I examine the following characteristics specific to the misstatement that could be associated with the likelihood that the misstatement results in auditor litigation: *Revenue, Num_Issues, Fraud, Misstate_Length, Price_Change, Reg_Invest,* and *Time_Lapse.* These variables account for the severity of the misstatement and are similar to those included in Palmrose and Scholz (2004). I examine misstatements that consist of revenue recognition issues *(Revenue)* and those that disclose fraud or irregularities *(Fraud)* because Palmrose and Scholz (2004) find that core restatements (i.e., those associated with earnings from primary operations) and those with fraud or irregularities are more likely to result in auditor litigation.[42] I examine the number of GAAP and/or FASB accounting failures included in the misstatement *(Num_Issues),* the length of time affected by the misstatement *(Time_Length),* and the security price change surrounding the restatement announcement (*Price_Change*) because Palmrose and Scholz (2004) find these characteristics to be positively associated with the likelihood of auditor litigation. I investigate whether the presence of a SEC, PCAOB, or other regulatory investigation *(Reg_Invest)* of the misstating client affects auditor culpability because I expect that a regulatory investigation may be indicative of a more severe misstatement. Lastly, I examine the effect of the time lag between the misstatement period ending date and the subsequent restatement disclosure date *(Time_Lapse)* on auditor culpability because I expect the plaintiff's burden of proof to be potentially greater as more time has passed since the misstatement. A greater burden of proof may decrease the likelihood of a successful outcome for a plaintiff and thus, reduce a plaintiff's propensity to include the auditor as a defendant in litigation. However, Sharp (2007) finds that companies delay the announcement of large income-decreasing restatements longer than the

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[42] I examine revenue recognition misstatements rather than core misstatements because Palmrose and Scholz (2004) find that revenue recognition misstatements drive their results for the core/noncore test variable.

announcements of other restatements. This suggests that a greater time lapse may be indicative of a more severe misstatement. In addition, prior literature finds that managers of companies involved in litigation pay greater settlement amounts when the disclosure of negative earnings news is delayed (Billings 2008). Thus, a greater delay in the disclosure of a restatement could increase auditor culpability. As a result, I do not make a directional hypothesis on *Time_Lapse*.

I also examine the following client characteristics that could be associated with the likelihood that the misstatement results in auditor litigation: *Client_Size, Bankrupt_Delist, Merger, IPO, Sales_Growth, Lit_Ind, Receivables_Ratio, Inventory_Ratio, Client_Age,* and *Share_Diffusion.* I include client size *(Client_Size)* because misstatements of larger clients may result in greater shareholder losses and a potential for greater settlements. Therefore, the likelihood that misstatements result in auditor litigation may be greater for these clients. I investigate whether the occurrence of a bankruptcy or delisting shortly following the issuance of the misstated financial statements *(Bankrupt_Delist)* affects auditor culpability because these events may result in greater shareholder losses and a greater likelihood of auditor litigation. In addition, Ball (2008) suggests that auditors are often named as defendants when the capacity of other defendants to pay is limited. Consistent with Palmrose and Scholz (2004), I control for clients that completed an initial public offering *(IPO)* in close proximity to the misstatement because Billings and Lewis (2008) find that aggressive financial reporting and trading behavior around an IPO results in an increased incidence of litigation. In addition, auditor legal liability is greater for financial statements included in registration statements under the Securities Act of 1933.[43]

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[43] Auditors are liable for any level of negligence under the Securities Act of 1933 whereas auditors are only liable for scienter or gross negligence under Rule 10b-5 of the Securities Exchange Act of 1934.

I also control for clients that engage in a merger *(Merger)* in close proximity to the misstatement because St. Pierre and Anderson (1984) finds this variable to be positively associated with auditor litigation. I include sales growth *(Sales_Growth),* the ratio of accounts receivables to total assets *(Receivables_Ratio),* and the ratio of inventory to total assets *(Inventory_Ratio)* because Stice (1991) find these characteristics to be positively associated with auditor litigation. Consistent with Cahan and Zhang (2006), I control for industries with a high incidence of shareholder litigation *(Lit_Ind)* because these industries may offer plaintiffs a higher probability of a successful outcome. I include client age *(Client_Age)* and the diffusion of common share ownership *(Share_Diffusion)* because these characteristics are likely to be associated with the probability that shareholders pursue litigation. Lastly, because the severity of restatements has decreased from 1997 to 2007, I include year indicator variables *(Years)* to control for time effects.

According to Ball (2008), the public reaction to the accounting scandals of 2001 and 2002 was to assign partial blame to the auditors. He suggests that the scandals induced the public to perceive non-audit services as a conflict of auditor interest and a likely impairment of auditor judgment (Ball 2008). While prior research provides evidence that non-audit services do not impair auditor judgment (Ball 2008), regulators responded to the adverse public reaction by banning a significant number of non-audit services that could be provided to an audit client by an engaged auditor (SOX 2002).[44] As a result, I expect that the perception of auditor independence may be more influenced by the amount of non-audit services provided to a client in the post-SOX era. Thus, I re-estimate Model (1) and include

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[44] The Sarbanes Oxley Act of 2002 prohibits audit firms from providing any of the following services to a publicly traded audit client: (1) bookkeeping and related services; (2) design or implementation of financial information systems; (3) appraisal or valuation services; (4) actuarial services; (5) internal audit outsourcing; (6) management or human resources services; (7) investment or broker/dealer services; (8) legal and expert services (SOX 2002).

an interaction of *Fees* and *Sox*. Specifically, I estimate the following logistic regression model to investigate the effect of SOX on the relationship between non-audit service fees and the likelihood of auditor litigation related to financial statement misstatements:

$$Litig = \beta_0 + \beta_1\,Fees + \beta_2\,Sox + \boldsymbol{\beta_4\,Fees{*}Sox} + \beta_5 Tenure + \beta_6\,BigN + \beta_7\,Revenue + \quad (2)$$
$$\beta_8\,Num\_Issues + \beta_9\,Fraud + \beta_{10}\,Misstate\_Length + \beta_{11}\,Price\_Change +$$
$$\beta_{12}\,Reg\_Invest + \beta_{13}\,Time\_Lapse + \beta_{14}\,Client\_Size + \beta_{15}\,Bankrupt\_Delist +$$
$$\beta_{16}\,Merger + \beta_{17}\,IPO + \beta_{18}\,Sales\_Growth + \beta_{19}\,Lit\_Ind + \beta_{20}\,Receivables\_Ratio$$
$$+ \beta_{21}\,Inventory\_Ratio + \beta_{22}\,Client\_Age + \beta_{23}\,Share\_Diffusion + \beta_{24\text{-}29}\sum_{i=1}^{7} Years$$
$$+ \varepsilon$$

where:

 Fees*Sox = the interaction of *Fees (Lfees or Fee_Ratio)* and *Sox;*

and all other variables are defined above.

  In this analysis, my main variable of interest is the interaction variable *(Fees*Sox).* I investigate whether the association between non-audit service fees and auditor misstatement-based litigation varies in the post-Sox time period. A positive coefficient on the *Fees*Sox* interaction variable would indicate that the provision of non-audit services fees to an audit client has a stronger effect on the likelihood of auditor misstatement-based litigation in the post-SOX era. Thus, this would suggest that SOX may have increased the perception that non-audit service fees reduce audit quality.

Misstatement-based Litigation Resulting in Auditor Settlements

  My third empirical model investigates the occurrence of an auditor settlement related to auditor misstatement-based litigation. I investigate the likelihood of an auditor settlement resulting from misstatement-based litigation because the occurrence of an auditor settlement related to misstatement-based litigation represents an observable cost to an auditor. While a financial statement misstatement indicates that an audit failure has occurred, the amount of responsibility assigned to an auditor for this failure may vary across misstatements. Because

not all auditor litigation is meritorious (Palmrose 1997), there are instances where an auditor who is cited as a defendant in a lawsuit is subsequently dismissed. The occurrence of an auditor settlement suggests that the auditor lawsuit contained at least some merit. Otherwise, the auditor would have forced the lawsuit to go to trial knowing that the plaintiffs' claims were unsupportable. However, advocates for auditor legal liability reform argue that audit firms are often forced to settle lawsuits regardless of the merit of the plaintiffs' claims because the size of the claims are so large that the risk of an unsuccessful resolution outweigh the cost of a settlement (Advisory Committee on the Auditing Profession 2008). Thus, I use a multivariate logistic regression model to investigate whether it is the size of the plaintiffs' claims or the characteristics of the misstatement (e.g., misstatement severity, auditor characteristics, and/or client characteristics) that drive auditor settlements related to misstatement-based litigation. Specifically, I limit my sample of misstatements to those that result in auditor litigation and I estimate the following logistic regression model:

$$
\begin{aligned}
Settle = \ & \beta_0 + \beta_1\,Acct\_Inflate + \beta_2\,Stock\_Inflate + \beta_3\,Fees + \beta_4\,Tenure + \beta_5\,BigN + \beta_6\,Sox + \\
& \beta_7\,Revenue + \beta_8\,Num\_Issues + \beta_9\,Fraud + \beta_{10}\,Misstate\_Length + \beta_{11}\,Reg\_Invest + \\
& \beta_{12}\,Time\_Lapse + \beta_{13}\,Client\_Size + \beta_{14}\,Merger + \beta_{15}\,IPO + \beta_{16}\,Lit\_Ind + \\
& \beta_{17}\,Client\_Age + \beta_{18}\,Share\_Diffusion + \varepsilon \qquad (3)
\end{aligned}
$$

where:

Settle = an indicator set to 1 if the lawsuit results in an auditor settlement, and 0 otherwise;

Acct_Inflate = the amount of the plaintiffs' alleged inflation in net income or equity as disclosed in the court documents;

Stock_Inflate = the plaintiffs' alleged percentage decrease in share price during the class action period as disclosed in the court documents;

and all other variables are as defined above.

While I am interested in the coefficients on all variables, my main variables of interest are *Acct_Inflate* and *Stock_Inflate*. *Acct_Inflate* represents the amount of the plaintiffs' alleged manipulation in the financial statements whereas *Stock_Inflate* represents the amount of the plaintiff's alleged stock inflation that occurs from the financial statement misstatement. Because an auditor often chooses to settle out of court with the intent to avoid potential future litigation costs, I expect that the size of the plaintiffs' claims will provide an incremental effect on the likelihood that an auditor defendant pays a settlement in a lawsuit resulting from a misstatement. As a result, I expect a positive and significant coefficient on *Acct_Inflate* and *Stock_Inflate*. To my knowledge, this is the first study that uses a multivariate model to examine the association between the size of the plaintiffs' claims, the severity of the misstatement, auditor characteristics, and client characteristics and the likelihood that an auditor defendant pays a settlement in a lawsuit resulting from a misstatement.

Effect of Auditor Litigation on Subsequent Auditor Behavior

The debate about the appropriate level of auditor legal liability is driven by conflicting views on the effect of private litigation on audit firms (Advisory Committee on the Auditing Profession 2008). Advocates for legal liability reform argue that private litigation results in catastrophic risks of loss that include litigation, settlement, and reputational costs. They argue that audit firms are unable to adequately insure themselves against these unpredictable risks. As a result, these catastrophic risks could threaten the survival of an audit firm (Advisory Committee on the Auditing Profession 2008). Opponents of legal liability reform argue that private litigation plays a role in ensuring accountability and confidence in the financial markets (Advisory Committee on the Auditing Profession 2008). They argue that a

reduction in auditor legal liability would adversely impact an investor's perception of audit quality and would reduce the intensity of audits (Advisory Committee on the Auditing Profession 2008). Rather that reduce auditor legal liability, they suggest that audit firms can protect themselves from catastrophic liability by performing high quality audits (Advisory Committee on the Auditing Profession 2008). I examine the effect of litigation on audit firms by examining the behavior of auditors following litigation. Because prior analytical research suggests that additional legal exposure can induce auditors to either report more conservatively or to increase effort (Thoman 1996), I empirically examine both of these possible behavior changes. First, I examine the effect of litigation on an auditor's decision to require more conservative client-reported accruals (i.e., to report more conservatively). Second, I examine the effect of litigation on an auditor's decision to increase the amount of time spent to complete an audit (i.e., to increase audit effort).

Auditor conservatism has been defined as an "auditor's preference for income-decreasing accounting choices" (Kim et al. 2003, 327). Because accrual-based earnings involve estimates about future events and these estimates are jointly determined by a client and its auditor, I use client-specific discretionary accruals as my first measure of changes in auditor behavior. I predict that litigation will result in increased auditor conservatism and that this conservatism will be evidenced by an increase in an auditor's preference for income-decreasing discretionary accruals across an office-wide client portfolio (that excludes the litigated client). I estimate the client-specific discretionary component of total accruals using a performance-adjusted modified Jones model. Following Kothari et al. (2005), the model is estimated by year and 2-digit SIC industry for all observations available in Compustat:[45]

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[45] I eliminate industry-year combinations that have fewer than ten firm-year observations. I trim all inputs to the one and 99 percentiles to reduce the influence of outliers.

$$Total\_AC/TA_{t-1} = \beta_0 + \beta_1\ 1/\ TA_{t-1} + \beta_2\ (\Delta Sales_t - \Delta AR_t)/TA_{t-1} + \beta_3\ PPE_t/TA_{t-1} + \beta_4\ ROA + \varepsilon$$

(4)   where:

Total_AC	= total accruals (Income before extraordinary items – adjusted operating cashflows) (Cahan and Zhang 2006);
TA	= total assets;
Sales	= total sales;
AR	= accounts receivable;
PPE	= property, plant, and equipment;
ROA	= net income divided by total assets;

and

ε	= total discretionary accruals *(DAC).*

My empirical tests use both the signed *(Sign_DAC or Pos_DAC)* discretionary accruals and the absolute value *(Abs_DAC)* of total discretionary accruals *(DAC)*. I examine the signed discretionary accruals because I expect auditors engaged in conservative behavior may have a preference for income-decreasing accruals rather than income-increasing accruals. I examine absolute value of discretionary accruals because this measure should capture the magnitude of financial reporting decisions regardless of the directional effect of those decisions (Klein 2002). Specifically, I estimate the following ordinary least squares (OLS) regression model:

$$Accr = \beta_0 + \beta_1\ Lit + \beta_2\ Post + \beta_3\ Lit*Post + \beta_4\ BigN + \beta_5\ Client\_Size + \beta_6\ OCF + \quad (5)$$
$$\beta_7\ Abs\_TAC + \beta_8\ Lev + \beta_9\ Client\_Age + \beta_{10}\ Tenure + \beta_{11}\ Prior\_AA +$$
$$\beta_{12}\ Pr\_Bank + \beta_{13}\ Chg\_NI + \beta_{14}\ New\_Fin + \beta_{15}\ Loss + \beta_{16}\ Growth +$$
$$\beta_{17-31}\ \sum_{i=1}^{1-15}\ Industry + \varepsilon$$

where:

Accr　　= the absolute value *(Abs_DAC)* or signed *(Sign_DAC or Pos_DAC)*[46] client-specific estimate of discretionary accruals using a performance-adjusted modified Jones model[47];

Lit　　= an indicator variable set to 1 if the financial statements were audited by a litigated auditor, and 0 otherwise;

Post　　= an indicator variable set to 1 if the financial statements were issued following litigation[48], and 0 otherwise;

Lit*Post　　= an interaction of *Lit* and *Post;*

Accruals Control Variables:

BigN　　= an indicator set to 1 if the engaged auditor was a Big N auditor, and 0 otherwise;

Client_Size　　= the natural logarithm of the client's total assets;

OCF　　= the client's cash flows from operations scaled by the client's prior year total assets;

Abs_TAC　　= the absolute value of the client's total accruals scaled by the client's prior year total assets;

Lev　　= the client's ratio of total debt to total assets;

Client_Age　　= the total number of years for which total assets was reported for the client in COMPUSTAT since 1974;

Tenure　　= the total number of consecutive years that the client has retained their current auditor as of the financial statement date;

Litigation Risk Control Variables:

Prior_AA　　= an indicator set to 1 if the client's engaged auditor was Arthur Andersen during 2001 or 2002, and 0 otherwise;

Pr_Bank　　= the Hopwood et al. (1994) probability of bankruptcy score;

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[46] For the absolute value or positive discretionary accrual analysis, I use a truncated tobit regression which employs a lower bound of zero for the discretionary accrual values. Utilizing an ordinary least squares (OLS) approach would lead to estimates biased toward zero (Greene 2003).

[47] See Model 3 for a description of the performance-adjusted modified Jones model. I trim *Accr* to the one and 99 percentiles to reduce the influence of outliers.

[48] I identify the litigation date as the date the wrongdoing becomes public knowledge as disclosed in the Audit Analytics database.

Chg_NI	= the client's net income less the client's prior year net income divided by the client's prior year net income;
New_Fin	= an indicator set to 1 if the client issued new shares equal to or greater than 10 percent of the shares outstanding at the beginning of the year, and 0 otherwise;
Loss	= an indicator set to 1 if the client reported a loss, and 0 otherwise;
Growth	= the client's market value of common equity divided by the client's book value of common equity at the beginning of the year;

and

Industry	= industry dummies (i.e., indicators set to 1 for each of fifteen 2-digit SIC industries, and 0 otherwise).

My main variables of interest are *Lit, Post,* and *Lit*Post.* The coefficient on *Lit* estimates the difference in discretionary accruals between clients of litigated and non-litigated auditors *prior* to litigation. The coefficient on *Post* estimates the change in discretionary accruals following litigation for clients of non-litigated auditors. The coefficient on *Lit*Post* estimates the difference in the constraint of absolute value and signed discretionary accruals post-litigation for litigated auditors versus non-litigated auditors. A negative coefficient on *Lit*Post* would would support my third hypothesis and would indicate a greater constraint of absolute value and signed discretionary accruals post-litigation for litigated auditors versus non-litigated auditors. In addition, a negative coefficient on the joint test for *Post + Lit*Post* would indicate a decrease in absolute value and signed discretionary accruals following litigation for *litigated* auditors. A negative coefficient on the joint test for *Lit + Lit*Post* would indicate that following litigation the total magnitude of absolute value and signed discretionary accruals is smaller for litigated versus non-litigated auditors.

I include numerous control variables from the prior literature. First, I include variables that prior literature finds to be significantly associated with discretionary accruals. Specifically, I include a Big N *(BigN)* indicator because Becker et al. (1998) find that clients of Big 6 auditors report lower absolute value discretionary accruals than clients of non-Big 6 auditors. I control for client size *(Client_Size)* because accrual activity is expected to vary with client size (Dechow and Dichev 2002). I include cash flows from operations *(OCF)* because prior literature finds a negative association between discretionary accruals and cash flows (Dechow 1994; Sloan 1996). I control for the client's accrual generating potential with the absolute value of total accruals *(Abs_TAC)* (Becker et al. 1998), and I include leverage *(Lev)* because DeFond and Jiambalvo (1994) find a positive association between debt covenant violations and discretionary accruals. I include *Client_Age* because Anthony and Ramesh (1992) find that accounting performance measures vary with changes in a client's life cycle. Lastly, I control for *Tenure* because Myers et al. (2003) find that clients having longer relationships with their auditors report discretionary accruals that are smaller in magnitude.

Because I aim to isolate the effect of *actual* litigation on auditor behavior from the effect of other litigation risks on auditor behavior, I include numerous variables that prior work indicates are associated with increased auditor litigation risk. Specifically, I include an indicator for prior Arthur Andersen clients *(Prior_AA)* because Cahan and Zhang (2006) find that successor auditors of Arthur Andersen clients required more conservative accounting from these clients. Similar to Cahan and Zhang (2006), I include several variables that capture the expected net benefits associated with litigation. I include a bankruptcy probability score *(Pr_Bank)* because Stice (1991) finds that a client's financial condition is negatively related to the likelihood of a lawsuit. I control for client size *(Client_Size)* because Stice (1991) and Lys

and Watts (1994) show that auditors of large clients are more likely to be sued. I include

several variables to capture the client's incentive to manage earnings because prior literature

indicates that auditor conservatism will be most evident when an auditor and its client have

conflicting incentives (Kim et al. 2003; Anderson et al. 2004). Consistent with Lee and Mande

(2003), I include the percentage change in the client's net income from the prior year to the

current year *(Chg_NI)* because managers may have an incentive to manage earnings to obtain

compensation bonuses. Consistent with Cahan and Zhang (2006), I control for the issuance of

new equity *(New_Fin)* because prior literature finds that managers have incentive to increase

earnings prior to equity offers (Rangan 1998; Teoh et al. 1998). Consistent with Lee and

Mande (2003), I include an indicator for clients experiencing losses *(Loss)* because prior

literature suggests that discretionary accruals reported by these clients may reflect contractual

renegotiations associated with financial difficulty (DeAngelo et al. 1994) or that managers of

these clients may use discretionary accruals opportunistically (Burgstahler and Dichev 1997). I

control for growth clients *(Growth)* with the market-to-book ratio because managers of these

clients tend to have more accounting discretion (Smith and Watts 1992) and have a greater

incentive to meet earnings forecasts (Skinner and Sloan 2002). Lastly, I include an indicator

for each 2-digit SIC industry *(Industry)* because accruals (Barth et al. 2001) and litigation risk

(Francis et. al 1994) vary by industry.

While litigation might induce an auditor to *report* more conservatively, it may also

induce an auditor to *act* more conservatively by increasing auditor effort (Thoman 1996). In

order to examine the effect of litigation on auditor effort, I examine an auditor's decision to

increase the amount of time spent to complete an audit. I use the audit report lag, defined as the

number of days between the client's fiscal year-end and the client's audit report date, as my

proxy for auditor effect. Specifically, I estimate the following negative binomial regression model:

$$
\begin{aligned}
Arl = \quad & \beta_0 + \beta_1\,Lit + \beta_2\,Post + \beta_3\,Lit{*}Post + \beta_4\,BigN + \beta_5\,Client\_Size + \beta_6\,Lag\_Arl + \quad (6) \\
& \beta_7\,Busy + \beta_8\,Restate + \beta_9\,Qualified + \beta_{10}\,EI + \beta_{11}\,ROA + \beta_{12}\,Prior\_AA + \\
& \beta_{13}\,Pr\_Bank + \beta_{14}\,Chg\_NI + \beta_{15}\,New\_Fin + \beta_{16}\,Loss + \beta_{17}\,Growth + \\
& \beta_{18\text{-}32}\,\sum_{i=1}^{1\text{-}15} Industry + \varepsilon
\end{aligned}
$$

where:

Arl	= the number of days between the client's fiscal year-end and the client's audit report date;
Lag_Arl	= the number of days between the client's *prior* fiscal year-end and the client's *prior* audit report date;
Busy	= an indicator set to 1 if the client's fiscal year ends in December, and 0 otherwise;
Restate	= an indicator set to 1 if financial statements for any prior period were restated in the current period, and 0 otherwise;
Qualified	= an indicator set to 1 if the audit opinion is qualified[49], and 0 otherwise;
EI	= an indicator set to 1 if the financial statements include at least one extraordinary item, and 0 otherwise;
ROA	= net income divided by total assets;

and all other variables are as defined above.

While an ordinary lease squares (OLS) regression model is more common in the prior literature (e.g., Bamber et al. 1993, Simnett et al. 1995, Schwartz and Soo 1996, etc.) a negative binomial regression model is more appropriate for ARL data. The negative binomial regression model is a count model (i.e., the dependent variable is a count variable that takes the value of any integer between zero and infinity) that corrects for overdispersion (i.e., when the sample variance is greater than the sample mean). Because the ARL is a count of the number

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[49] I identify qualified opinions as all adverse, qualified, and going concern audit opinions available in the Compustat and/or Audit Analytics databases.

of days between a client's fiscal year-end and the report date and because the variance within

my sample is greater than the mean, this model is most appropriate (Long and Freese 2006).[50]

Consistent with the accruals analysis, my main variables of interest are *Lit, Post,* and *Lit*Post.*

I also include numerous control variables from the prior literature. First, to control for

differences in the efficiency of Big N versus non-Big N audits (Leventis et al. 2005), I include

a Big N *(BigN)* indicator variable. I include client size *(Client_Size)* because larger clients

typically have shorter ARLs (Ashton et al. 1989; Bamber et al. 1993; Cullinan 2003). I control

for the prior year audit report lag *(Lag_Arl)* because Simnett et al. (1995) find that report lags

often do not vary significantly from year to year. Because busy season audits are associated

with longer delays (Johnson et al. 2002), I include an indicator for December fiscal year-ends

(Busy). I control for current restatements of prior period financial statements *(Restate),*

qualified audit opinions *(Qualified),* and the existence of extraordinary items *(EI)* because prior

literature finds that these characteristics are associated with longer audit delays (e.g., Whittred

1980; Bamber et al. 1993; Kinney and McDaniel 1993). Because prior literature finds that a

deteriorating financial condition is positively associated with the ARL (Jaggi and Tsui 1999), I

include return on assets *(ROA)* to control for client financial condition. Lastly, I include

numerous litigation risk control variables (i.e., *Prior_AA*, *Pr_Bank, Chg_NI, New_Fin, Loss,*

Growth, Industry) because the presence of these characteristics may increase audit risk,

increase audit effort, and therefore, result in longer audit delays. In sum, I examine the

occurrence and outcome of auditor litigation related to financial statement misstatements and

the effect of auditor litigation on subsequent auditor behavior. My aim is to better understand

the role of litigation on the auditing profession. Table 3 provides a summary of all variables

used in my empirical models.

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[50] Results are robust when the analysis is performed with the traditional OLS model.

TABLE 3
Variable Definitions

Panel A: Variables Used in the Analysis of Auditor Litigation Resulting from Misstatements (variables used in Model 1):				
Variable Name	*Variable Type*	*Expectation*	*Definition*	*Reference*
Acct_Inflate	Test	+	= the amount of the plaintiffs' alleged inflation in net income or equity as disclosed in the court documents.	NA
Bankrupt_Delist	Control	+	= an indicator set to 1 if the client went bankrupt or delisted from the stock exchange within 365 days of the issuance of the misstated financial statements, and 0 otherwise.	Ball (2008); Palmrose and Scholz (2004)
BigN	Test	?	= an indicator set to 1 if the auditor engaged during the misstatement was a Big N auditor, and 0 otherwise.	Palmrose (1988); Palmrose and Scholz (2004)
Client_Age	Control	-	= the number of years the client has been on Compustat since 1974.	
Client_Size	Control	+	= the natural logarithm of the client's total assets.	Palmrose and Scholz (2004)
Fee_Ratio	Test	+	= the ratio of non-audit fees charged to the client in the misstated fiscal year.	Hay et al. (2006)
*Fees*Sox*	Test	+	= the interaction of *Fees (LFees or Fee_Ratio)* and *Sox*.	NA
Fraud	Control	+	= an indicator set to 1 if the misstatement includes fraud, irregularities, or misrepresentations, and 0 otherwise.	Palmrose and Scholz (2004)
Inventory_Ratio	Control	+	= the client's total inventory divided by the client's total assets.	Stice (1991)
IPO	Control	+	= an indicator set to 1 if the client issued an IPO within three years prior to the beginning of the misstated time period, and 0 otherwise.	Palmrose and Scholz (2004); Billings and Lewis (2008)
LFees	Test	+	= the natural logarithm of the total non-audit fees charged to the client in the misstated fiscal year.	Hay et al. (2006)
Litig	Dependent	NA	= an indicator set to 1 if the misstatement results in auditor litigation in any subsequent year, and 0 otherwise.	NA
Merger	Control	+	= an indicator set to 1 if the client went through a merger in the year prior to the misstatement, and 0 otherwise.	St. Pierre and Anderson (1994)
Misstate_Length	Control	?	= the number of days between the misstatement period beginning and ending date.	Palmrose and Scholz (2004)
Num_Issues	Control	+	= the number of accounting rule (i.e., FASB/GAAP) application failures identified in the misstatement.	Palmrose and Scholz (2004)

TABLE 3 Continued

Variable Name	Variable Type	Expectation	Definition	Reference
Price_Change	Control	-	= the three-day market-adjusted return around the misstatement disclosure date based on a value-weighted market index.	Palmrose and Scholz (2004)
Receivables_Ratio	Control	+	= the client's total account receivables divided by the client's total assets.	Stice (1991)
Reg_Invest	Control	+	= an indicator set to 1 if the SEC, PCAOB, or another regulatory body is investigating the registrant, and 0 otherwise.	Because I expect that a regulatory investigation may be indicative of a more severe restatement
Revenue	Control	+	= an indicator set to 1 if the misstatement includes a revenue recognition issue, and 0 otherwise.	Palmrose and Scholz (2004)
Lit_Ind	Control	+	= an indicator set to 1 if the client operates in an industry with a high incidence of shareholder litigation (SIC codes 2833-2836, 8731-8734, 3570-3577, 7370-7374, 3600-3674, and 5200-5961), and 0 otherwise	Francis et al. (1994); Cahan and Zhang (2006)
Sales_Growth	Control	?	= the client's total sales less the client's prior year total sales divided by the client's prior year total sales.	Stice (1991)
Share_Diffusion	Control	-	= the number of common shares outstanding divided by the number of common shareholders.	To control for the probability that shareholders pursue litigation.
Sox	Test	?	= an indicator set to 1 if the restatement is disclosed after July 31, 2002, and 0 otherwise.	To examine differences following SOX.
Stock_Inflate	Test	+	= the plaintiffs' alleged percentage decrease in share price during the class action period as disclosed in the court documents.	NA
Tenure	Test	-	= the number of consecutive years the client had retained their current auditor as of the misstatement date.	Ghosh and Moon (2005)
Time_Lapse	Control	?	= the number of days between the restatement disclosure date and the misstatement period ending date.	Sharp (2007); Billings (2008)

TABLE 3 Continued

Variable Name	Variable Type	Expectation	Definition	Reference
Years	Control	?	= year dummies (i.e., indicators set to 1 if the client's fiscal year-end falls in 2000 - 2007, respectively, and 0 otherwise).	To control for time effects.

Panel B: Variables Used in the Performance-Adjusted Modified Jones Accruals Model (variables used in Model 2):

Variable Name	Definition
AR	= accounts receivable (Compustat item #2).
PPE	= property, plant, and equipment (Compustat item #7).
ROA	= net income (Compustat item #18) / total assets (Compustat item #6).
Sales	= total sales (Compustat item #12).
TA	= total assets (Compustat item #6).
Total_AC	= total accruals [Income before extraordinary items [(Compustat item #123) – adjusted operating cashflows (Compustat item #308 - #124)] (Cahan and Zhang 2006).
ε	= total discretionary accruals *(DAC)*.

Panel C: Variables Used in the Analysis of the Effect of Auditor Litigation on Subsequent Auditor Behavior (variables used in Model 3 and Model 4):

Variable Name	Variable Type	Expectation	Definition	Reference
Abs_TAC	Dependent	NA	= the absolute value of the client's total accruals scaled by the client's prior year total assets.	Becker et al. (1998)
Accr	Dependent	NA	= the absolute value *(DAC)* or signed *(Sign_DAC or Pos_DAC)* client-specific estimate of discretionary accruals using a performance-adjusted modified Jones model.	NA
Arl	Dependent	NA	= the number of days between the client's fiscal year-end and the client's audit report date.	Bamber (1993)
BigN	Control	-	= an indicator set to 1 if the engaged auditor was a Big N auditor, and 0 otherwise.	Becker et al. (1998); Leventis et al. (2005); Kim et al. (2002)
Busy	Control	+	= an indicator set to 1 if the client's fiscal year ends in December, and 0 otherwise.	Johnson et al. (2002)
Chg_NI	Control	?	= the client's net income less the client's prior year net income divided by the client's prior year net income.	Lee and Mande (2003)

TABLE 3 Continued

Variable Name	Variable Type	Expectation	Definition	Reference
Client_Age	Control	?	= the total number of years for which total assets was reported for the client in COMPUSTAT since 1974.	Anthony and Ramesh (1992)
Client_Size	Control	?	= the natural logarithm of the client's total assets.	Ashton et al. (1989); Bamber et al. (1993); Cullinan (2003); Stice (1991); Lys and Watts (1994); Reynolds and Francis (2001); Dechow and Dichev (2002)
EI	Control	+	= an indicator set to 1 if the financial statements include at least one extraordinary item, and 0 otherwise.	Whittred (1980); Bamber et al. (1993); Kinney and McDaniel (1993)
Growth	Control	?	= the client's market value of equity divided by the client's book value of common equity at the beginning of the year.	Smith and Watts (1992); Skinner and Sloan (2002)
Industry	Control	NA	= indicators set to 1 for each of eleven 2-digit SIC industries, and 0 otherwise.	Francis et al. (1994); Barth et al. (2001)
Lag_Arl	Control	+	= the number of days between the client's *prior* fiscal year-end and the client's *prior* audit report date.	Simnett et al. (1995)
Lev	Control	+	= the client's ratio of total debt to total assets.	DeFond and Jiambalvo (1994)

			TABLE 3 Continued	
Variable Name	*Variable Type*	*Expectation*	*Definition*	*Reference*
Lit	Test	?	= an indicator variable set to 1 if the financial statements were audited by a litigated auditor, and 0 otherwise.	NA
*Lit*Post*	Test	+/-	= an interaction of *Lit* and *Post.*	NA
Loss	Control	?	= an indicator set to 1 if the client reported a loss, and 0 otherwise.	DeAngelo et al. (1994); Burgstahler and Dichev (1997); Lee and Mande (2003)
New_Fin	Control	?	= an indicator set to 1 if the client issued new shares equal to or greater than 10 percent of the shares outstanding at the beginning of the year, and 0 otherwise.	Rangan (1998); Teoh et al. (1998); Cahan and Zhang (2006)
OCF	Control	-	= the client's cash flows from operations scaled by the client's prior year total assets.	Dechow (1994); Sloan (1996)
Post	Test	+/-	= an indicator variable set to 1 if the financial statements were issued following litigation[1], and 0 otherwise.	NA
Pr_Bank	Control	?	= the Hopwood et al. (1994) probability of bankruptcy score.	Stice (1991); Cahan and Zhan (2006)
Prior_AA	Control	-	= an indicator set to 1 if the client's engaged auditor was Arthur Andersen during 2001 or 2002, and 0 otherwise.	Cahan and Zhang (2006)
Qualified	Control	+	= an indicator set to 1 if the audit opinion is qualified, and 0 otherwise.	Whittred (1980); Bamber et al. (1993); Kinney and McDaniel (1993)

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[1] I identify the litigation date as the date the wrongdoing becomes public knowledge as disclosed in the Audit Analytics database.

			TABLE 3 Continued	
Variable Name	*Variable Type*	*Expectation*	*Definition*	
Restate	Control	+	= an indicator set to 1 if financial statements for any prior period were restated in the current period, and 0 otherwise.	Whittred (1980); Bamber et al. (1993); Kinney and McDaniel (1993)
ROA	Control	-	= net income divided by total assets.	Jaggi and Tsui (1999)
Tenure	Control	-	= the total number of consecutive years that the client has retained their current auditor as of the financial statement date.	Myers et al. (2003)

CHAPTER V

EMPIRICAL RESULTS

Descriptive Statistics: **Financial Statement Misstatements Resulting in Auditor Litigation**

Table 4 presents descriptive statistics for my full sample of financial statement misstatements. With respect to my auditor characteristics, the univariate mean and median tests presented in Table 4 indicate that a misstatement is more likely to result in auditor litigation when the misstatement is associated with engagement fees that consist of a greater magnitude *(LFees)* and/or proportion of non-audit services *(Fee_Ratio)*. The distribution of non-audit fees *(Non-Audit_Fees)* and total assets audited *(Client_Size)* is right-skewed, so I use the natural logarithm of this value to control for non-audit fees in my multivariate empirical tests. I do not find any significant relationship between auditor tenure and the likelihood of auditor misstatement-based litigation. My univariate chi-square tests also suggest that misstatement-based litigation may be more likely for Big N *(Big N)* auditors and less likely in the post-SOX time period.

The univariate tests in Table 4 also indicate that a misstatement is more likely to result in litigation when the misstatement is more severe. Specifically, auditor misstatement-based litigation is more likely when the misstatement is associated with more accounting application (i.e., FASB/GAAP) failures *(Num_Issues)*, especially when the failure involved revenue recognition *(Revenue)*, a longer misstated time period *(Misstate_Length)*, a greater stock price decline at the misstatement disclosure date *(Price_Change)*, and a higher incidence of fraud *(Fraud)* and/or a regulatory investigation *(Reg_Invest)*. In addition, I find

that auditor misstatement-based litigation is more likely when the time between the misstatement and the disclosure of the misstatement is shorter *(Time_Lapse).*

With respect to client characteristics, the univariate tests in Table 4 indicate that a misstatement is more likely to result in litigation when the misstatement is issued by a larger client *(Client_Size).* The distribution of total assets audited is right-skewed so I use the natural logarithm of this value to control for client size in my multivariate empirical tests. I also find that misstatements issued by riskier clients are more likely to result in litigation. Specifically, I find that clients with auditor misstatement-based litigation have greater sales growth *(Sales_Growth)*, a higher ratio of accounts receivable to total assets *(Receivables_Ratio),* and operate in a high litigation risk industry *(Rsky).* However, my univariate tests do not indicate that clients with auditor misstatement-based litigation have a higher ratio of inventory to total assets or a greater concentration of common share ownership.

TABLE 4
Descriptive Statistics:

Financial Statement Misstatements Resulting in Auditor Litigation
N = 1,673 misstatements

| | Resulting in Litigation | | Not Resulting in Litigation | |
| | N = 65 | | N = 1,608 | |
Continuous Variables	Mean	Median	Mean	Median
Non-Audit_Fees[4]	5,153,122***	836,000**	860,964	186,668
Fee_Ratio	48 percent***	46 percent***	30 percent	27 percent
Tenure	4.6 years	4 years	4.7 years	5 years
Num_Issues	3.4**	2	2.7	2
Misstate_Length	1,105 days*	1,003 days	997 days	730 days
Price_Change	-8 percent**	-3 percent**	-0.1	-0.9 percent
Time_Lapse	197 days*	145 days	223 days	159 days
Client_Size[5]	59,674***	2,013***	4,873	401
Sales_Growth	29 percent	12 percent	21 percent	9 percent
Receivables_Ratio	20 percent**	14 percent*	16 percent	11 percent
Inventory_Ratio	5 percent***	1 percent**	11 percent	5 percent
Client_Age	13 years*	11 years	14 years	13 years
Share_ Diffusion	84 shares	26 shares	98 shares	19 shares
Discrete Variables				
	Frequency	Percent	Frequency	Percent
BigN	59*	91	1,373	85
Sox	54***	83	1,513	94
Revenue	23***	35	290	18
Fraud	7***	11	36	2
Reg_Invest	24***	37	196	12
Bankrupt_Delist	5**	8	20	1
Merger	22***	34	314	20
IPO	6	9	95	6
Lit_Ind	17*	26	536	33

*, **, *** indicate that mean/median tests are significant at 10, 5, and 1 percent, respectively. All variables are defined in Table 1.

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[4] Non-audit fees reported in dollars (not in logged value for ease of interpretation).
[5] Total assets reported in millions of dollars (not in logged value for ease of interpretation).

Lastly, my univariate tests indicate that auditor misstatement-based litigation is more likely for younger clients *(Client_Age),* for those who issue a misstatement shortly following a merger *(Merger),* and for those that go bankrupt or delist from the stock exchange shortly following the misstatement *(Bankrupt_Delist).* My univariate tests do not indicate a significant association between an initial public offering *(IPO)* and the likelihood of auditor misstatement-based litigation.

Multivariate Results: Financial Statement Misstatements Resulting in Auditor Litigation

Table 5 presents the results of model (1), which estimates the likelihood that a financial statement misstatement results in auditor litigation. This model is estimated for 1,673 observations, consisting of 65 misstatements that resulted in auditor litigation and 1,608 misstatements that did not result in auditor litigation. Among other characteristics, the analysis includes an investigation of the impact of the magnitude of non-audit service fees (i.e., first two columns) and the proportion of non-audit service fees (i.e., second two columns) on the likelihood that a misstatement results in auditor litigation. The area under the receiver operating characteristic (ROC) curve is 86 percent for both regressions, which suggests that the logistic model has excellent discrimination.[51]

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[51] The ROC curve is a graphical plot of the sensitivity versus specificity for a binary classification as a discrimination threshold is varied. An area under the ROC curve of 100 (50) percent would be completely informative (uninformative). Hosmer and Lemeshaw (2000) suggests that an area greater than 70 (80) percent represents acceptable (excellent) discrimination.

TABLE 5
Logistic Regression: Financial Statement Misstatements Resulting in Auditor Litigation

$Litig = \beta_0 + \beta_1\,Fees + \beta_2\,Tenure + \beta_3\,BigN + \beta_4\,Sox + \beta_5\,Revenue + \beta_6\,Num\_Issues + \beta_7\,Fraud + \beta_8\,Misstate\_Length + \beta_9\,Price\_Change + \beta_{10}\,Reg\_Invest + \beta_{11}\,Time\_Lapse + \beta_{12}\,Client\_Size + \beta_{13}\,Bankrupt\_Delist + \beta_{14}\,Merger + \beta_{15}\,IPO + \beta_{16}\,Sales\_Growth + \beta_{17}\,Lit\_Ind + \beta_{18}\,Receivables\_Ratio + \beta_{19}\,Inventory\_Ratio + \beta_{20}\,Client\_Age + \beta_{21}\,Share\_Diffusion + \beta_{22\text{-}28}\sum_{i=1}^{7} Years + \varepsilon$ (1)

Variable	Sign	Analysis Including Non-Audit Fee Magnitude		Analysis Including Non-Audit Fee Proportion	
		Coefficient	Z-Statistic	Coefficient	Z-Statistic
Auditor Characteristics:					
LFees	+	**0.36**	2.68***	-	-
Fee_Ratio	+	-	-	**2.15**	**2.86***
Tenure	-	0.06	0.64	0.07	0.78
BigN	?	**-1.06**	**-1.90**	**-1.04**	**-1.85**
Sox	?	-0.50	-0.72	-0.61	-0.87
Restatement Characteristics:					
Revenue	+	**0.52**	**1.63**	**0.57**	**1.80**
Num_Issues	+	**0.09**	**1.43***	**0.09**	**1.37***
Fraud	+	**0.99**	**1.76**	**1.11**	**1.97**
Misstate_Length	?	0.00	0.48	0.00	0.51
Price_Change	-	**-1.84**	**-2.45***	**-1.81**	**-2.38***
Reg_Invest	+	**0.98**	**2.83***	**0.98**	**2.82***
Time_Lapse	?	-0.00	-0.89	-0.00	0.32
Client Characteristics:					
Client_Size	+	**0.22**	**1.87**	**0.40**	**4.71***
Bankrupt_Delist	+	**2.41**	**3.96***	**2.54**	**4.19***
Merger	+	0.16	0.49	0.27	0.84
IPO	+	0.30	0.55	0.24	0.67
Sales_Growth	?	0.12	0.50	0.06	0.23
Lit_Ind	+	0.16	0.48	0.22	0.64
Receivables_Ratio	+	1.00	1.26	0.94	1.21
Inventory_Ratio	+	-3.59	-2.14	-3.22	-1.98
Client_Age	-	**-0.06**	**-2.20***	**-0.05**	**-2.11**
Share_Diffusion	-	-0.00	-0.72	-0.00	-0.66
Intercept	N/A	**-9.82**	**-5.25***	**-6.98**	**-4.75***
Years		Year controls included but not tabulated			
N =		1,673		1,673	
Pseudo. R-Square		0.2658		0.2663	
LR Chi-Square Statistic		**146.09***		**146.36***	
Area under ROC curve		0.8603		0.8611	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. Tests are one-tailed when signs are predicted. All variables are defined in Table 1.

Regarding tests of the first hypothesis, I find that misstatements associated with engagement fees that consist of a greater magnitude of non-audit fees *(LFees)* or a greater proportion of non-audit fees *(Fee_Ratio)* are more likely to result in auditor litigation. This suggests that the responsibility assigned to auditors for past misstatements might be related to the types of services auditors provide to misstating clients. In other words, the greater amount and proportion of non-audit services provided to a client by an auditor may affect a third party's perception of auditor independence and may result in additional blame placed upon the auditor for the misstatement.

Regarding the tests of the second hypothesis, I do not find empirical evidence that auditor tenure is associated auditor misstatement-based litigation. Specifically, the coefficients on auditor tenure *(Tenure)* are positive and insignificant in both columns of Table 5. This suggests that the positive relationship between auditor tenure and perceived audit quality documented in the prior literature (Ghosh and Moon 2005) may not be present in the misstatement-based litigation setting.[52] With respect to my other auditor characteristics, and consistent with Palmrose (1988), I find that misstatements disclosed by Big N *(Big N)* auditors are less likely than misstatements disclosed by non-Big N auditors to result in auditor litigation. However, the coefficient on *Sox* does not enter the model significantly. This suggests that the likelihood of auditor litigation to result from a financial statement misstatement does not vary between the pre and post-Sarbanes Oxley time period.

Consistent with Palmrose and Scholz (2004), I find that misstatements that include a revenue recognition issue *(Revenue),* misstatements with a greater number of accounting rule application (i.e., FASB /GAAP) failures *(Num_Issues)*, misstatements disclosing the presence of fraud or irregularities *(Fraud),* and misstatements that have a greater stock price

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[52] However, this conclusion is tenuous because it is based on a null finding.

decline at the misstatement disclosure date *(Price_Change)* are more likely to result in auditor litigation. I also find that the coefficient on *Reg_Invest* is positive and significant, suggesting that auditor litigation may be more likely when the misstating client is experiencing a regulatory investigation. These results suggest that misstatement severity is a major determinant of auditor litigation. Similar to Palmrose and Scholz (2004), I find that the number of days restated *(Misstate_Length)* is not significantly associated with auditor litigation. I also do not find that a significant relationship exists between auditor litigation and the length of time between the misstatement disclosure date and misstatement period-ending date *(Time_Lapse)*.

With respect to client characteristics, I find that the coefficient on client size *(Client_Size)* is positive and significant, suggesting that misstatements of larger clients are more likely to result in auditor litigation. I also find that misstatements associated with clients that went bankrupt or delisted from the stock exchange shortly following the misstatement *(Bankrupt_Delist)* are more likely to result in auditor litigation. These findings are similar to Palmrose and Scholz (2004) who find a positive but insignificant association between these variables and auditor litigation. In addition, I find that misstatements issued by older clients *(Client_Age)* are less likely to result in auditor litigation. However, I do not find the coefficients on any other client characteristic variables to be significantly associated with the likelihood of a misstatement to result in auditor litigation. In other words, in a multivariate analysis I do not find evidence that a recent merger *(Merger)* or issuance of an IPO *(IPO)* by a misstateing client significantly affects the likelihood of auditor misstatement-based litigation. I also do not find evidence that the amount of concentration of share ownership *(Share_Diffusion)* of misstating clients affects auditor litigation.

Lastly, I do not find that misstatements of riskier clients are more likely to result in auditor litigation. Specifically, the coefficients on *Sales_Growth, Lit_Ind, Receivables_Ratio,* and *Inventory_Ratio* are not positive and significant. Overall, my results suggest that several auditor, misstatement, and client characteristics are important in predicting auditor misstatement-based litigation. However, I find that misstatement severity is the primary driver of auditor litigation.

Additional Analysis: The Sarbanes Oxley Act and Non-audit Services

In an effort to strengthen auditor independence and/or the appearance of auditor independence, the Sarbanes Oxley Act of 2002 banned a significant number of non-audit services that could be provided to an audit client by an engaged auditor (SOX 2002).[53] While the results from my initial analysis indicate that a positive relationship exists between the magnitude and proportion of non-audit services provided by an engaged auditor to a misstating client and the likelihood of auditor litigation, I expect that this association may vary across the pre and post-SOX time periods. Table 6 presents the results of model (2), which adds the interaction of *Fees* and *Sox* to model (1). Consistent with Table 5, the model is estimated for 1,673 observations, consisting of 65 misstatements that resulted in auditor litigation and 1,608 misstatements that did not result in auditor litigation. The analysis also includes an investigation of the impact of the magnitude of non-audit service fees (i.e., first

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[53] The Sarbanes Oxley Act of 2002 prohibits audit firms from providing any of the following services to a publicly traded audit client: (1) bookkeeping and related services; (2) design or implementation of financial information systems; (3) appraisal or valuation services; (4) actuarial services; (5) internal audit outsourcing; (6) management or human resources services; (7) investment or broker/dealer services; (8) legal and expert services (SOX 2002).

two columns) and the proportion of non-audit service fees (i.e., second two columns) for the

pre and post-SOX time periods on the likelihood that a misstatement results in auditor

litigation. The area under the receiver operating characteristic (ROC) curve is approximately

86 percent for both regressions, which suggests that the logistic model has excellent

discrimination.[54]

Interestingly, I find that the positive association previously documented in Table 5

between the magnitude and the proportion of non-audit fees and auditor misstatement-based

litigation is driven by the post-SOX time period. Specifically, the coefficients on *LFees* and

Fee_Ratio are positive (negative) and insignificant (significant) in Table 5. This indicates

that in the pre-SOX time period, the magnitude of non-audit fees is not significantly

associated with auditor misstatement-based litigation and the proportion of non-audit service

fees may be negatively associated with auditor misstatement-based litigation.

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[54] The ROC curve is a graphical plot of the sensitivity versus specificity for a binary classification as a discrimination threshold is varied. An area under the ROC curve of 100 (50) percent would be completely informative (uninformative). Hosmer and Lemeshaw (2000) suggests that an area greater than 70 (80) percent represents acceptable (excellent) discrimination.

**TABLE 6 Sarbanes Oxley Act Sensitivity Test #1 –
Logistic Regression: Financial Statement Misstatements Resulting in Auditor Litigation**

$Litig = \beta_0 + \beta_1 Fees + \beta_2 Sox + \boldsymbol{\beta_4 Fees*Sox} + \beta_5 Tenure + \beta_6 BigN + \beta_7 Revenue + \beta_8 Num\_Issues + \beta_9 Fraud + \beta_{10} Misstate\_Length + \beta_{11} Price\_Change + \beta_{12} Reg\_Invest + \beta_{13} Time\_Lapse + \beta_{14} Client\_Size + \beta_{15} Bankrupt\_Delist + \beta_{16} Merger + \beta_{17} IPO + \beta_{18} Sales\_Growth + \beta_{19} Lit\_Ind + \beta_{20} Receivables\_Ratio + \beta_{21} Inventory\_Ratio + \beta_{22} Client\_Age + \beta_{23} Share\_Diffusion + \beta_{24-29} \sum_{i=1}^{7} Years + \varepsilon$ (2)

Variable	Sign	Analysis Including Interaction of Non-Audit Fee Magnitude and Sox		Analysis Including Interaction of Non-Audit Fee Proportion and Sox	
		Coefficient	Z-Statistic	Coefficient	Z-Statistic
Auditor Characteristics:					
LFees	+	0.07	0.29	-	-
Fee_Ratio	+	-	-	-3.10	-1.85
Tenure	-	0.05	0.58	0.07	0.76
BigN	?	**-1.12**	**-2.01****	**-1.13**	**-1.99****
Sox	?	**-5.27**	**-1.76****	**-4.14**	**-3.47*****
Sox*LFees	+	**0.35**	**1.61***	-	-
Sox*Fee_Ratio	+	-	-	**6.21**	**3.38*****
Restatement Characteristics:					
Revenue	+	**0.58**	**1.80****	**0.67**	**2.11****
Num_Issues	+	**0.09**	**1.42***	**0.09**	**1.43***
Fraud	+	**0.96**	**1.73****	**1.06**	**1.89****
Misstate_Length	?	0.00	0.37	0.00	0.41
Price_Change	-	**-1.83**	**-2.42*****	**-1.75**	**-2.25*****
Reg_Invest	+	**1.04**	**2.99*****	**1.12**	**3.16*****
Time_Lapse	?	-0.00	-0.99	**-0.00**	**-1.31***
Client Characteristics:					
Client_Size	+	**0.23**	**1.88****	**0.43**	**5.04*****
Bankrupt_Delist	+	**2.37**	**3.88*****	**2.48**	**4.03*****
Merger	+	0.17	0.54	0.32	0.97
IPO	+	0.25	0.46	0.30	0.54
Sales_Growth	?	0.11	0.44	0.07	0.28
Lit_Ind	+	0.17	0.51	0.26	0.75
Receivables_Ratio	+	1.02	1.28	**1.02**	**1.29***
Inventory_Ratio	+	-3.62	-2.15	-3.28	-2.01
Client_Age	-	**-0.06**	**-2.27****	**-0.06**	**-2.30*****
Share_Diffusion	-	-0.00	-0.76	-0.00	0.46
Intercept		**-5.63**	**-1.80****	**-3.76**	**-2.22*****
Years		Year controls included but not tabulated			
Joint Tests:			χ^2 Statistic		χ^2 Statistic
LFees + Sox*LFees	+	**0.42**	**8.57*****	**3.11**	**14.72*****
Sox + Sox*LFees	?	**-4.92**	**3.12****	**2.07**	**3.71*****
N =		1,673		1,673	
Pseudo. R-Square		0.2703		0.2864	
LR Chi-Square Statistic		**148.59*****		157.44***	
Area under ROC curve		0.8651		0.8710	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. Tests are one-tailed when signs are predicted. All variables are defined in Table 1.

However, the coefficients on both interaction variables (*Sox*LFees* and *Sox*Fee_Ratio)* are positive and significant. This suggests that the provision of non-audit services to an audit client has a stronger effect on the likelihood of auditor misstatement-based litigation in the post-SOX time period. In addition the coefficients on the joint tests of *Fees + Sox*Fees* are positive and significant which confirm that the positive association between the magnitude and proportion of non-audit fees and auditor misstatement-based litigation is driven by the SOX time period. Thus, regarding the tests of the first hypothesis, I find that misstatements associated with engagement fees that consist of a greater magnitude of non-audit fees *(LFees)* or a greater proportion of non-audit fees *(Fee_Ratio)* are more likely to result in auditor litigation in the post-SOX time period *only.* This suggests that the Sarbanes Oxley Act may have changed a third party's perception of auditor independence as it relates to non-audit services. Thus, the provision of non-audit services in the post-SOX time period may result in additional blame placed upon an auditor for a financial statement misstatement.

All other variables retain their sign and significance as documented in the main regressions in Table 4 except *Time_Lapse* and *Sox.* In both regressions that include the interaction of *Fees* and *Sox, Sox* becomes negative and significant. This result suggests that auditor misstatement-based litigation is less likely in the post-Sarbanes Oxley time period. The coefficient on the joint test of *Sox* and *Sox*Fees* is negative and significant in the fee magnitude regression which confirms this result. However, the coefficient on the joint test of *Sox* and *Sox*Fees* is positive and significant in the fee proportion regression. Therefore, the effect of the passage of the Sarbanes Oxley Act on the likelihood of auditor misstatement-based litigation is not clear. In addition, the coefficient on *Time_Lapse* in the regression that

interacts fee proportion with *Sox* becomes negative and marginally significant. This indicates that a longer time lapse between the misstatement period and misstatement disclosure date may decrease the likelihood of auditor misstatement-based litigation.

Additional Analysis: The Overall Impact of the Sarbanes Oxley Act

While the Sarbanes Oxley Act of 2002 substantially constrained the amount of non-audit services that could be provided to an audit client by an engaged auditor, the Act also included other regulatory changes aimed to increase the quality of financial reporting and to restore investor confidence. For example, SOX mandated CEO/CFO certification of financial statements, internal control audits, SEC financial statement reviews, and PCAOB auditor inspections. Many of these changes have the potential to change the litigation risk affecting audit firms. For example, an increase in the number of SEC investigations could ultimately increase the number of SEC enforcement actions and lead to more lawsuits against auditors. As noted by Ball (2008), the Sarbanes Oxley Act provided the most extensive regulation of the financial markets since the Securities Act of 1933 and the Securities Exchange Act of 1934. In order to more fully examine the effect of SOX on the likelihood of auditor litigation resulting from financial statement misstatements, I perform an additional analysis where I partition my sample into pre-SOX and post-SOX time periods. I re-estimate model (1)[55] on each individual time period and I use seemingly unrelated estimation to test for coefficient differences for all independent variables between the two time periods.

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[55] Due to data limitations, I exclude *BigN, Fraud, Inventory_Ratio,* and *Years* from the model. Because my pre-SOX sample is small, these variables do not have adequate variation to be estimable in the pre-SOX time period.

This estimation technique allows me to combine the parameter estimates and associated covariance matrices of the two models into a single parameter vector and covariance matrix. This technique is similar to using independent variable interactions; however, it is easier to interpret when there are multiple interactions. Because I aim to estimate the coefficient differences between the pre-SOX and pos-SOX time periods across *all* independent variables, I utilize the seemingly unrelated estimation technique for ease of interpretation.

Table 7 presents the results of model (1), which is estimated separately for the pre-SOX and post-SOX time periods. Consistent with Table 5, the model is estimated for 1,673 observations, consisting of 65 misstatements that resulted in auditor litigation and 1,608 misstatements that did not result in auditor litigation. These observations consist of 106 pre-SOX observations and 1,567 post-SOX observations with 11 (54) of the pre-SOX (post-SOX) observations resulting in litigation. The area under the receiver operating characteristic (ROC) curve is approximately 97 (84) percent for the pre-SOX (post-SOX) regression, which suggests that the logistic model has excellent (acceptable) discrimination.[56]

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[56] The ROC curve is a graphical plot of the sensitivity versus specificity for a binary classification as a discrimination threshold is varied. An area under the ROC curve of 100 (50) percent would be completely informative (uninformative). Hosmer and Lemeshaw (2000) suggests that an area greater than 70 (80) percent represents acceptable (excellent) discrimination.

TABLE 7 Sarbanes Oxley Act Sensitivity Test #2 –
Logistic Regression: Financial Statement Misstatements Resulting in Auditor Litigation

$Litig^{57} = \quad \beta_0 + \beta_1\,Fees + \beta_2\,Tenure + \beta_3\,BigN + \beta_4\,Sox + \beta_5\,Revenue + \beta_6\,Num\_Issues + \beta_7\,Fraud + \beta_8\,Misstate\_Length + \beta_9\,Price\_Change + \beta_{10}\,Reg\_Invest + \beta_{11}\,Time\_Lapse + \beta_{12}\,Client\_Size + \beta_{13}\,Bankrupt\_Delist + \beta_{14}\,Merger + \beta_{15}\,IPO + \beta_{16}\,Sales\_Growth + \beta_{17}\,Lit\_Ind + \beta_{18}\,Receivables\_Ratio + \beta_{19}\,Inventory\_Ratio + \beta_{20}\,Client\_Age + \beta_{21}\,Share\_Diffusion + \beta_{22\text{-}28}\sum_{i=1}^{7} Years + \varepsilon$ (1)

Variable	Sign	Pre-SOX Time Period Coefficient	Pre-SOX Time Period Z-Statistic	Post-SOX Time Period Coefficient	Post-SOX Time Period Z-Statistic	Coefficient Difference χ^2 Statistic
Auditor Characteristics:						
LFees	+	-1.97	-1.72	**0.54**	**3.62*****	**4.75****
Tenure	-	**-2.26**	**-2.15****	0.01	0.93	**4.62****
BigN	?	--	--	--	--	--
Sox	?	--	--	--	--	--
Restatement Characteristics:						
Revenue	+	**2.33**	**1.58***	**0.71**	**2.15****	1.15
Num_Issues	+	-0.29	-0.62	**0.12**	**1.83****	0.77
Fraud	+	--	--	--	--	--
Misstate_Length	?	-0.00	-1.50	0.00	0.48	2.35
Price_Change	-	-3.65	-0.95	**-1.85**	**-1.36***	0.20
Reg_Invest	+	**6.45**	**2.02****	**0.89**	**2.81*****	**3.00***
Time_Lapse	?	**0.01**	**1.79***	-0.00	-1.07	**3.80****
Client Characteristics:						
Client_Size	+	**2.72**	**2.47*****	0.13	1.05	**5.44****
Bankrupt_Delist	+	**6.00**	**2.93*****	**2.30**	**2.81*****	**2.82****
Merger	+	-0.62	-0.57	0.22	0.66	0.55
IPO	+	-3.57	-1.44	0.19	0.66	2.19
Sales_Growth	?	**1.99**	**2.95*****	0.05	0.26	**7.80*****
Lit_Ind	+	-1.35	-0.85	0.08	0.23	0.77
Receivables_Ratio	+	6.17	1.06	**1.52**	**1.73***	0.62
Inventory_Ratio	+	--	--	--	--	--
Client_Age	-	0.02	0.17	**-0.10**	**-4.00*****	0.73
Share_Diffusion	-	0.02	1.81	**-0.00**	**-1.61***	**3.60***
Intercept		4.86	0.73	**-11.04**	**-6.98*****	
Years	--					
N =		106		1,567		
Pseudo. R-Square		0.6369		0.2283		
LR Chi-Square Statistic		**45.00*****		**107.29*****		
Area under ROC curve		0.9742		0.8378		

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. Tests are one-tailed when signs are predicted. All variables are defined in Table 1.

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[57] Due to data limitations, I exclude *BigN, Fraud, Inventory_Ratio,* and *Years* from the model. Because my pre-SOX sample is small, these variables do not have adequate variation to be estimable in the pre-SOX time period.

Interestingly, I find much variation across the two time periods. First, consistent with the previous fees analysis in Table 6, I find that the positive association between the magnitude of non-audit fees and auditor misstatement-based litigation is driven by the post-SOX time period. Specifically, the coefficient on *LFees* is negative (positive) and insignificant (significant) in the pre-SOX (post-SOX) regression in Table 7. In addition, the chi-square statistic is significant which confirms that a significant difference between the two coefficients exists. This indicates that in the pre-SOX time period, the magnitude of non-audit fees is not significantly associated with auditor misstatement-based litigation. However, in the post-SOX time period the magnitude of non-audit fees is positively associated with auditor misstatement-based litigation. Thus, regarding the tests of the first hypothesis, I find that misstatements associated with engagement fees that consist of a greater magnitude of non-audit fees *(LFees)* are more likely to result in auditor litigation in the post-SOX time period *only.* This suggests that the Sarbanes Oxley Act may have changed a third party's perception of auditor independence as it relates to non-audit services. Thus, the provision of non-audit services in the post-SOX time period may result in additional blame placed upon an auditor for a financial statement misstatement.

Regarding the tests of the second hypothesis, I do find empirical evidence that auditor tenure is associated with auditor misstatement-based litigation in the pre-SOX time period. Specifically, the coefficient on *Tenure* is negative (positive) and significant (insignificant) in the pre-SOX (post-SOX) regression. The chi-square statistic is significant which confirms that a significant difference between the two coefficients exists. This indicates that in the pre-SOX time period, the positive relationship between auditor tenure and perceived audit quality

documented in the prior literature (Ghosh and Moon 2005) exists in the misstatement-based litigation setting.

Consistent with the earlier findings in Table 5, I find that misstatements that include a revenue recognition issue or a regulatory investigation are more likely to result in auditor litigation for both time periods. Specifically, the coefficient on *Revenue* is positive and significant in both regressions and there is no significant difference between the two coefficients. The coefficient on *Reg_Invest* is positive and significant in both regressions, but there is a significant difference between the two coefficients. The coefficient on *Reg_Invest* is much greater in the pre-SOX regression which indicates that the presence of regulatory investigations in the pre-SOX time period has a stronger effect on the likelihood of auditor litigation to result from financial statement misstatements than the presence of regulatory investigations in the post-SOX time period. However, I find that misstatements with a greater number of accounting rule application (i.e., FASB/GAAP) failures and misstatements that have a greater stock price decline at the misstatement disclosure date are more likely to result in auditor litigation in the post-SOX time period only. Specifically, the coefficient on *Num_Issues* is negative (positive) and insignificant (significant) in the pre-SOX (post-SOX) regression, and the coefficient on *Price_Change* is negative (negative) and insignificant (significant) in the pre-SOX (post-SOX) regression. Consistent with the earlier findings in Table 5, I find that the number of days restated *(Misstate_Length)* is not significantly associated with auditor litigation in either time period. However, I do find that a significant relationship exists between auditor litigation and the length of time between the misstatement disclosure date and the misstatement period-ending date *(Time_Lapse)* in the pre-SOX time period. Specifically, the coefficient on *Time_Lapse* is positive and marginally significant in

the pre-SOX regression. This indicates that auditor litigation was more likely in the pre-SOX time period when the disclosure of the misstatement was delayed.

With respect to client characteristics, I find that the coefficient on *Client_Size* is positive (positive) and significant (insignificant) in the pre-SOX (post-SOX) regression and there is a significant difference between the two coefficients. This indicates that misstatements of larger clients are more likely to result in auditor litigation in the pre-SOX time period. Consistent with the earlier findings, I find that misstatements associated with clients that went bankrupt or delisted from the stock exchange shortly following the misstatement *(Bankrupt_Delist)* are more likely to result in auditor litigation in both time periods. However, the effect is stronger in the pre-SOX period as the coefficient is greater in the pre-SOX time period, and there is a significant difference between the two coefficients. Consistent with the earlier findings, I do not find evidence that a recent merger *(Merger),* issuance of an IPO *(IPO),* or operations in a risky industry *(Lit_Ind)* by a misstating client affects the likelihood of a misstatement to result in auditor litigation. However, I do find that misstating clients with greater sales growth *(Sales_Growth)* and a greater proportion of accounts receivables *(Receivables_Ratio)* are more likely to result in auditor litigation in the pre-SOX and post-SOX time periods, respectively. In addition, I find that misstatements issued by older clients *(Client_Age)* and misstatements issued by clients with a greater diffusion of share ownership are less likely to result in auditor litigation in the post-SOX time period. Overall, my results suggest that the ability of the auditor, misstatement, and client characteristics to predict auditor misstatement-based litigation changed following the enactment of the Sarbanes Oxley Act of 2002.

Sensitivity Analyses: The Changing Nature of Misstatements

In a recent study commissioned by the U.S. Treasury Department, Scholz (2008) finds that the nature of financial statement restatements has changed over the last decade. Specifically, she finds that, from 1997 through 2006, the number of restatements has increased while the severity of the restatements has decreased (Scholz 2008). Because my sample is comprised of misstatements disclosed from 2000 – 2007, it is likely that it consists of some less severe misstatements that may not be viewed as audit failures. As a result, I perform two sensitivity tests that attempt to control for this phenomena. First, I limit my analysis to non-trivial misstatements and I re-estimated model (1). Specifically, I include a misstatement in my model if it meets any of the following conditions: (1) the misstatement is associated with a revenue recognition issue; (2) the misstatement disclosed the presence of fraud or irregularities; (3) the misstating client experienced a regulatory investigation; (4) the number of accounting application (i.e., GAAP/FASB) failures disclosed in the misstatements was in the upper quartile for the entire sample; (5) the three-day market-adjusted return around the misstatement disclosure date was in the lower quartile for the entire sample. Second, I include a misstatement magnitude variable *(Misstate_Magnitude)* that captures the impact of the restatement on the current year retained earnings scaled by the prior year retained earnings. This variable controls for the amount of accounting manipulation for which an auditor may be held accountable.

Table 8 presents the results of these sensitivity tests. Limiting my sample to non-trivial misstatements reduces my sample size from 1,673 observations to 1,015 observations. The area under the receiver operating characteristic (ROC) curve is 84 percent, which suggests that the logistic model retains its excellent discrimination. My results are largely

consistent with this exclusion of observations. Specifically, all the coefficients retain their

sign and significance except that the coefficients on *Revenue* and *Num_Issues* become

insignificant, and the coefficient on *Sox* becomes positive and marginally significant. In other

words, I find that litigation is more likely to follow non-trivial misstatements that are

associated with *Fraud*, regulatory investigations *(Reg_Invest),* larger stock price declines at

the misstatement disclosure date *(Price_Chg)*, and engagement fees that consist of a greater

magnitude of non-audit service fees *(Fees)*. However, when limited to non-trivial

misstatements, I do not find that the number of accounting rule application (i.e.,

FASB/GAAP) failures *(Num_Issues)* or the presence of a revenue recognition failure

(Revenue) has an incremental effect on the likelihood of auditor misstatement-based

litigation. The negative and significant coefficient on *Sox* indicates that auditor misstatement-

based litigation resulting from non-trivial misstatements is less likely in the post-Sarbanes

Oxley time period. This result is largely consistent with the result in Table 5. In sum, my

results are largely robust to an exclusion of trivial misstatements issued during my time

period. While the number and nature of restatements has changed over the last decade, the

determinants of auditor misstatement-based litigation appear to have remained relatively

constant.

TABLE 8 Sensitivity Test –
Logistic Regression: Financial Statement Misstatements Resulting in Auditor Litigation

$Litig = \beta_0 + \beta_1 LFees + \beta_2 Tenure + \beta_3 BigN + \beta_4 Sox + \beta_5 Revenue + \beta_6 Num\_Issues + \beta_7 Fraud + \beta_8 Misstate\_Length + \beta_9 Price\_Change + \beta_{10} Reg\_Invest + \beta_{11} Time\_Lapse + \beta_{12} Client\_Size + \beta_{13} Bankrupt\_Delist + \beta_{14} Merger + \beta_{15} IPO + \beta_{16} Sales\_Growth + \beta_{17} Lit\_Ind + \beta_{18} Receivables\_Ratio + \beta_{19} Inventory\_Ratio + \beta_{20} Client\_Age + \beta_{21} Share\_Diffusion + \beta_{22-28} \sum_{i=1}^{7} Years + \varepsilon$ (1)

Variable	Sign	Analysis Limited to Non-Trivial Misstatements		Analysis Including Misstatement Magnitude[58]	
		Coefficient	Z-Statistic	Coefficient	Z-Statistic
Auditor Characteristics:					
LFees	+	**0.26**	**1.84***	2.25	2.15***
Tenure	-	0.06	0.58	**-0.77**	**-1.54***
BigN	?	**-1.16**	**-2.00****	-	-
Sox	?	**-1.34**	**-1.35***	-	-
Restatement Characteristics:					
Revenue	+	0.40	1.18	**3.09**	**1.42***
Num_Issues	+	0.05	0.83	0.20	0.53
Fraud	+	**0.83**	**1.49***	4.50	1.17
Misstate_Length	?	-0.00	-0.17	-0.00	0.52
Price_Change	-	**-2.57**	**-3.23****	**-9.74**	**-2.15****
Reg_Invest	+	**0.83**	**2.33****	-0.36	-0.10
Time_Lapse	?	-0.00	-0.87	**-0.01**	**-1.49***
Misstate_Magnitude	+	-		-0.00	-1.51
Client Characteristics:					
Client_Size	+	**0.29**	**2.20****	**0.99**	**1.58***
Bankrupt_Delist	+	**1.31**	**1.50***	-	-
Merger	+	-0.08	-0.21	-2.58	-1.38
IPO	+	0.26	0.44	0.32	0.16
Sales_Growth	?	0.21	0.71	-0.75	0.79
Lit_Ind	+	0.30	0.83	0.91	0.52
Receivables_Ratio	+	0.50	0.53	0.12	0.03
Inventory_Ratio	+	-4.96	-2.44	-41.3	-1.53
Client_Age	-	**-0.06**	**-2.37****	**-0.48**	**-1.80****
Share_Diffusion	-	-0.00	-0.95	**-0.01**	**-1.96****
Intercept	N/A	**-7.24**	**-3.52****	**-37.3**	**-2.48****
Years		Year controls included but not tabulated			
N =		1,015		520	
Pseudo. R-Square		0.2525		.6556	
LR Chi-Square Statistic		107.98***		64.79***	
Area under ROC curve		0.8478		0.9863	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. Tests are one-tailed when signs are predicted. All variables are defined in Table 1.

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[58] Due to data limitations, I exclude *BigN, Sox,* and *Bankrupt_Delist* from the model. Because inclusion of *Misstate_Magnitude* reduces my sample size, these variables do not have adequate variation to be estimable.

My second sensitivity test includes a misstatement magnitude variable *(Misstate_Magnitude)* that captures the impact of the restatement on the current year retained earnings scaled by the prior year retained earnings. Inclusion of this variable significantly reduces my sample size from 1,673 observations to 520 observations. Of these 520 observations, only 9 result in auditor litigation. As a result of the decreased sample size, I exclude *BigN, Sox,* and *Bankrupt_Delist* from the model because these variables do not have adequate variation to be estimable. The area under the receiver operating characteristic (ROC) curve is 98 percent, which suggests that the logistic model retains its excellent discrimination. Conclusions regarding my first hypothesis do not change with this regression model. In other words, I find a positive and significant association between non-audit service fees and the likelihood of auditor misstatement-based litigation. However, in addition, I find some support for my second hypothesis. Specifically, the coefficient on auditor *Tenure* is negative and marginally significant. This indicates that the likelihood of auditor litigation resulting from a past financial statement misstatement is greater when the misstatement involves a shorter auditor-client relationship. Thus, in this reduced sample, I do find that auditor tenure may influence auditor culpability for past misstatements.

Consistent with the main results, I find that misstatements that include a revenue recognition issue *(Revenue)* and misstatements that have a greater stock price decline at the misstatement disclosure date *(Price_Change)* are more likely to result in auditor litigation. However, I do not find that misstatements with a greater number of accounting rule application (i.e., GAAP/FASB) failures *(Num_Issues),* misstatements disclosing the presence of fraud or irregularities *(Fraud),* or misstatements involving clients with regulatory investigations *(Reg_Invest)* are more likely to result in auditor litigation. Rather, I find a

negative and marginally significant coefficient on *Time_Lapse* which indicates that misstatements with a shorter time span between the misstatement period and misstatement disclosure date may be more likely to result in auditor litigation. Similar to Palmrose and Scholz (2004), I do not find evidence that the impact of the restatement on the current year retained earnings *(Misstate_Magnitude)* is significantly related to the likelihood of auditor misstatement-based litigation. Overall, these results suggest that misstatement severity is an important determinant of auditor misstatement-based litigation.

With respect to client characteristics, my results are largely consistent with the main results. Specifically, all coefficients on the client characteristic variables retain their sign and significance except that the coefficient on *Share_Diffusion* becomes negative and significant. This indicates that as the ownership of common shares becomes more dispersed the likelihood of auditor misstatement-based litigation decreases. In sum, after controlling for effect of the misstatement on a client's retained earnings, I still find that misstatement severity and non-audit service fees have a positive influence on the likelihood of auditor misstatement-based litigation.

Descriptive Statistics: Misstatement-based Litigation Resulting in Auditor Settlements

Table 9 presents descriptive statistics of my sample of auditor misstatement-based lawsuits where the resolution of the lawsuit could be determined and where the data required to run my empirical tests was available.[59]

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[59] The resolution of thirteen lawsuits could not be determined by the available court documents. The alleged equity, income, or stock inflation could not be determined by the available court documents.

Overall, I find that 40 percent of auditor misstatement-based litigation results in an auditor settlement. With respect to my auditor characteristics, the univariate mean and median tests presented in Table 9 indicate that misstatement-based auditor litigation is more likely to result in an auditor settlement when the misstatement is associated with engagement fees that consist of a greater magnitude *(LFees)* of non-audit services. The distribution of non-audit fees is right-skewed so I use the natural logarithm of this value to control for non-audit fees in my multivariate empirical tests. I do not find any significant relationship between the proportion of engagement fees that consist of non-audit service fees *(Fee_Ratio)* and the likelihood of an auditor settlement. In addition, my univariate tests do not indicate that a relationship exists between auditor tenure *(Tenure)* or auditor size *(BigN)* and the likelihood of an auditor settlement resulting from misstatement-based litigation. However, my univariate chi-square tests do suggest that auditor settlements resulting from misstatement-based litigation are less likely in the post-SOX time period *(Sox)*.

TABLE 9
Descriptive Statistics:

Auditor Misstatement-Based Litigation Resulting in Auditor Settlements
N = 50 lawsuits[6]

Continuous Variables	Resulting in an Auditor Settlement N = 20		Not Resulting in an Auditor Settlement N = 30	
	Mean	Median	Mean	Median
Non-Audit_Fees[4]	8,737,707**	2,795,000	3,663,916	691,801
Fee_Ratio	53 percent	59 percent	46 percent	46 percent
Tenure	4 years*	4 years	5 years	5 years
Num_Issues	3.5**	2.5	4	3
Misstate_Length	862 days**	729 days**	1,113 days	1,094 days
Stock_Inflate	50 percent*	50 percent*	56 percent	52 percent
Time_Lapse	188 days	136 days*	210 days	164 days
Client_Size[5]	77,731**	22,933**	54,060	1,950
Acct_Inflate	16.1 billion**	147 million*	564 million	38.7 million
Client_Age	14 years	14 years	13 years	12 years
Share_Diffusion	42 shares**	25 shares	95 shares	30 shares

Discrete Variables

	Frequency	Percent	Frequency	Percent
BigN	19	95	27	90
Sox	12***	60	28	93
Revenue	7	35	13	43
Fraud	2	7	2	10
Reg_Invest	9	45	9	30
Bankrupt_Delist	0*	0	3	10
Merger	7	35	12	40
IPO	4**	20	1	3
Lit_Ind	3	30	9	15

*, **, *** indicate that mean/median tests are significant at 10, 5, and 1 percent, respectively. All variables are defined in Table 1.

[6] The resolution of thirteen lawsuits could not be determined by the available court documents. The alleged equity, income, or stock inflation of two lawsuits could not be determined by the available court documents.
[4] Non-audit fees reported in dollars (not in logged value for ease of interpretation).
[5] Total assets reported in millions of dollars (not in logged value for ease of interpretation).

The univariate tests in Table 9 provide conflicting evidence as to whether or not the severity of the misstatement influences the likelihood of an auditor settlement resulting from miststatement-based litigation. Specifically, the univariate results indicate that an auditor settlement is more likely to result from misstatement-based litigation when the amount of plaintiffs' alleged inflation in net income or equity is greater *(Acct_Inflate).* However, for all other severity measures, either a statistical association does not exist or the relationship is negative. Specifically, the univariate results indicate that an auditor settlement is more likely to result from misstatement-based litigation when the misstatement is associated with *fewer* accounting application (i.e., FASB/GAAP) failures *(Num_Issues),* a *shorter* misstated time period *(Misstate_Length),* and *smaller* alleged stock price inflation *(Stock_Inflate).* There is *no* significant difference in the presence of fraud *(Fraud)*, a regulatory investigation *(Reg_Invest)*, or a revenue recognition failure *(Revenue)* between auditor misstatement-based lawsuits that result in auditor settlements and those that do not. In addition, my univariate tests indicate that auditor settlements are more likely when the time between the misstatement and the disclosure of the misstatement is shorter *(Time_Lapse).* Overall, the univariate tests seem to suggest that it is the size of the plaintiffs' claims that drive auditor settlements rather than the severity of the financial statement misstatement.

With respect to client characteristics, the univariate tests in Table 9 indicate that misstatement-based litigation is more likely to result in an auditor settlement when the misstatement is issued by a larger client *(Client_Size).* The distribution of total assets audited is right-skewed so I use the natural logarithm of this value to control for client size in my multivariate empirical tests. I also find that misstatement-based litigation involving misstatements issued by clients with more concentrated ownership *(Share_Diffusion)* and

those with recent initial public offerings *(IPO)* are more likely to result in an auditor

settlement. I also find that auditor settlements are less likely for clients that go bankrupt or

delist from the stock exchange shortly following the misstatement *(Bankrupt_Delist).*

However, my univariate tests do not indicate that client age *(Client_Age),* operations in a

risky industry *(Rsky),* or recent merger activity *(Merger)* varies across the two groups.

Multivariate Results: Misstatement-based Litigation Resulting in Auditor Settlements

Table 10 presents the results of model (3), which estimates the likelihood that

misstatement-based litigation results in an auditor settlement. This model is estimated for 50

observations, consisting of 20 lawsuits that result in an auditor settlement and 30 lawsuits

that do not result in an auditor settlement. The analysis includes an investigation of the

impact of the magnitude of non-audit service fees (i.e., first two columns) and the proportion

of non-audit service fees (i.e., second two columns) on the likelihood that a misstatement-

based litigation results in an auditor settlement. The area under the receiver operating

characteristic (ROC) curve is 95 percent for both regressions, which suggests that the logistic

model has excellent discrimination.[60]

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[60] The ROC curve is a graphical plot of the sensitivity versus specificity for a binary classification as a
discrimination threshold is varied. An area under the ROC curve of 100 (50) percent would be completely
informative (uninformative). Hosmer and Lemeshaw (2000) suggests that an area greater than 70 (80) percent
represents acceptable (excellent) discrimination.

TABLE 10
Logistic Regression: Misstatement-based Litigation Resulting in Auditor Settlements

Settle = $\beta_0 + \beta_1$ *Acct_Inflate* + β_2 *Stock_Inflate* + β_3 *Fees* + β_4 *Tenure* + β_5 *BigN* + β_6 *Sox* + β_7 *Revenue* + β_8 *Num_Issues* + β_9 *Fraud* + β_{10} *Misstate_Length* + β_{11} *Reg_Invest* + β_{12} *Time_Lapse* + β_{13} *Client_Size* + β_{14} *Merger* + β_{15} *IPO* + β_{16} *Lit_Ind* + β_{17} *Client_Age* + β_{18} *Share_Diffusion* + ε (3)

Variable	Sign	Analysis Including Non-Audit Fee Magnitude		Analysis Including Non-Audit Fee Proportion	
		Coefficient	Z-Statistic	Coefficient	Z-Statistic
Size of Claims:					
Acct_Inflate	+	**0.00**	**1.98****	**0.00**	**1.99****
Stock_Inflate	+	**0.08**	**2.24****	**0.08**	**2.25****
Auditor Characteristics:					
LFees	+	-0.05	-0.09		
Fee_Ratio	+			-0.43	-0.16
Tenure	-	-0.10	-0.21	-0.11	-0.24
BigN	?	-2.33	-0.91	-2.36	-0.91
Sox	?	**-9.64**	**-2.51*****	**-9.72**	**-2.50*****
Restatement Characteristics:					
Revenue	+	-3.95	-1.93	-3.98	-1.99
Num_Issues	+	-0.48	-1.37	-0.49	-1.42
Fraud	+	**8.14**	**1.50***	**8.20**	**1.54***
Misstate_Length	?	0.00	1.60	0.00	1.60
Reg_Invest	+	-3.63	-1.53	-3.70	-1.52
Time_Lapse	?	0.00	0.75	0.00	0.80
Client Characteristics:					
Client_Size	+	0.48	1.10	**0.48**	**1.33***
Merger	+	-1.16	-0.87	-1.21	-0.92
IPO	+	**5.81**	**2.06****	**5.86**	**2.18****
Lit_Ind	+	0.57	0.32	0.53	0.29
Client_Age	-	0.03	0.33	0.03	0.25
Share_Diffusion	-	**-0.02**	**-1.47***	**-0.02**	**-1.52***
Intercept	N/A	9.94	1.59	**9.78**	**2.09****
N =		50		50	
Pseudo. R-Square		0.5757		0.6760	
LR Chi-Square Statistic		38.75***		38.77***	
Area under ROC curve		0.9500		0.9500	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. Tests are one-tailed when signs are predicted. All variables are defined in Table 1.

Regarding the test of the third hypothesis, I find that lawsuits are more likely to result in an auditor settlement when the size of the plaintiffs' claims is larger. Specifically, in both regressions I find that the coefficients on *Acct_Inflate* and *Stock_Inflate* are positive and significant. This suggests that as the plaintiffs' alleged inflation in net income, equity, or share price increases, the likelihood of an auditor settlement increases. This provides some support for the view that auditors may be forced to settle lawsuits when the size of the claims becomes large. Further, only one other misstatement severity measure enters the model significantly. Specifically, the coefficient on *Fraud* is positive and significant in both regressions indicating that an auditor settlement resulting from misstatement-based litigation is more likely when the misstatement is associated with fraud. The coefficients on all other severity measures (e.g., *Revenue, Num_Issues, Misstate_Length,* and *Reg_Invest)* are insignificant in both regressions. This suggests that misstatement severity may be less important than the size of the plaintiffs' claims in predicting the likelihood that an auditor settlement results from misstatement-based litigation.

With respect to auditor characteristics, I find that only *Sox* enters the model significantly. Specifically, the coefficient on *Sox* is negative and significant in both regressions indicating that an auditor settlement resulting from misstatement-based litigation is less likely in the post-Sarbanes Oxley time period. With respect to client characteristics, I find some evidence that auditor litigation involving larger clients is more likely to result in an auditor settlement. Specifically, the coefficient on *Client_Size* is positive and marginally significant in the regression model that includes the proportion of non-audit fees as a regressor. In addition, I also find that misstatement-based litigation involving misstatements issued by clients with more concentrated ownership *(Share_Diffusion)* and those with recent

initial public offerings *(IPO)* are more likely to result in an auditor settlement. Overall, my results suggest that the size of the plaintiffs' claims, the presence of fraudulent activity, and the increased auditor legal liability surrounding IPOs are the primary drivers of auditor settlements resulting from misstatement-based litigation.

Sensitivity Analysis: Controlling for Self-selection Bias

Table 10 requires a misstatement to result in auditor litigation to be included in the auditor settlement analysis. This criterion artificially creates a self-selection bias because the observations in my settlement analysis are limited to misstatements involving litigation and may have characteristics associated with litigation that are also associated with an auditor settlement. This self-selection bias makes it difficult to empirically examine the determinants of an auditor settlement because there may be other factors associated with litigation that also affect the likelihood of an auditor settlement. In order to control for this self-selection bias, I use a two-stage approach (Heckman 1979; Wooldridge 2002). My first stage consists of estimating the likelihood that a financial statement misstatement results in auditor litigation (i.e., estimating model 1). I then control for the determinants of auditor litigation by calculating the inverse Mills ratio *(Inverse_Mills)* from this first-stage regression and using this ratio as an additional independent variable in my settlement analysis (i.e., second-stage regression).

The Inverse Mills ratio equals the standard normal density function divided by the cumulative distribution function; it is a decreasing function of the probability that an observation is selected into the sample (Heckman 1979). Inclusion of this ratio controls for the potential endogeniety between auditor litigation and auditor settlements. A significant coefficient on *Inverse_Mills* would suggest that auditor litigation and auditor settlements are endogeneous.

Table 11 presents the results of model (3), which estimates the likelihood that misstatement-based litigation results in an auditor settlement and includes the *Inverse_Mills* ratio as a self-selection control variable. The regression reported in the first two columns includes the *Inverse_Mills* ratio but excludes *LFees* because the two variables are highly correlated and the model is not estimable with both included. The regression reported in the second two columns includes the *Inverse_Mills* ratio and the proportion of non-audit service fees. The area under the receiver operating characteristic (ROC) curve is 97 percent for both regressions, which suggests that the logistic model has excellent discrimination.[61]

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[61] The ROC curve is a graphical plot of the sensitivity versus specificity for a binary classification as a discrimination threshold is varied. An area under the ROC curve of 100 (50) percent would be completely informative (uninformative). Hosmer and Lemeshaw (2000) suggests that an area greater than 70 (80) percent represents acceptable (excellent) discrimination.

TABLE 11 Sensitivity Test –
Logistic Regression: Misstatement-Based Litigation Resulting in Auditor Settlements

Settle = $\beta_0 + \beta_1$ *Acct_Inflate* + β_2 *Stock_Inflate* + β_3 *Fees* + β_4 *Tenure* + β_5 *BigN* + β_6 *Sox* + β_7 *Revenue* + β_8 *Num_Issues* + β_9 *Fraud* + β_{10} *Misstate_Length* + β_{11} *Reg_Invest* + β_{12} *Time_Lapse* + β_{13} *Client_Size* + β_{14} *Merger* + β_{15} *IPO* + β_{16} *Lit_Ind* + β_{17} *Client_Age* + β_{18} *Share_Diffusion* + β_{18} *Inv_Mills* + ε (3)

Variable	Sign	*Analysis Including Inverse Mills Self-Selection Control* Coefficient	Z-Statistic	*Analysis Including Non-Audit Fee Proportion and Inverse Mills Self-Selection Control* Coefficient	Z-Statistic
Size of Claims:					
Acct_Inflate	+	**0.00**	**1.98****	**0.00**	**1.91****
Stock_Inflate	+	**0.14**	**1.82****	**0.14**	**1.75****
Auditor Characteristics:					
Fee_Ratio	+	-	-	-0.01	-0.00
Tenure	-	-0.25	-0.42	-0.25	-0.40
BigN	?	-0.14	-0.03	-0.14	-0.03
Sox	?	**-23.22**	**-2.03****	**-23.22**	**-1.99****
Restatement Characteristics:					
Revenue	+	-8.12	-1.95	-8.12	-1.95
Num_Issues	+	-0.65	-0.93	-0.65	-0.92
Fraud	+	**17.11**	**1.53***	**17.11**	**1.52***
Misstate_Length	?	0.01	1.62	0.01	1.62
Reg_Invest	+	-2.83	-1.03	-2.83	-0.95
Time_Lapse	?	0.01	1.10	0.01	1.04
Client Characteristics:					
Client_Size	+	**2.39**	**1.92***	**2.39**	**1.81***
Merger	+	1.16	0.63	1.15	0.60
IPO	+	**9.89**	**2.05****	**9.89**	**2.05****
Lit_Ind	+	**6.96**	**1.37***	**6.96**	**1.36***
Client_Age	-	-0.13	-0.82	-0.13	-0.78
Share_Diffusion	-	**-0.05**	**-1.85****	**-0.05**	**-1.83****
Inv_Mills	?	**9.12**	**1.82***	**9.12**	**1.77***
Intercept	?	-10.49	-0.89	-9.02	-0.78
N =		50		50	
Pseudo. R-Square		0.6864		0.6864	
LR Chi-Square Statistic		46.19***		46.19	
Area under ROC curve		0.9700		0.9700	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. All variables are defined in Table 1.

My results are largely consistent to earlier findings when I include this self-selection control variable. Specifically, all the coefficients retain their sign and significance except that the coefficient on *Client_Size* becomes positive and marginally significant in *both* regressions and the coefficient on *Lit_Ind* becomes positive and significant. This indicates that after controlling for the possibly endogeniety between auditor litigation and auditor settlements, I find that auditors are more likely to settle out of court when the misstatement-based litigation involves larger clients or those that operate in risky industries. I also find the coefficient on the *Inverse_Mills* ratio to be positive and marginally significant indicating that a self-selection bias does exist. However, after controlling for this bias, I still find that a positive association exists between the size of plaintiffs' claims and the likelihood of an auditor settlement resulting from misstatement-based litigation.

Descriptive Statistics: Effect of Auditor Litigation on Subsequent Auditor Behavior

As previously discussed, the second part of my study examines the behavior of auditors following misstatement-based litigation at the auditor city (i.e. audit office) level. I employ a matching procedure where I match a litigated audit office to a non-litigated office of similar size. I then collect all financial statements issued by clients of the litigated and non-litigated audit offices in the year preceding and following litigation. My empirical tests examine the subsequent auditor behavior associated with all clients (except the litigated client) serviced by a given litigated and non-litigated audit office. Table 12 presents summary statistics for the criteria I use to match litigated and non-litigated audit offices. Table 12 indicates that the audit offices used in my empirical tests are of similar size. Specifically, for both matches (i.e. match #1 and match #3) based on assets audited in the prior year, the litigated audit offices in my sample audited a slightly larger dollar amount of total assets in

the year prior to litigation in comparison to the non-litigated offices in my sample but the total difference was not statistically significant. Also, for my match based on clients audited in the prior year, the litigated audit offices in my sample audited the same number of clients in the prior year as the non-litigated audit offices in my sample. In sum, the audit offices examined in my empirical tests are of similar size. This is necessary so that my empirical tests will isolate differences in auditor behavior attributable to litigation rather than differences attributable to the amount of resources, personnel, or audit workload.

TABLE 12
Auditor Office Matching Characteristics

	Litigated Auditors		Non-litigated Auditors	
	Mean	Median	Mean	Median
Match #1: Total Assets Audited in the Prior Year	108,228 million	58,800 million	101,124 million	59,699 million
Match #2: Total Clients Audited in the Prior Year	22	14	22	14
Match #3: Total Assets Audited in the Prior Year where Non-litigated Auditor is from the same audit firm	87,176 million	58,880 million	79,697 million	56,736 million

Multivariate Results: **Effect of Auditor Litigation on Subsequent Auditor Reporting Decisions**

As stated earlier, I predict that litigation will induce auditors in all subsequent audit engagements to engage in more conservative behavior by monitoring and reducing management's reporting flexibility (i.e. reducing client reported discretionary accruals) and increasing the amount of time spent on audit engagements (i.e., lengthening the audit report lag). I will first report my discretionary accruals results following by my audit report lag results.

Match Based on Total Assets Audited in the Prior Year

Table 13 presents the results of Model (4) and Model (5) which estimates signed (Panel A and Panel B) and absolute value (Panel C) client discretionary accruals reported by clients of the litigated and non-litigated auditors in the two years surrounding litigation when the auditor match is based on total assets audited in the prior year.[62] This model investigates whether the magnitude of post-litigation discretionary accruals reported by clients of litigated auditors differs from the magnitude of post-litigation discretionary accruals reported by clients of non-litigated auditors.

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[62] Because my sample includes multiple observations for a given client, my test statistics are based on Roger's standard errors which are White standard errors adjusted for possible correlation of residuals within firm clusters (Petersen 2006).

TABLE 13
Effect of Auditor Litigation on Subsequent Auditor Behavior –
Discretionary Accruals Reported by Clients[6] –
Match Based on Total Assets Audited in the Prior Year

$$Accr = \beta_0 + \beta_1\, Lit + \beta_2\, Post + \beta_3\, Lit*Post + \beta_4\, BigN + \beta_5\, Client\_Size + \beta_6\, OCF + \beta_7\, Abs\_TAC + \beta_8\, Lev + \beta_9\, Client\_Age + \beta_{10}\, Tenure + \beta_{11}\, Prior\_AA + \beta_{12}\, Pr\_Bank + \beta_{13}\, Chg\_NI + \beta_{14}\, New\_Fin + \beta_{15}\, Loss + \beta_{16}\, Growth + \beta_{17\text{-}31} \sum_{i=1}^{15} Industry + \varepsilon \quad (5)$$

	Panel A: Signed Discretionary Accruals			Panel B: Positive Discretionary Accruals			Panel C: Absolute Value Discretionary Accruals		
Variable	**Predicted Sign**	**Coefficient**	**T-Stat**	**Predicted Sign**	**Coefficient**	**T-Stat**	**Predicted Sign**	**Coefficient**	**T-Stat**
Lit	?	0.0015	0.41	?	-0.0020	-0.44	?	-0.0025	-0.73
Post	-	-0.0037	-0.90	-	**-0.0071**	**-1.40***	-	-0.0023	-0.60
*Lit*Post*	-	-0.0004	-0.08	-	0.0010	0.17	-	-0.0002	-0.03
BigN	-	-0.0082	-0.45	-	**-0.0298**	**-1.52***	-	**-0.0173**	**-1.61***
Client_Size	?	**-0.0021**	**-1.97****	?	**-0.0042**	**-3.25*****	?	**-0.0050**	**-5.19*****
OCF	-	**-0.4933**	**-15.41*****	-	**-0.3488**	**-13.55*****	-	**-0.0850**	**-3.68*****
Abs_TAC	?	**-0.2247**	**-4.56*****	?	**0.1498**	**2.69*****	?	**0.2895**	**9.88*****
Lev	+	**0.2989**	**3.88*****	+	**0.0222**	**2.48****	+	0.0048	0.65
Client_Age	?	0.0002	0.73	?	0.0001	0.41	?	-0.0003	-1.42
Tenure	-	-0.0006	-0.82	-	0.0001	0.13	-	0.0007	1.26
Prior_AA	-	0.0033	0.82	-	**-0.0071**	**-1.37***	-	**-0.0080**	**-1.86****
Pr_Bank	?	**-0.1129**	**-6.25*****	?	**-0.1081**	**-6.48*****	?	**-0.0337**	**-2.47****
Chg_NI	?	0.0008	1.76	?	0.0002	0.32	?	-0.0000	-0.09
New_Fin	?	0.0028	0.65	?	**0.0085**	**1.75***	?	**0.0093**	**2.40****
Loss	?	**-0.0207**	**-3.42*****	?	**-0.0306**	**-6.57*****	?	**-0.0181**	**-4.61*****
Growth	?	**-0.0022**	**-2.72*****	?	0.0002	0.14	?	**0.0036**	**4.36*****
Intercept	N/A	0.03816	1.55	N/A	0.0918	2.25	N/A	**0.1221**	**2.69*****
Joint Tests		**Coefficient**	**F-Stat**		**Coefficient**	**F-Stat**		**Coefficient**	**F-Stat**
Post + Lit*Post	-	**-0.0041**	**1.68***	-	**-0.0061**	**2.66****	-	-0.0025	0.72
Lit + Lit*Post	-	0.0011	0.08	-	-0.0010	0.05	-	-0.0026	0.55
N		1,657			731			1,657	
Adj. R-Square		0.6020			-0.2731			-0.1219	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. Tests are one-tailed when signs are predicted. All variables are defined in Table 1. Industry controls included but not tabulated.

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[6] For the absolute value and positive discretionary accrual analysis, I use a truncated tobit regression which employs a lower (upper) bound of zero for the positive (negative) discretionary accrual values. Utilizing an ordinary least squares (OLS) approach would lead to estimates biased toward zero (Greene 2003).

The results indicate that prior to litigation there was no significant difference between the discretionary accruals reported by clients of litigated auditors and the discretionary accruals reported by clients of non-litigated auditors (i.e., the coefficient on *Lit* is insignificant in all three panels). Panel A indicates that there was no change following litigation in the signed and absolute value discretionary accruals reported by clients of non-litigated auditors (i.e., the coefficient on *Post* is insignificant in Panel A and Panel C). However, the coefficient on *Post* is negative and marginally significant in Panel B indicating that the magnitude of positive discretionary accruals decreased in the year following litigation for non-litigated auditors. In all three panels, the coefficient on my interaction variable, *Lit*Post*, is insignificant which indicates that, on average, there is no difference in the constraint of absolute value and signed discretionary accruals post-litigation for litigated auditors versus non-litigated auditors.

However, I find that, on average, there has been a significant decrease in the signed and positive accruals following litigation for *litigated* auditors, as the joint test for *Post + Lit*Post* is negative and marginally significant in Panel A and negative and significant in Panel B. Taken together, these results suggest that litigation involving a single client may cause audit offices to constrain accruals across their entire portfolio of clients. However, the joint test for *Lit + Lit*Post* is insignificant which suggests that following litigation the total magnitude of absolute value and signed discretionary accruals does not differ between litigated and non-litigated auditors. To summarize the results from Table 13 as they pertain to the second hypothesis, auditor litigation is followed by a significant decrease in the magnitude of signed and positive discretionary accruals reported by all clients serviced by that audit office, but has no effect on the magnitude of absolute value discretionary accruals.

Stated differently, audit firms appear to respond to litigation involving a single client by requiring more income-decreasing financial reporting from other clients serviced by the same office. This finding is consistent with the second hypothesis and suggests that litigation may, in fact, cause auditors to change their behavior in future reporting periods.

With respect to my control variables, in both Panel B and Panel C, I find a negative and significant coefficient on *BigN* which indicates that clients of Big N auditors report, on average, a smaller amount of positive and absolute value discretionary accruals. This is consistent with Becker et al. (1998) who find that clients of Big 6 auditors report lower absolute value discretionary accruals than clients of non-Big 6 auditors. In addition, in all panels, I find that, larger clients *(Client_Size)* report discretionary accruals of smaller magnitude. Consistent with prior literature, I find a negative association between discretionary accruals and operating cash flows *(OCF)* and a positive association between discretionary accruals and leverage *(Lev)*. In addition, I find that a client's accrual generating potential does affect client reported discretionary accruals as the coefficient on *Abs_TAC* is significant in all three columns. Consistent with Cahan and Zhang (2006), I find that former Arthur Andersen clients report signed and absolute value discretionary accruals of smaller magnitude (i.e., the coefficient on *Prior_AA* is negative and significant in Panel B and Panel C). In addition, I find that clients who recently issued new equity report a greater amount of positive (Panel B) and absolute value (Panel C) discretionary accruals. This is consistent with prior literature that finds that managers have an incentive to increase earnings prior to equity offers (Rangan 1998; Teoh et al. 1998). I also find that *Growth* clients evidenced by a greater market-to-book ratio report a greater (smaller) amount of absolute value (signed) discretionary accruals. This is consistent with Smith and Watts (1992) who find that

managers of growth clients tend to have more accounting discretion. However, contrary to my expectation, I find that financially distressed clients *(Pr_Bank* and *Loss)* report discretionary accruals (all panels) of smaller magnitude. This unexpected result may be due to more auditor constraint of discretionary accruals driven by the increased litigation risk associated with these clients. All other control variables do not enter the models significantly. Overall, my results on the control variables are largely consistent with the prior literature.

Match Based on Total Clients Audited in the Prior Year

Table 14 presents the results of Model (4) and Model (5) which estimates signed (Panel A and Panel B) and absolute value (Panel C) client discretionary accruals reported by clients of the litigated and non-litigated auditors in the two years surrounding litigation when the auditor match is based on total clients audited in the prior year.[63] Again, this model investigates whether the magnitude of post-litigation discretionary accruals reported by clients of litigated auditors differs from the magnitude of post-litigation discretionary accruals reported by clients of non-litigated auditors.

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[63] Because my sample includes multiple observations for a given client, my test statistics are based on Roger's standard errors which are White standard errors adjusted for possible correlation of residuals within firm clusters (Petersen 2006).

TABLE 14
Effect of Auditor Litigation on Subsequent Auditor Behavior –
Discretionary Accruals Reported by Clients[6] –
Match Based on Total Clients Audited in the Prior Year

$$Accr = \beta_0 + \beta_1\,Lit + \beta_2\,Post + \beta_3\,Lit*Post + \beta_4\,BigN + \beta_5\,Client\_Size + \beta_6\,OCF + \beta_7\,Abs\_TAC + \beta_8\,Lev + \beta_9\,Client\_Age + \beta_{10}\,Tenure + \beta_{11}\,Prior\_AA + \beta_{12}\,Pr\_Bank + \beta_{13}\,Chg\_NI + \beta_{14}\,New\_Fin + \beta_{15}\,Loss + \beta_{16}\,Growth + \beta_{17\text{-}31}\sum_{i=1}^{15} Industry + \varepsilon \quad (5)$$

Variable	Predicted Sign	Coefficient	T-Stat	Predicted Sign	Coefficient	T-Stat	Predicted Sign	Coefficient	T-Stat
	Panel A: Signed Discretionary Accruals			**Panel B: Positive Discretionary Accruals**			**Panel C: Absolute Value Discretionary Accruals**		
Lit	?	0.0077	2.14**	?	0.0039	0.91	?	0.0023	0.69
Post	-	0.0046	1.18	-	0.0066	1.31	-	-0.0036	-1.07
*Lit*Post*	-	**-0.0093**	**-1.74****	-	**-0.0133**	**-2.01****	-	-0.0012	-0.25
BigN	-	**-0.0166**	**-1.39***	-	0.0016	0.15	-	0.0022	0.32
Client_Size	?	**-0.0016**	**-1.45***	?	**-0.0034**	**-2.30****	?	**-0.0056**	**-5.89***
OCF	-	**-0.4145**	**-12.61***	-	**-0.3828**	**-13.72***	-	**-0.0935**	**-4.39***
Abs_TAC	?	**-0.2918**	**-6.36***	?	**0.2182**	**3.63***	?	**0.2555**	**8.83***
Lev	+	**0.0201**	**2.45***	+	**0.0163**	**1.59***	+	0.0072	1.10
Client_Age	?	0.0003	1.34	?	0.0003	1.09	?	-0.0001	-0.29
Tenure	-	**-0.0010**	**-1.26***	-	-0.0004	-0.47	-	0.0001	-0.21
Prior_AA	-	0.0090	2.13	-	0.0051	1.00	-	-0.0000	-0.01
Pr_Bank	?	**-0.0613**	**-3.96***	?	**-0.1017**	**-5.46***	?	**-0.0231**	**-1.73***
Chg_NI	?	0.0005	1.21	?	0.0000	0.05	?	-0.0005	-1.31
New_Fin	?	0.0056	1.12	?	0.0031	0.59	?	**0.0134**	**3.15***
Loss	?	**-0.0115**	**-1.17***	?	**-0.0355**	**-7.47***	?	**-0.0220**	**-5.30***
Growth	?	-0.0020	-1.40	?	-0.0000	-0.23	?	**0.0041**	**5.16***
Intercept	N/A	**0.0756**	**3.39***	N/A	**0.0589**	**3.59***	N/A	**0.1255**	**3.81***
Joint Tests		**Coefficient**	**F-Stat**		**Coefficient**	**F-Stat**		**Coefficient**	**F-Stat**
Post + Lit*Post	-	**-0.0047**	**1.62***	-	**-0.0068**	**2.15***	-	**-0.0048**	**2.17***
Lit + Lit*Post	-	-0.0016	0.11	-	**-0.0095**	**3.05****	-	0.0012	0.11
N		1,660			524			1,660	
Adj. R-Square		0.5456			-0.3052			-0.1268	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. Tests are one-tailed when signs are predicted. All variables are defined in Table 1. Industry controls included but not tabulated.

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[6] For the absolute value and positive discretionary accrual analysis, I use a truncated tobit regression which employs a lower (upper) bound of zero for the positive (negative) discretionary accrual values. Utilizing an ordinary least squares (OLS) approach would lead to estimates biased toward zero (Greene 2003).

The results indicate that prior to litigation there was no significant difference between the discretionary accruals reported by clients of litigated auditors and the discretionary accruals reported by clients of non-litigated auditors (i.e., the coefficient on *Lit* is insignificant in all three panels). The results also indicate that there was no change following litigation in the discretionary accruals reported by clients of non-litigated auditors (i.e., the coefficient on *Post* is insignificant in all panels). However, in Panel A and Panel B, the coefficient on my interaction variable, *Lit*Post*, is negative and significant which indicates that, on average, there is a constraint of signed and positive discretionary accruals post-litigation for litigated auditors versus non-litigated auditors. My joint test on *Post + Lit*Post* is negative and significant (in all three panels) which confirms that litigated auditors are more likely to constrain discretionary accruals following litigation. In addition, the joint test for *Lit + Lit*Post* is negative and significant in Panel B which indicates that following litigation the total magnitude of positive discretionary accruals is lower for litigated versus non-litigated auditors. Taken together, these results suggest that litigation involving a single client may cause audit offices to constrain discretionary accruals across their entire portfolio of clients. Specifically, consistent with earlier results, the results from Table 14 indicate that auditor litigation is followed by a significant decrease in the magnitude of signed and positive discretionary accruals reported by all clients serviced by that audit office, but has little effect on the magnitude of absolute value discretionary accruals. Stated differently, audit firms appear to respond to litigation involving a single client by requiring more income-decreasing financial reporting from other clients serviced by the same office. This finding is consistent with the second hypothesis and suggests that litigation may, in fact, cause auditors to change their behavior in future reporting periods.

With respect to my control variables, in Panel A, I find a negative and significant coefficient on *BigN* which indicates that clients of Big N auditors report, on average, a smaller amount of positive discretionary accruals. My results in Table 14 also indicate that larger clients *(Client_Size)* report discretionary accruals of smaller magnitude. Consistent with prior literature, I find a negative association (in all Panels) between discretionary accruals and operating cash flows *(OCF)* and a positive association (in Panel A and Panel B) between discretionary accruals and leverage *(Lev)*. In addition, I find that a client's accrual generating potential does affect client reported discretionary accruals as the coefficient on *Abs_TAC* is significant in all three columns. The coefficient on *Tenure* is negative and significant in Panel A which confirms the findings of Myers et al. (2003) that clients with longer relationships with their auditors *(Tenure)* report discretionary accruals that are smaller in magnitude. In addition, I find that clients who recently issued new equity report a greater amount of absolute value (Panel C) discretionary accruals. This is consistent with prior literature that finds that managers have an incentive to increase earnings prior to equity offers (Rangan 1998; Teoh et al. 1998). I also find that *Growth* clients evidenced by a greater market-to-book ratio report a greater amount of absolute value discretionary accruals (Panel C).

This is consistent with Smith and Watts (1992) who find that managers of growth clients tend to have more accounting discretion. However, contrary to expectations, I find that financially distressed clients *(Pr_Bank* and *Loss)* report discretionary accruals (in all panels) of smaller magnitude. Again, this unexpected result may be due to more auditor constraint of discretionary accruals driven by the increased litigation risk associated with these clients. All other control variables do not enter the models significantly. Again, my results on the control variables are largely consistent with the prior literature.

Match Based on Total Assets Audited in the Prior Year where Non-litigated Auditor is from the Same Audit Firm

Table 15 presents the results of Model (4) and Model (5) which estimates signed (Panel A and Panel B) and absolute value (Panel C) client discretionary accruals reported by clients of the litigated and non-litigated auditors in the two years surrounding litigation when the auditor match is based on total assets audited in the prior year and the non-litigated auditor is required to be of the same audit firm.[64] Again, this model investigates whether the magnitude of post-litigation discretionary accruals reported by clients of litigated auditors differs from the magnitude of post-litigation discretionary accruals reported by clients of non-litigated auditors.

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[64] Because my sample includes multiple observations for a given client, my test statistics are based on Roger's standard errors which are White standard errors adjusted for possible correlation of residuals within firm clusters (Petersen 2006).

TABLE 15
Effect of Auditor Litigation on Subsequent Auditor Behavior –
Discretionary Accruals Reported by Clients[6] –
Match Based on Total Assets Audited in the Prior Year Where Non-litigated Auditor is From the Same Audit Firm

$Accr = \beta_0 + \beta_1\,Lit + \beta_2\,Post + \beta_3\,Lit*Post + \beta_4\,BigN + \beta_5\,Client\_Size + \beta_6\,OCF + \beta_7\,Abs\_TAC + \beta_8\,Lev + \beta_9\,Client\_Age + \beta_{10}\,Tenure + \beta_{11}\,Prior\_AA + \beta_{12}\,Pr\_Bank + \beta_{13}\,Chg\_NI + \beta_{14}\,New\_Fin + \beta_{15}\,Loss + \beta_{16}\,Growth + \beta_{17\text{-}31}\sum_{i=1}^{15} Industry + \varepsilon$ (5)

	Panel A: Signed Discretionary Accruals			Panel B: Positive Discretionary Accruals			Panel C: Absolute Value Discretionary Accruals		
Variable	**Predicted Sign**	**Coefficient**	**T-Stat**	**Predicted Sign**	**Coefficient**	**T-Stat**	**Predicted Sign**	**Coefficient**	**T-Stat**
Lit	?	0.0032	0.88	?	0.0008	0.18	?	0.0000	0.01
Post	-	0.0004	0.09	-	-0.0052	-0.84	-	0.0015	0.39
*Lit*Post*	-	-0.0059	-1.15	-	0.0003	0.04	-	-0.0025	-0.55
BigN	-	**-0.0355**	**-1.87****	-	**-0.0221**	**-1.30***	-	-0.0093	-0.74
Client_Size	?	**-0.0021**	**-2.00****	?	**-0.0032**	**-2.28***	?	**-0.0041**	**-4.15****
OCF	-	**-0.4476**	**-14.91*****	-	**-0.3325**	**-13.87*****	-	**-0.1051**	**-4.88*****
Abs_TAC	?	**-0.2554**	**-5.01*****	?	**0.1805**	**3.40*****	?	**0.2897**	**9.46*****
Lev	+	**0.0279**	**3.42*****	+	**0.0234**	**2.25****	+	0.0074	0.96
Client_Age	?	-0.0001	-0.05	?	-0.0002	-0.90	?	**-0.0004**	**-1.75***
Tenure	-	-0.0002	0.24	-	0.0004	0.52	-	0.0002	0.36
Prior_AA	-	0.0074	1.70	-	-0.0018	-0.34	-	**-0.0077**	**-1.74****
Pr_Bank	?	**-0.0908**	**-4.89*****	?	**-0.0933**	**-4.91*****	?	**-0.0335**	**-2.43****
Chg_NI	?	0.0006	1.35	?	0.0000	0.06	?	0.0001	0.20
New_Fin	?	0.0061	1.40	?	0.0040	0.80	?	0.0032	0.86
Loss	?	**-0.0152**	**-2.36****	?	**-0.0303**	**-6.57*****	?	**-0.0210**	**-4.95*****
Growth	?	**-0.0024**	**-2.82*****	?	0.0007	0.58	?	0.0049	**5.73*****
Intercept	N/A	0.0796	0.0796	N/A	**0.1080**	**4.95*****	N/A	**0.1161**	**5.92*****
Joint Tests		**Coefficient**	**F-Stat**		**Coefficient**	**F-Stat**		**Coefficient**	**F-Stat**
Post + Lit*Post	-	**-0.0055**	**3.02***	-	**-0.0049**	**1.72***	-	-0.0011	0.13
Lit + Lit*Post	-	-0.0027	0.40	-	0.0037	0.05	-	-0.0025	0.47
N		1,603			707			1,603	
Adj. R-Square		0.6108			-0.3067			-0.1270	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively. Tests are one-tailed when signs are predicted. All variables are defined in Table 1. Industry controls included but not tabulated.

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[6] For the absolute value and positive discretionary accrual analysis, I use a truncated tobit regression which employs a lower (upper) bound of zero for the positive (negative) discretionary accrual values. Utilizing an ordinary least squares (OLS) approach would lead to estimates biased toward zero (Greene 2003).

The results indicate that prior to litigation there was no significant difference between the discretionary accruals reported by clients of litigated auditors and the discretionary accruals reported by clients of non-litigated auditors (i.e., the coefficient on *Lit* is insignificant in all three panels). Panel A indicates that there was no change following litigation in the signed and absolute value discretionary accruals reported by clients of non-litigated auditors (i.e., the coefficient on *Post* is insignificant in all panels). In all three panels, the coefficient on my interaction variable, *Lit*Post*, is insignificant which indicates that, on average, there is no difference in the constraint of absolute value and signed discretionary accruals post-litigation for litigated auditors versus non-litigated auditors. However, I find that, on average, there has been a significant decrease in the signed and positive accruals following litigation for *litigated* auditors, as the joint test for *Post +* *Lit*Post* is negative and marginally significant in Panel A and Panel B. Taken together, these results suggest that litigation involving a single client may cause audit offices to constrain accruals across their entire portfolio of clients. However, the joint test for *Lit + Lit*Post* is insignificant (in all panels) which suggests that following litigation the total magnitude of absolute value and signed discretionary accruals does not differ between litigated and non-litigated auditors. To summarize the results from Table 15 as they pertain to the second hypothesis, auditor litigation is followed by a significant decrease in the magnitude of signed and positive discretionary accruals reported by all clients serviced by that audit office, but has no effect on the magnitude of absolute value discretionary accruals. Stated differently, audit firms appear to respond to litigation involving a single client by requiring more income-decreasing financial reporting from other clients serviced by the same office. This finding is

consistent with the second hypothesis and suggests that litigation may, in fact, cause auditors to change their behavior in future reporting periods.

With respect to my control variables, in both Panel A and Panel B, I find a negative and significant coefficient on *BigN* and *Client_Size* which indicates that larger clients and clients of Big N auditors report, on average, a smaller amount of signed and positive discretionary accruals. Consistent with prior literature, I find a negative association (in all panels) between discretionary accruals and operating cash flows *(OCF)* and a positive association (in Panel A and Panel B) between discretionary accruals and leverage *(Lev)*. In addition, I find that a client's accrual generating potential does affect client reported discretionary accruals as the coefficient on *Abs_TAC* is significant in all three columns. I also find that *Growth* clients evidenced by a greater market-to-book ratio report a greater (smaller) amount of absolute value (signed) discretionary accruals. This is consistent with Smith and Watts (1992) who find that managers of growth clients tend to have more accounting discretion. However, contrary to expectations, I find that financially distressed clients *(Pr_Bank* and *Loss)* report discretionary accruals (all panels) of smaller magnitude. This unexpected result may be due to more auditor constraint of discretionary accruals driven by the increased litigation risk associated with these clients. All other control variables do not enter the models significantly. Again, my results on the control variables are largely consistent with the prior literature.

Untabulated Sensitivity Analyses: Effect of Auditor Litigation on Subsequent Auditor Reporting Decisions

Match Based on Total Assets Audited in the Prior Year

I assess the robustness of my results by performing several sensitivity tests. First, I examine the discretionary accruals reported by clients of litigated and non-litigated auditors across a larger time period (i.e., two or three years prior to and subsequent to the litigation). As I lengthen the time span, I find that non-litigated auditors constrain client discretionary accruals while litigated auditors do not constrain discretionary accruals (and may even allow them to increase). Specifically, when I lengthen the time period to *two* years prior to and subsequent to the litigation, I find a constraint in positive and absolute value discretionary accruals by both litigated and non-litigated auditors. However, I do not find any significant different between the magnitude of this constraint between litigated and non-litigated auditors. When I lengthen the time period to *three* years prior to and subsequent to the litigation, I find a constraint in positive and signed discretionary accruals by only *non-litigated* auditors. The constraint in client discretionary accruals by *non-litigated* auditors is consistent with prior literature that finds an increase in financial reporting conservatism since the passage of SOX (Lobo and Zhou 2006; Cohen et al. 2008). In addition, I find the coefficient on my interaction variable, *Lit*Post*, is *positive* and significant which indicates that, on average, there is an *increase* in the magnitude of positive discretionary accruals post-litigation for *litigated* auditors versus non-litigated auditors. This finding suggests that the effect of auditor litigation on auditor behavior may be limited to a relatively brief time span.

As my second sensitivity test, I include the financial statements issued by clients of litigated auditors with *multiple* lawsuits (and their assigned non-litigated auditor) rather than limiting my analysis to litigated auditors (and their assigned non-litigated auditor) with only *one* lawsuit. For the additional auditors with multiple lawsuits, I assign the litigation date based on the *first* lawsuit and then based on the most *severe* lawsuit.[65] I then re-estimate model (5) for each specification. When I assign the litigation date to my sample based on the *first* lawsuit, I find results identical to my main discretionary accruals results with exception of the significance of the joint tests in my positive discretionary accruals analysis. Specifically, the joint test on *Post + Lit*Post* in Panel B becomes insignificant. When I assign the litigation date to my empirical sample based on the most severe lawsuit, I find that only non-litigated auditors constrain positive and signed discretionary accruals. In addition, I find the coefficient on my interaction variable, *Lit*Post*, is *positive* and marginally significant which indicates that, on average, there is an *increase* in the magnitude of positive discretionary accruals post-litigation for *litigated* auditors versus non-litigated auditors. This finding suggests that the effect of auditor litigation on auditors with multiple lawsuits may be limited to the first infraction.

As my third sensitivity test, I redefine my litigation date as the date the case began rather than the date that the wrongdoing was made public knowledge, and I re-estimate model (5). I find results identical to my main discretionary accruals results with exception of the significance of the joint test on *Lit + Lit*Post* in the signed discretionary accruals analysis. Specifically, the joint test on *Post + Lit*Post* in Panel A becomes negative and significant. This provides additional evidence that following litigation the total magnitude of signed

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[65] I assign severity based on the size of the settlement and/or other characteristics described in the court documents.

discretionary accruals is lower for litigated versus non-litigated auditors. Overall, these findings suggest that redefining the litigation date as the date the case began rather than the date that the wrongdoing was made public knowledge has very little effect on my main results.

As my fourth sensitivity test, I include the financial statements issued by clients of litigated auditors with *meritorious* lawsuits (and their assigned non-litigated auditor) only. Specifically, I exclude from my analysis any litigated auditor (and their assigned non-litigated auditor) that was subsequently dismissed from the lawsuit. I then re-estimate model (5). As expected, my results get stronger. Specifically, I find that only litigated auditors constrain positive and absolute value discretionary accruals following litigation. In addition, I find the coefficient on my interaction variable, *Lit*Post*, is negative and marginally significant which indicates that, on average, there is an decrease in the magnitude of positive discretionary accruals post-litigation for *litigated* auditors versus non-litigated auditors. This finding suggests that the effect of litigation on auditor behavior is slightly more evident when more meritorious lawsuits are analyzed.

As my last sensitivity test, I limit my analysis to include only the financial statements issued by continuing clients of litigated auditors and non-litigated auditors. In other words, I exclude the financial statements issued by new clients, and I re-estimate model (5). I eliminate these observations because Myers et al. (2003) suggest that auditors may require asset write-offs or impairment charges in the initial year of an audit. These charges would result in large absolute and negative accruals. Because I am primarily interested in the effect of litigation on subsequent auditor behavior, this exclusion attempts to eliminate auditor conservatism in the initial year of an audit. In other words, I attempt to examine the effect of

litigation on continuing audit engagements only. I find that both auditors constrain signed

discretionary accruals. However, I do not find any significant different between the

magnitude of this constraint between litigated and non-litigated auditors. In addition, I find

that non-litigated auditors constrain positive discretionary accruals following litigation but

litigated auditors do not. Further, I find that neither litigated nor non-litigated auditors

constrain absolute value discretionary accruals following litigation. This finding suggests that

the effect of auditor litigation on auditor behavior may be limited to new clients.

Multivariate Results: **Effect of Auditor Litigation on Subsequent Auditor Effort**

Match Based on Total Assets Audited in the Prior Year

The following results present the results of model (6) which tests for a relation

between auditor litigation and the audit report lag of subsequent audit engagements.[66] This

model investigates whether the length of time auditors spend to complete post-litigation audit

engagements across an office-wide client portfolio (that excludes the litigated client) differs

for litigated versus non-litigated auditors. Table 16 presents the results when the auditor

match is based on total assets audited in the prior year.

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[66] Because my sample includes multiple observations for a given client, my test statistics are based on Roger's standard errors which adjust for possible correlation of residuals within firm clusters (Peterson 2006).

TABLE 16
Effect of Auditor Litigation on Subsequent Auditor Behavior –
Negative Binomial Regression: Audit Report Lag –
Match Based on Total Assets Audited in the Prior Year

$Arl =$ $\beta_0 + \beta_1\,Lit + \beta_2\,Post + \beta_3\,Lit*Post + \beta_4\,BigN + \beta_5\,Client\_Size + \beta_6\,Lag\_Arl + \beta_7$
$Busy + \beta_8\,Restate + \beta_9\,Qualified + \beta_{10}\,EI + \beta_{11}\,ROA + \beta_{12}\,Prior\_AA + \beta_{13}$
$Pr\_Bank + \beta_{14}\,Chg\_NI + \beta_{15}\,New\_Fin + \beta_{16}\,Loss + \beta_{17}\,Growth + \beta_{18\text{-}32}\sum_{i=1}^{15}$
$Industry + \varepsilon$ (6)

Variable	Predicted Sign	Coefficient	Z-Stat
Lit	?	-0.044	-1.11
Post	+	-0.007	-0.29
Lit*Post	+	**0.054**	**1.28***
BigN	?	0.007	0.74
Client_Size	?	**-0.020**	**-3.19*****
Lag_Arl	+	**0.005**	**7.56*****
Busy	+	0.010	0.45
Restate	+	**0.435**	**2.51*****
Qualified	+	**0.210**	**3.40*****
EI	+	-0.008	-0.35
ROA	-	0.180	2.17
Prior_AA	?	**-0.184**	**-4.86*****
Pr_Bank	?	**0.162**	**2.35****
Chg_NI	?	-0.004	-0.72
New_Fin	?	0.042	1.56
Loss	?	**0.071**	**2.25****
Growth	?	-0.006	-1.24
Intercept	N/A	3.880	55.23

Joint Tests		F-Statistic	
Post + Lit*Post	+	**0.0462**	**3.12****
Lit + Lit*Post	+	0.0010	0.10

N		1,781	
Wald χ^2 Statistic		332.32***	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively.
Tests are one-tailed when hypothesized signs are tabulated.
All variables are defined in Table 1. Industry controls included but not tabulated.

With respect to my test variables of interest, I find that there is no significant difference between the ARL for clients of litigated auditors and the clients of non-litigated auditors prior to litigation (i.e., the coefficient on *Lit* is insignificant) and that there is no significant increase in the ARL following litigation for clients of non-litigated auditors (i.e., the coefficient on *Post* is insignificant). However, the coefficient on my interaction variable, *Lit*Post*, is positive and significant which indicates that the ARL following litigation is, on average, greater for clients of litigated versus clients of non-litigated auditors. Further, the joint test on *Post + Lit*Post* is positive and significant which confirms that clients of litigated auditors have longer ARLs after litigation than they had prior to litigation. The joint test on *Lit + Lit*Post* is insignificant which indicates that, on average, the ARL in the post-litigation time period does not differ for clients of litigated auditors versus clients of non-litigated auditors. This suggests that litigated auditors increased the time spent on audit engagements following litigation to an amount similar to non-litigated auditors. Overall, my results support the third hypothesis and indicate that auditor litigation is associated with longer ARLs on subsequent audit engagements across an auditor's office-wide client portfolio (that excludes the litigated client). In sum, the results from Table 16 suggest that auditor litigation is followed by more auditor effort evidenced by an increased audit report lag. With respect to my control variables, the coefficients in Table 16 are largely consistent in direction and significance with those previously documented in the literature. I find that the auditor characteristics associated with increased audit complexity are positively associated with the ARL. Specifically, I find that financial statement restatements *(Restate),* qualified audit

opinions *(Qualified)*, current year losses *(Loss),* and financially distressed clients *(Pr_Bank)* are all associated with longer ARLs. In addition, consistent with Simnett et al. (1995), I find that prior year ARL *(Lag_Arl)* is an important determinant of the current year ARL, indicating that ARLs are often sticky from year to year. I find that the audit report lag is negatively related to firm size *(Client_Size)* which is consistent with Ashton et al. (1989). Lastly, while I made no directional prediction, I find that prior Arthur Andersen clients *(Prior_AA)* are associated with shorter ARLs. All other control variables do not enter the model significantly. Overall, my results on the control variables are largely consistent with the prior literature.

Match Based on Total Clients Audited in the Prior Year

Table 17 presents the results of model (6) which tests for a relation between auditor litigation and the audit report lag of subsequent audit engagements when the auditor match is based on total clients audited in the prior year.

TABLE 17
Effect of Auditor Litigation on Subsequent Auditor Behavior –
Negative Binomial Regression: Audit Report Lag –
Match Based on Total Clients Audited in the Prior Year

$Arl = \beta_0 + \beta_1 Lit + \beta_2 Post + \beta_3 Lit*Post + \beta_4 BigN + \beta_5 Client\_Size + \beta_6 Lag\_Arl + \beta_7 Busy + \beta_8 Restate + \beta_9 Qualified + \beta_{10} EI + \beta_{11} ROA + \beta_{12} Prior\_AA + \beta_{13} Pr\_Bank + \beta_{14} Chg\_NI + \beta_{15} New\_Fin + \beta_{16} Loss + \beta_{17} Growth + \beta_{18-32} \sum_{i=1}^{15} Industry + \varepsilon$ (6)

Variable	Predicted Sign	Coefficient	Z-Stat
Lit	?	-0.027	-0.85
Post	+	**0.044**	**1.44***
Lit*Post	+	0.043	0.99
BigN	?	-0.065	-1.89*
Client_Size	?	-0.007	-0.95
Lag_Arl	+	**0.007**	**9.95*****
Busy	+	0.028	1.11
Restate	+	0.266	1.14
Qualified	+	**0.293**	**4.09*****
EI	+	-0.038	-0.97
ROA	-	0.083	1.56
Prior_AA	?	**-0.084**	**-2.13****
Pr_Bank	?	0.0599	1.08
Chg_NI	?	0.004	0.93
New_Fin	?	0.046	1.29
Loss	?	**0.062**	**1.93***
Growth	?	-0.003	-0.63
Intercept	N/A	**3.71**	**44.57*****

Joint Tests		F-Statistic	
Post + Lit*Post	+	**0.088**	**7.24*****
Lit + Lit*Post	+	0.016	0.27

N		1,792	
Wald χ^2 Statistic		306.67***	

*, **, *** indicate significant at 10, 5, and 1 percent, respectively.
Tests are one-tailed when hypothesized signs are tabulated.
All variables are defined in Table 1. Industry controls included but not tabulated.

With respect to my test variables of interest, I find that there is no significant difference between the ARL for clients of litigated auditors and for clients non-litigated auditors prior to litigation (i.e., the coefficient on *Lit* is insignificant). I find that there is a significant increase in the ARL following litigation for clients of non-litigated auditors (i.e., the coefficient on *Post* is positive and significant). I also find that the coefficient on my interaction variable, *Lit*Post*, is insignificant which indicates that the ARL following litigation, on average, does not differ for clients of litigated versus clients of non-litigated auditors. The joint test on *Lit + Lit*Post* is insignificant which confirms this result and indicates that, on average, the ARL in the post-litigation time period does not differ for clients of litigated auditors versus clients of non-litigated auditors. However, the joint test on *Post + Lit*Post* is positive and significant which indicates that clients of litigated auditors have longer ARLs after litigation than they had prior to litigation. This suggests that both litigated and non-litigated auditors increased the time spent on audit engagements following litigation and that this increase did not differ between the two groups of auditors. Overall, my results when litigated auditors are matched to non-litigated auditors based on the number of clients audited in the prior year do not support the third hypothesis. In sum, the results from Table 17 suggest that auditor litigation is not followed by more auditor effort evidenced by an increased audit report lag. With respect to my control variables, the coefficients in Table 17 are similiar in direction and significance with those in Table 16. Specifically, the coefficients on *Lag_ARL, Qualified,* and *Prior_AA* retain their sign and significance. However, I find that the coefficients on *Client_Size, Restate,* and *Pr_Bank* retain their sign but become insignificant. In addition, similar to Leventis et al. (2005), I find that the ARL of

Big N *(BigN)* clients is shorter than the ARL of non-Big N clients. These results indicate that the audits associated with increased complexity (i.e., *Qualified)* and financially distressed clients *(i.e., Loss)* are positively associated with the ARL and audits involving larger auditors *(BigN)* are associated with shorter ARLs. In sum, when the auditor match is based on total clients audited in the prior year, I find results largely consistent with the prior literature. However, the significance of the control variables varies when I use different matching procedures.

Match Based on Total Assets Audited in the Prior Year where Non-litigated Auditor is from the Same Audit Firm

Table 18 presents the results of model (6) which tests for a relation between auditor litigation and the audit report lag of subsequent audit engagements when the auditor match is based on total assets audited in the prior year and the non-litigated auditor is required to be of the same audit firm.

TABLE 18
Effect of Auditor Litigation on Subsequent Auditor Behavior –
Negative Binomial Regression: Audit Report Lag –
Match Based on Total Assets Audited in the Prior Year Where Non-litigated Auditor is
From the Same Audit Firm

$Arl =$ $\beta_0 + \beta_1 Lit + \beta_2 Post + \beta_3 Lit*Post + \beta_4 BigN + \beta_5 Client\_Size + \beta_6 Lag\_Arl + \beta_7 Busy + \beta_8$
$Restate + \beta_9 Qualified + \beta_{10} EI + \beta_{11} ROA + \beta_{12} Prior\_AA + \beta_{13} Pr\_Bank + \beta_{14} Chg\_NI +$
$\beta_{15} New\_Fin + \beta_{16} Loss + \beta_{17} Growth + \beta_{18-32} \sum_{i=1}^{15} Industry + \varepsilon$ (6)

Variable	Predicted Sign	Coefficient	Z-Stat
Lit	?	**0.105**	**3.39***
Post	+	**0.047**	**1.38***
Lit*Post	+	-0.025	-0.59
BigN	?	-0.035	-0.85
Client_Size	?	**-0.011**	**-1.82***
Lag_Arl	+	**0.007**	**8.86***
Busy	+	-0.002	-0.07
Restate	+	**0.322**	**1.84***
Qualified	+	**0.211**	**3.08***
EI	+	-0.028	-0.79
ROA	-	0.162	2.20
Prior_AA	?	**-0.126**	**-3.46***
Pr_Bank	?	**0.132**	**2.39***
Chg_NI	?	**0.007**	**1.32***
New_Fin	?	**0.066**	**2.13***
Loss	?	0.492	1.51
Growth	?	**-0.009**	**-1.94***
Intercept	N/A	**3.640**	**46.99***

Joint Tests		Coefficient	F-Statistic
Post + Lit*Post	+	0.0219	0.66
Lit + Lit*Post	+	**0.0800**	**5.99***

N		1,738
Wald χ^2		404.61***
Statistic		

*, **, *** indicate significant at 10, 5, and 1 percent, respectively.
Tests are one-tailed when hypothesized signs are tabulated.
All variables are defined in Table 1. Industry controls included but not tabulated.

With respect to my test variables of interest, I find that, prior to litigation, the ARL for clients of litigated auditors is longer than the ARL for clients of non-litigated auditors (i.e., the coefficient on *Lit* is positive and significant). I find that there is a significant increase in the ARL following litigation for clients of non-litigated auditors (i.e., the coefficient on *Post* is positive and significant). I also find that the coefficient on my interaction variable, *Lit*Post*, is insignificant which indicates that the ARL following litigation, on average, does not differ for clients of litigated versus clients of non-litigated auditors. The joint test on *Lit + Lit*Post* is positive and significant which indicates that, on average, the ARL in the post-litigation time period is greater for clients of litigated auditors versus clients of non-litigated auditors. However, the joint test on *Post + Lit*Post* is positive and insignificant which indicates that clients of litigated auditors do not have longer ARLs after litigation than they had prior to litigation. This suggests that non-litigated auditors increased the time spent on audit engagements following litigation, but litigated auditors did not. However, the total time spend on audit engagements following litigation was greater for litigated versus non-litigated auditors. Overall, my results when litigated auditors are matched to non-litigated auditors based on the amount of assets audited in the prior year when the non-litigated auditor is required to be of the same audit firm do not support the third hypothesis. In sum, the results from Table 18 suggest that auditor litigation is not followed by more auditor effort evidenced by an increased audit report lag.

With respect to my control variables, the coefficients in Table 18 are largely consistent in direction and significance with those previously documented in the literature. I find that the auditor characteristics associated with increased audit complexity are positively associated with the ARL. Specifically, I find that financial statement restatements *(Restate),*

qualified audit opinions *(Qualified)*, clients with a greater change in net income *(Chg_NI)*, clients issuing new equity *(New_Fin,)* and financially distressed clients *(Pr_Bank)* are all associated with longer ARLs. In addition, consistent with Simnett et al. (1995), I find that prior year ARL *(Lag_Arl)* is an important determinant of the current year ARL, indicating that ARLs are often sticky from year to year. I find that the audit report lag is negatively related to firm size *(Client_Size)* which is consistent with Ashton et al. (1989). While I made no directional prediction, I find that prior Arthur Andersen clients *(Prior_AA)* and clients with greater sales growth *(Growth)* are associated with shorter ARLs. All other control variables do not enter the model significantly. Overall, my results on the control variables are largely consistent with the prior literature.

Untabulated Sensitivity Analyses: Effect of Auditor Litigation on Subsequent Auditor Effort

Match Based on Total Assets Audited in the Prior Year

I assess the robustness of my results by performing several sensitivity tests. First, I examine the audit report lag for clients of litigated and non-litigated auditors across a larger time period (i.e., two or three years prior to and subsequent to the litigation). As I lengthen the time span, I find that the ARL for clients of both litigated and non-litigated auditors increases following litigation, and I find some evidence that the increase is greater for clients of litigated auditors. Specifically, when I lengthen the time period to *two* years prior to and subsequent to the litigation, I find an increase in the ARL for clients of litigated and non-litigated auditors, and I do not find any significant difference in the increase between clients of litigated and non-litigated auditors. In other words, I find the coefficient on *Post* and the coefficient on joint test on *Post + Lit*Post* to be positive and significant, but the coefficient

on my interaction variable, *Lit*Post*, to be insignificant. However, when I lengthen the time period to *three* years prior to and subsequent to the litigation, I find an increase in the ARL for clients of litigated and non-litigated auditors, and I find the increase to be greater for clients of litigated auditors. Specifically, I find the coefficient on *Post,* the coefficient on the joint test on *Post + Lit*Post,* and the coefficient on my interaction variable, *Lit*Post*, to be positive and significant. In sum, these results indicate that, on average, there is an *increase* in the ARL for clients of litigated *and* non-litigated auditors following litigation. However, this increase is greater for clients of litigated auditors when the time span is lengthened.

As my second sensitivity test, I examine the ARL for clients of litigated auditors with *multiple* lawsuits (and their assigned non-litigated auditor) rather than limiting my analysis to clients of litigated auditors (and their assigned non-litigated auditor) with only *one* lawsuit. For the additional auditors with multiple lawsuits, I assign the litigation date based on the *first* lawsuit and then based on the most *severe* lawsuit.[67] I then re-estimate model (6) for each specification. When I assign the litigation date to my sample based on the *first* lawsuit, I find results identical to my main ARL results with exception of the significance of the joint test on *Lit + Lit*Post.* Specifically, the joint test on *Lit + Lit*Post* becomes positive and marginally significant which indicates that the post-litigation ARL for clients of litigated auditors is longer versus clients of non-litigated auditors. This result further supports my fifth hypothesis. When I assign the litigation date to my empirical sample based on the most severe lawsuit, I find results identical to the results when the litigation date is based on the *first* lawsuit with exception of the significance of *Post.* Specifically, the coefficient on *Post* is negative and marginally significant. This indicates that, on average, the post-litigation ARL

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[67] I assign severity based on the size of the settlement and/or other characteristics described in the court documents.

for clients of litigated auditors is longer while the post-litigation ARL for clients of non-litigated auditors is shorter. This finding suggests that the effect of auditor litigation on auditor effort is not limited to auditors with multiple lawsuits.

As my third sensitivity test, I redefine my litigation date as the date the case began rather than the date that the wrongdoing was made public knowledge, and I re-estimate model (6). I find results identical to my main ARL results with exception of the significance of the joint test on *Lit + Lit*Post*. Specifically, the joint test on *Post + Lit*Post* in Panel A becomes positive and marginally significant. This provides additional evidence that following litigation the ARL for clients of litigated auditors increased. Overall, these findings suggest that redefining the litigation date as the date the case began rather than the date that the wrongdoing was made public knowledge has very little effect on my main ARL results.

As my fourth sensitivity test, I include the ARLs for clients of litigated auditors with *meritorious* lawsuits (and their assigned non-litigated auditor) only. Specifically, I exclude from my analysis any litigated auditor (and their assigned non-litigated auditor) that was subsequently dismissed from the lawsuit. I then re-estimate model (6). I find no change in the ARL for clients of litigated or clients of non-litigated auditors following litigation. Specifically, I find the coefficients on *Post, Lit*Post,* and on both joint tests to be insignificant. This finding suggests that the effect of litigation on auditor behavior is less evident when my sample includes only meritorious lawsuits.

As my last sensitivity test, I limit my analysis to include only the ARLs for continuing clients of litigated auditors and non-litigated auditors. In other words, I exclude the financial statements issued by new clients, and I re-estimate model (6). I eliminate these observations because prior research suggests that auditor behavior may differ on initial engagements (e.g., Simon and Francis 1988; Myers et al. 2003). Because I am primarily

interested in the effect of litigation on subsequent auditor behavior, this exclusion attempts to examine the effect of litigation on continuing audit engagements only.

My results are identical to my main ARL results. I find that there is no significant difference between the ARL for clients of litigated auditors and the clients of non-litigated auditors prior to litigation (i.e., the coefficient on *Lit* is insignificant) and that there is no significant increase in the ARL following litigation for clients of non-litigated auditors (i.e., the coefficient on *Post* is insignificant). However, the coefficient on my interaction variable, *Lit*Post*, is positive and significant which indicates that the ARL following litigation is, on average, greater for clients of litigated versus clients of non-litigated auditors. Further, the joint test on *Post + Lit*Post* is positive and significant which confirms that clients of litigated auditors have longer ARLs after litigation than they had prior to litigation. The joint test on *Lit + Lit*Post* is insignificant which indicates that, on average, the ARL in the post-litigation time period does not differ for clients of litigated auditors versus clients of non-litigated auditors. This suggests that litigated auditors increased the time spent on audit engagements following litigation to an amount similar to non-litigated auditors. Overall, my main ARL results, that support the third hypothesis, are robust to inclusion of continuing clients only. This suggests that auditor litigation is followed by a longer ARL for all clients, not just new clients.

CHAPTER VI

CONCLUSION

Motivated by recent calls to limit auditor legal liability and the potential for auditor

legal liability to act as a deterrence mechanism against non-GAAP financial reporting, I

examine the occurrence and outcome of auditor litigation related to annual financial

statement misstatements and the effect of auditor misstatement-based litigation on

subsequent auditor behavior. I find that several measures of misstatement severity are

positively associated with the likelihood that a misstatement results in auditor litigation.

Specifically, I find that auditor litigation is more likely to follow misstatements that are

associated with fraud, regulatory investigations, and/or larger stock price declines at the

misstatement disclosure date. In addition, I find that litigation is more likely to follow

misstatements associated with a greater number of accounting rule application (i.e.

FASB/GAAP) failures, especially when the failures involve revenue recognition. With

respect to auditor characteristics, I find that the likelihood that a misstatement results in

auditor litigation is greater when engagement fees consist of a greater magnitude or a greater

proportion of non-audit service fees. This result suggests that the amount of non-audit

services provided by an auditor may affect the perceived auditor independence and perceived

audit quality associated with accounting misstatements. However, my tests also reveal that

this relationship only exists in the post-Sarbanes Oxley Act (SOX) time period. Thus, the

perception of non-audit services to impair independence directly corresponds with the SOX

prohibition of certain non-audit services,[68] and suggests that the SOX emphasis on the

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[68] The Sarbanes Oxley Act of 2002 prohibits audit firms from providing any of the following services to a
publicly traded audit client: (1) bookkeeping and related services; (2) design or implementation of financial

potential of non-audit services to impair auditor independence may have consequently affected how non-audit services are viewed by marketplace participants. My tests do not find auditor tenure to significantly influence the likelihood that a misstatement results in auditor litigation. However, my tests do reveal that, after controlling for other determinants, misstatements by Big N auditors are less likely to result in litigation than misstatements by non-Big N auditors. These findings suggest that the perception that longer auditor-client relationships are associated with higher quality audits may not apply to litigation associated with misstatements. However, the perception that Big N auditors provide higher quality audits than non-Big N auditors may apply to litigation associated with misstatements. Overall, these results suggest that misstatement severity and several auditor characteristics affect auditor culpability for past misstatements.

With respect to client characteristics, I find that the likelihood that a misstatement results in auditor litigation is greater (smaller) for larger (older) clients and greater for those clients that file for bankruptcy within a year following the misstatement. These results are similar to Carcello and Palmrose (1994) and suggest that larger clients may either have more shareholders who are willing to pursue litigation or may have suffered a greater total loss to incentivize the pursuit of litigation. These results also suggest that shareholders of older clients may have less incentive to pursue auditor litigation. Finally, consistent with the prior literature, these results indicate that client bankruptcy is a frequent source of auditor litigation (e.g., Palmrose 1987; Carcello and Palmrose 2004).

I then investigate the circumstances where auditor misstatement-based litigation results in an auditor settlement. I find that misstatement severity and the size of the plaintiffs'

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information systems; (3) appraisal or valuation services; (4) actuarial services; (5) internal audit outsourcing; (6) management or human resources services; (7) investment or broker/dealer services; (8) legal and expert services (SOX 2002).

claims to be the primary drivers of auditor settlements resulting from misstatement-based litigation. Specifically, I find that misstatement-based litigation is more likely to result in an auditor settlement when the misstatement involves fraud. However, I do not find the other measures of misstatement severity to be positively associated with the likelihood of an auditor settlement. Rather, I find that misstatement-based litigation is more likely to result in an auditor settlement when the amount of alleged income or equity inflation is greater and/or when the alleged percentage drop in share price over the class action period is more severe. These results are consistent with the views of Advisory Committee members who favor auditor legal liability reform and who believe that audit "firms are forced to settle cases…because the size of the claims mean that if the firm does not prevail at trial, the resulting award could destroy the firm" (Advisory Committee on the Auditing Profession 2008, VII:27).

In addition, I find that an auditor settlement resulting from misstatement-based litigation is less likely in the post-SOX time period and when there is a greater diffusion of shareholders. These results suggest that the majority of settlements occurred prior to SOX and that a greater diffusion of shareholders makes an agreed-upon settlement more difficult to obtain. I also find that auditor settlements are more likely to result from misstatements issued by clients who recently issued an IPO. This suggests that the increased liability burden that auditors must bear under the Securities Act of 1933 affects the likelihood of an auditor to settle misstatement-based litigation.[69] I do not find any of the other auditor characteristics to be associated with an auditor settlement resulting from misstatement-based litigation in the hypothesized direction. These insignificant results suggest that the characteristics of the

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[69] Auditors are liable for any level of negligence under the Securities Act of 1933 whereas auditors are only liable for scienter or gross negligence under Rule 10b-5 of the Securities Act of 1934.

auditor (e.g., engagement fees, auditor tenure, and auditor size) may be less important in predicting the likelihood that an auditor settlement results from misstatement-based litigation than in predicting the likelihood that auditor litigation results from a financial statement misstatement.[70]

With respect to the effect of litigation on subsequent auditor behavior, I find evidence that auditors employed at a litigated office engage in more conservative behavior following litigation. Specifically, I find that, in the year following litigation, litigated auditors are more likely than non-litigated auditors to constrain signed and positive discretionary accruals across their office-wide client portfolio (that excludes the litigated client). My results suggest that, following litigation, auditors require more conservative financial reporting from their clients by constraining client income-increasing financial reporting behavior. In addition to the discretionary accruals results, I find that in the year following litigation, litigated auditors have longer post-litigation ARLs than do non-litigated auditors. These findings suggest that litigation increases the amount of time auditors spend on subsequent audit engagements (again, across the auditor's office-wide client portfolio that excludes the litigated client). Combined, these findings suggest that, with respect to the reporting of accruals and the time spent on an audit, auditor litigation does seem to influence the behavior of auditors.

My study provides evidence useful to regulators and auditors. Specifically, when assessing the current level of auditor legal liability, regulators may wish to understand the circumstances under which auditors are held liable for past audit failures and how litigation may affect subsequent auditor behavior (which ultimately may impact financial reporting quality). Because of the reputational and financial cost of lawsuits, auditors may be interested in these findings because they address the amount of accountability assigned to an auditor for

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[70] However, this conclusion is tenuous because it relies on a null finding.

a past misstatement. My results indicate that misstatement severity and the composition of engagement fees are primary drivers of misstatement-based auditor litigation. Although auditor litigation is a relatively rare occurrence, my study also provides evidence that such litigation may have the potential to temporarily deter future non-GAAP reporting.

Specifically, my results indicate that auditor behavior becomes more conservative in the year following litigation but, on average, does not change over a longer time span. These results suggest that auditor litigation may play a role in maintaining audit quality. However, I also find evidence that misstatement severity *and* the size of the plaintiffs' claims are primary drivers of auditor settlements resulting from misstatement-based litigation. This finding is consistent with those who favor liability reform because they believe that audit firms are forced to settle lawsuits when the unpredictable risk of loss becomes too great. Overall, my study provides evidence that auditor culpability for past financial statement misstatements is associated with misstatement severity, various auditor characteristics, and the alleged losses associated with misstatements. While auditor litigation does play a role in maintaining audit quality, it also subjects auditors to potential damages that could have a significant impact on the survival of the audit firm.

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