

Auditor reporting decisions and audit fees

Joseph E. Trainor
St. John's University

ABSTRACT

This paper investigates whether audit fees are associated with auditor reporting decisions involving accounting principles changes. Auditing standards require auditors to modify the standard audit report when a client adopts a new accounting principle and that change has a material effect on the financial statements. Two competing hypotheses regarding the association between auditor reporting decisions and audit fees (*economic bonding theory* versus *auditor reputation theory*) are considered. The findings are consistent with the economic bonding theory. Specifically, the results suggest that audit fees and total fees are inversely associated with auditors' propensity to modify audit reports for consistency in the application of GAAP. The results also suggest that high audit fees may impair auditor reporting decisions relative to low fees. The findings will be of use to market regulators considering methods of improving auditor independence. The findings will also be of interest to investors and other market participants when considering the independence of firms' auditors when making informed decisions based on accounting reports. Finally, academics may find the setting interesting because the extant literature has focused on ex-post measures to examine auditor independence, whereas this study does not rely on a subsequent accounting failure occurring or not occurring.

Keywords: Audit fees, auditor reporting, economic bonding, auditor-independence

INTRODUCTION

This paper investigates whether audit fees are associated with auditor reporting decisions involving accounting principles changes. Auditing standards require auditors to modify the standard audit report when a client adopts a new accounting principle and that change has a material effect on the financial statements. The consistency modification alerts financial statements users to this change in accounting principle. The decision whether to modify the audit report for a change in accounting principle is based on the materiality of the effect on the financial statements and should be independent of the fees paid to the auditor. Two competing hypotheses regarding the association between auditor reporting decisions and audit fees are considered. First, economic bonding theory suggests that higher audit fees are suggestive of possible independence issues, auditors receiving higher fees may be less inclined to modify the standard audit report. Second, auditor reputation theory suggests that auditors' protect their reputation by rejecting managers' demands when the downside risk of doing so is high.

Audit reports, financial statement data, and footnote disclosures for S&P 500 firms are used to identify the initial fiscal year each firm adopted Statement of Financial Accounting Standards No. 123R Shared-Based Payments. Firms receiving modified audit reports are identified by reading of the audit opinion. Next, logistical regression is used to assess the propensity of auditor report modification for a lack of consistency in the initial year of application of SFAS No. 123R while controlling for audit fees, corporate governance, and other factors suggested by prior research to influence auditor reporting decisions. Auditor consistency modifications are used rather than ex-post measures of accounting failures such as restatements, bankruptcies, or correction of previously waived misstatements because report modifications are generally less contentious issues and not associated with significant risk to the auditor.

The results suggest evidence consistent with the economic bonding theory. Specifically, audit fees and total fees are inversely associated with auditors' propensity to modify audit reports for consistency in the application of GAAP. The results suggest that high audit fees may impair auditor reporting decisions relative to low fees. The results find no association between non-audit fees and audit report modifications. The results also find evidence which suggests that materiality thresholds have declined since the late 1980s, but that the variability in auditor reporting judgments at moderate and high levels of materiality has increased. The decrease in materiality thresholds is consistent with changes in the regulatory and financial reporting environment faced by auditors, while increased variability in auditor reporting judgments is consistent with independence issues.

This study contributes to the accounting and auditing literature in several distinct respects. First, much of the extant literature on auditor reporting decisions for changes in accounting principles is from the late 1980s and the accounting profession and capital markets dynamics have changed considerably since that time. Therefore, this study provides current evidence on auditor reporting decisions. In addition, this study is the first to examine audit fees in a reporting for accounting principles change context. Numerous studies document the variability in auditor judgments, but previous research has not considered the effects, if any, of audit fees on auditor decisions for accounting principle changes. The findings will be of use to market regulators considering methods of improving auditor independence. The findings will also be of interest to investors and other market participants when considering the independence of firms' auditors when making informed decisions based on accounting reports. Finally, academics may find the setting interesting because the extant literature has focused on ex-post

measures to examine auditor independence, whereas this study does not rely on a subsequent accounting failure occurring or not occurring.

The paper proceeds as follows. Section 2 discusses the prior empirical research on auditor materiality judgments and consistency modifications and develops the testable hypotheses. Section 3 presents the research design used to test the hypotheses. Section 4 describes the sample selection process and provides descriptive statistics. Section 5 provides the results of the tests along with sensitivity analysis. The paper concludes in Section 6.

MOTIVATION AND HYPOTHESES

Prior empirical studies on auditor materiality judgments primarily employ questionnaires and experimental methodologies rather than archival studies (Chewning et al. 1989). The lack of archival evidence on auditor materiality thresholds is primarily due to the lack of disclosure of auditor materiality judgments. Auditors are not required to disclose their materiality judgments; therefore, researchers generally observe ex post reporting choices to infer auditor judgments regarding materiality.

Holstrum and Messier (1982) summarize the results of various experimental studies on auditor materiality judgments. The authors conclude from the literature that a) the percentage effect on net income appears to be the most important factor associated with materiality decisions; b) materiality thresholds are lower for users than preparers and that auditor materiality decisions tend to be higher than users but lower than preparers; c) Big N auditors tend to have higher materiality thresholds than non-Big N auditors; and d) materiality judgment dispersion is significant among auditors. Messier et al. (2005) update the findings from this stream of experimental research and find that a) net income effect continues to be the most important factor associated with materiality judgments, b) qualitative factors are also important in materiality judgments, c) materiality judgments are affected by auditor experience and audit firm size, and d) that decisions aids and authoritative guidance effect auditors' materiality judgments.

Archival studies examining auditor materiality judgments primarily rely upon auditor-related sources (e.g. audit manuals, working papers, and decision aids) or public sources (e.g. published financial statements and audit reports). These studies investigate a wide variety of reporting choices and related disclosure implications. Messier et al. (2005) also summarize and report on the overall findings from these archival studies using auditor-related sources, which suggest that a) audit firms employ different methodologies in establishing planning materiality, b) significant judgment is involved with auditors' materiality decisions, c) the effect on net income remains an important factor in auditors' materiality decisions, and d) immateriality is often a major factor in auditors' decisions to waive known misstatements.

Morris et al. (1984) is an early study using publicly available financial data. The authors document inconsistencies in auditor materiality judgments of 221 firms initially adopting SFAS No. 34 Capitalization of Interest Costs from 1979 to 1981. The results suggest greater variability in auditor materiality decisions when amounts were at traditionally low levels of materiality (0% - 4% of net income effect). The authors also find significant overlapping in the frequency distributions between their two sub-sets of firms (firms with modified audit reports versus those without). Morris and Nichols (1988) extend the work of Morris et al. (1984) by considering auditor consensus and materiality judgments within and across Big-8 audit firm clients initially adopting SFAS No. 34 from 1979 to 1981. The authors find that using nine common financial statement measures that a fitted logistic regression is able to explain between 75% and 100% of

individual audit firms' consistency modification decisions. While the results suggest a high degree of consensus within each of the Big-8 audit firms, the authors note a significant lack of consensus across the Big-8 in regards to materiality judgments. The authors posit that this variability is due to audit firm structure and find evidence supporting their hypothesis. Specifically, the authors find a positive association between more structured audit firms and materiality judgment consensus.

Following Morris and Nichols (1988), Chewning et al. (1989) examine auditor materiality judgments by analyzing auditor consistency modifications involving discretionary versus non-discretionary changes in the application of generally accepted accounting principles. The authors find, consistent with prior research, that Big N auditors appear to have higher materiality thresholds than non-Big N auditors. Contradicting prior research, the study suggests that consistency modifications are made at much lower levels of net income (4%) than suggested by prior experimental studies. The evidence also suggests that auditors respond asymmetrically to discretionary versus non-discretionary changes in accounting principles, such that auditors appear to have lower levels of materiality for discretionary changes than non-discretionary changes.

Wheeler et al. (1993) extend the literature using a similar sample and methodology as Chewning et al. (1989), but control for client financial condition using Zmijewski's (1984) financial distress prediction score. The authors find judgment consensus across audit firms when the effect on net operating income of accounting principle change is greater than 4% of net income, but find significant judgment dispersion across audit firms at traditional lower materiality levels (0% - 4% of net income). The results suggest that non-Big 8 auditors tend to modify their audit opinions more frequently than Big 8 auditors when the effect on net income is deemed immaterial under traditional measures. Most important of their findings is that after controlling for financial condition that audit firm structure (centralized versus decentralized) was not significant in explaining the variability of materiality judgments across Big 8 firms and that legal experience was significant in explaining firm variability.

Another stream of research examining materiality judgments focuses on firms' accounting disclosures (Fesler and Hagler, 1989; Gleason and Mills, 2002; Costigan and Simon, 1995; Liu and Mittlestaedt, 2002). The results of these studies both support and contradict evidence using audit report modification data. For example, Gleason and Mills (2002) examine firms' contingency reporting of an IRS tax deficiency claim. The authors find that the probability of disclosure of an IRS claim is increasing with the amount of the claim, but have difficulty defining a threshold where firms generally disclose the claim. This result is inconsistent with prior evidence suggesting the amounts greater than 4% of net income are generally considered material. Liu and Mittlestaedt (2002) examine firms' disclosure of retiree health care costs under SFAS. No. 81, Disclosure of Postretirement Health Care and Life Insurance Benefits, and find that the material-immaterial decision was not consistent across firms. This evidence is consistent with prior research suggesting variability in materiality judgments across large auditors.

Most recently, researchers have begun to examine materiality judgments involving instances of financial restatements and the correction of accounting errors. Keune and Johnstone (2008) examine SAB No. 108 disclosures and provide descriptive evidence on firms making such disclosures. Among their various findings is that the absolute value of misstatements as a percentage of net income is over seven percent. In a similar study, Plumlee and Yohn (2008) examine the causes of financial statement restatements and find evidence which suggests that

materiality thresholds for restatements have decreased over their sample period of 2003 to 2006. Consistent with prior research, Acito et al. (2008) examine the correction of errors associated with accounting for operating leases of 244 firms from late 2004 to mid-2006. The preliminary findings of this study suggest that both quantitative as well as qualitative considerations explain a large proportion of the variability in firms' error correction decisions.

Overall, the extant literature on auditor materiality judgments suggests that net income effect on the financial statements is the most important factor auditors consider when making materiality decisions, which is consistent with auditing standards. Statement of Auditing Standard (SAS) 58, Reports on Audited Financial Statements, is explicit in that immaterial accounting changes should not be highlighted in audit reports and reduces the flexibility allowed to auditors in determining whether an effect of a client's change in accounting principle rises to the level to be considered material (therefore requiring report modification).

Audit and non-audit services literature

Auditor compensation and the effects of compensation on auditor independence and audit quality has received considerable attention over the last 30 years as researchers attempt to model the determinants of audit and non-audit fees; explain the nature of audit pricing; and consider the effects of auditor fees (both audit and non-audit) on auditor independence. The main findings from the auditing literature suggest that audit fees, a) are driven by client characteristics that affect audit effort and audit risk, b) contain premia for larger firms and industry specialization, c) are determined jointly with non-audit services, d) are generally lower on initial engagements due to future quasi-rents paid to incumbent auditors, and e) that non-audit fees do not impair auditors' independence despite perception otherwise.

The extant literature examines the economic bond created between auditors and their clients from both audit fees and non-audit fees. One of earliest studies examining audit fees and independence is DeAngelo (1981). In her seminal piece, DeAngelo considers the underpricing of initial audit engagements, commonly referred to as low-balling. A theoretical framework for audit pricing is developed and she demonstrates that low-balling is the result of competitive market forces in response to future quasi-rents received by incumbent auditors. Her study demonstrates that low-balling itself does not impair auditor independence, but recognizes that it is the strength of the economic bond between the auditor and client that reduces independence. Shatzberg (1990) uses DeAngelo's model and explores low-balling in an experimental economics setting and finds evidence supporting the existence of low-balling and evidence which suggest that low-balling is related to transaction costs.

Recent studies examining audit fees and independence issues offer conflicting results. Evidence exists that the level of auditor fee dependency is not associated with auditors' propensity to issue unqualified opinions (Craswell et al. 2002). By contrast, Geiger and Rama (2003) find a significant positive association between the magnitude of audit fees and a firm's propensity of receiving a going-concern opinion. Higgs and Skantz (2006) examine audit engagement profitability and earnings quality and find, for total fees and audit fees, a significant positive association between earnings quality and engagement profitability.

Drawing from this literature, higher audit fees may impair auditor independence because of the economic bond created between the auditor and the client. The strength of the economic bond impairs auditors' judgments, which leads to the first hypothesis stated in the alternative:

- H1: The probability of receiving a modified audit report for consistency in the application of GAAP is negatively associated with audit fees.

Numerous studies examine non-audit fees and threats to auditor independence. Overall, this evidence is conflicting. For example, Frankel et al. (2002) examine audit and non-audit fees and proxies for earnings management and stock market reaction to disclosure of audit fee components. The authors find evidence consistent with non-audit fees being positively associated with various earnings management measures¹, such that firms with higher non-audit fees are more likely to exhibit earnings managements. The authors also consider the effect of non-audit fee disclosures on share prices and find negative cumulative abnormal returns surrounding the announcement date of non-audit fees, although the reaction is small in economic terms. Finally, the authors also find that combining non-audit and audit fees dampens the results such that combined audit and non-audit fees are not similarly associated with proxies for earnings management.

Several studies including Ashbaugh et al. (2003) challenge the results of Frankel et al. (2002) and argue that the results obtained by Frankel et al. are artifacts related to research design choices and a failure to use performance adjusted discretionary accruals. Consistent with the overall research stream on non-audit services (NAS), but contrary of Frankel et al. (2002), Defond et al. (2002) find evidence which suggests that non-audit fees do not impair auditor independence. The authors examine 1,158 financial distressed firms and consider the probability of the auditor issuing a going concern opinion and non-audit fees. The findings suggest no association between going concern opinions and economic dependence created by higher fees (audit and non-audit).

Despite the perceptions of regulators and market participants (and perhaps conflicting academic evidence), the overall empirical evidence based on 30 years of academic research generally suggest that non-audit fees do not impair auditor independence (Francis, 2006). In addition to a lack of empirical evidence to support auditor impairment from non-audit services fees, recent changes in the regulatory environment (i.e., The Sarbanes-Oxley Act of 2002) prohibits audit firms from providing most non-audit services to their attest clients. Contrary to the prediction for audit fees, based on the extant literature and recent changes in the regulatory environment, non-audit fees are not associated with auditor materiality judgments and reporting decisions. The hypothesis is stated in the null:

H2: The probability of receiving a modified audit report for consistency in the application of GAAP is not associated with non-audit fees.

Finally, Ashbaugh et al. (2003) argue that non-audit fees may impair auditor independence if clients use non-audit fees as contingent fees. While auditing standards do not allow auditors to accept contingent fee engagements in most circumstances, if audit clients withhold valuable non-audit services from their auditor the client may be creating a contingent fee type of situation. Ashbaugh et al. (2003) suggest that the combination of audit fees and non-audit fees best captures the economic bond that exists between auditors and their clients. Following this line of reasoning, higher levels of total fees, as a measure of economic bond between auditor and client, may impair auditor independence and hence materiality and reporting decisions. The third hypothesis stated in the alternative:

¹ The authors use absolute value of discretionary accruals, signed discretionary accruals, and meeting or beating analyst forecasts as earning management proxies.

H3: The probability of receiving a modified audit report for consistency in the application of GAAP is negatively associated with total fees.

The arguments and predictions above are based on economic bonding theory. A competing theory suggests that auditors protect their reputations by rejecting managers' demands when the downside risk to doing so is high. Evidence of no association between audit fees and auditor reporting decisions would be consistent with auditor reputation theory, whereas evidence of a significant association between audit fees and auditor reporting decisions is consistent with the economic bonding theory.

RESEARCH DESIGN

In this section of the paper, the model used to test the hypotheses and the control variables are discussed. Specifically, the paper investigates audit report modifications for a lack of consistency in application of GAAP in the initial year of application of SFAS No. 123R. The research design permits tests the effects of audit fees, non-audit fees and total fees on auditors' propensity to modify audit reports for consistency while controlling for factors known to be associated with auditors' reporting choices and materiality judgments.

Logistic regression is used to model the probability of auditor consistency modifications using a binary dependent variable representing the auditor materiality judgment (SFAS No. 123R consistency modification equals one and zero if otherwise). The model is derived from Morris and Nichols (1988) as follows:

$$\text{Prob}_{i,t}(\text{OPINION}=1) = F(\alpha_{0i,t} + \alpha_1 \text{NI_EFFECT}_{i,t} + \alpha_2 \text{DEBT/EQUITY}_{i,t} + \alpha_3 \text{NI/EQUITY}_{i,t} + \alpha_4 \text{TREND}_{i,t} + \alpha_5 \text{EQUITY}_{i,t}) \quad (1)$$

where OPINION is an indicator variable equal to one for cases judged material by the auditor (i.e. consistency modification) and zero if otherwise; NI_EFFECT is an indicator variable equal to one if the effect of the change in accounting principle is greater than 4% of net income and zero if otherwise; DEBT/EQUITY is the ratio of total debt to market capitalization; NI/EQUITY is the ratio of net income to market capitalization; TREND is the percentage increase or decrease in net income from the previous year; and EQUITY is the natural log of market capitalization.

The accumulated prior research, both experimental and archival, suggests that the net income effect of the change in accounting principle is the primary metric used by auditors to assess the materiality of accounting principle changes on the financial statements. Based on this research, NI_EFFECT is included in the model to capture the effects of materiality on auditors' judgments and is predicted to be positively associated with consistency modifications. DEBT/EQUITY and NI/EQUITY are measures of firm leverage and profitability, respectively. Prior research suggest firms with higher levels of debt (net income) relative to equity represent more (less) risk to auditors; therefore, these variables are included to control for firms' relative debt and income levels and are predicted to have negative (positive) associations with consistency modifications. Current year firm performance compared to the prior year has been shown to affect reporting decisions, therefore, a trend variable (TREND) is included to capture firms' growth pattern and is predicted to have a positive association with consistency modifications. Finally, firm size is predicted to have a positive association on the probability of auditor modification, therefore EQUITY is included in the model to control for firm size.

Two variables are added to the model; an audit fee metric and a measure of corporate governance. Also added is a control variable for prior disclosure/adoption of fair value recording of stock-based compensation expense under SFAS No. 123, which allowed firms the option of expensing share-based compensation expense at fair value. The expanded model is as follows:

$$\begin{aligned} \text{Prob}_{i,t}(\text{OPINION}=1) = F(& \alpha_{0i,t} + \alpha_1 \text{NI_EFFECT}_{i,t} + \alpha_2 \text{NI/EQUITY}_{i,t} \\ & + \alpha_3 \text{DEBT/EQUITY}_{i,t} + \alpha_4 \text{TREND}_{i,t} + \alpha_5 \text{EQUITY}_{i,t} \\ & + \alpha_6 \text{FEE}_{i,t} + \alpha_7 \text{G_SCORE}_{i,t} + \alpha_8 \text{DISCLOSE}_{i,t}) \end{aligned} \quad (2)$$

where the first five independent variables are as previously defined. The first test variable FEE is the audit fee metric which takes on the values of AUDIT, NONAUDIT and TOTAL fees in separate regressions.

Separate regressions of these audit fee metrics are estimated because the three measures of audit fees are highly correlated. AUDIT is the natural log of audit fees, NONAUDIT is the natural log of non-audit fees, and TOTAL is the natural log of the sum of audit and non-audit fees. G_SCORE, is the corporate governance index score developed by Gompers et al. (2003) and is predicted to be positively associated with consistency modifications. Also included is DISCLOSE, an indicator variable equal to one if the firm made a prior disclosure or adopted fair value recognition of stock-based compensation expense under Statement of Financial Accounting Standard No. 123 and zero if otherwise. The research controls for the prior disclosure or adoption of fair value reporting of shared-based compensation expense under SFAS No. 123 because firms that previously adopted fair value reporting are predicted to less likely have a consistency modification.

SAMPLE DESCRIPTION AND DESCRIPTIVE STATISTICS

Audit reports, financial statement data, and footnote disclosures of firms in the S&P 500 are used to identify the initial application of SFAS No. 123. The standard eliminates the intrinsic value method of accounting for shared-based payment to employees and requires firms to record as costs in the current period shared-based payments using fair value methodology. The standard also requires that cumulative effect of initial application of the standard, if any, by the effective date. SFAS No. 123R was to be applied as of the beginning of the first interim or annual reporting period that began after June 15, 2005 for accelerated files and after December 15, 2005 for non-accelerated filers; however, companies were encouraged to choose early application. As a result of this flexibility in application, a company's initial application should have been fiscal years 2004, 2005, or 2006. The Edgar database of federal filings is used to generate the sample. The sample includes all firms that meet the following criteria:

- a) Publicly traded company included in the S&P 500;
- b) Footnote disclosures contain disclosure of the initial application of SFAS No. 123R;
- c) Data availability of variables on Compustat, Audit Analytics and the firm's G-SCORE based on Gompers et al. (2003)

Auditor consistency modifications are used rather than ex-post measures of accounting failures such as restatements, bankruptcies, or correction of previously waived misstatements because report modifications are generally less contentious issues and not associated with

significant risk to the auditor. Examining a setting involving less auditor risk avoids compounding auditors' own risk avoidance tendencies into the research design. The choice of using the adoption of 123R is due to the contentious nature of the stock-option accounting debate. Many of businesses lobbied against the expensing of stock options and probably did not want to include mention of this issue in their audit reports. Thus, diminished auditor risk involved in the setting, plus a contentious accounting principle change provides a novel setting to examine the relationship between audit reporting decisions and audit fees.

Financial services firms (SIC #6000-6999) and utilities (SIC #4900-#4999) are eliminated from the sample since these firms are subject to regulatory and compliance factors that affect the nature of audit fees and reporting such that inclusion might bias the results. The final sample consists of 315 observations as noted in Table 1, of which 247 have modified audit opinions and 68 have the standard unqualified language. For all companies identified, audit opinions are examined to determine whether a consistency modification is present or absent.

Descriptive statistics, partitioned by the dependent variable (i.e. the audit report modification dichotomy), are presented in Table 2. Overall, Table 2 suggests that the characteristics between firms receiving audit report modifications and those not receiving modifications are very similar. The results are unable to reject, at any conventional level that net income level, growth trend, equity, non-audit fees, total fees, or governance measures differ between the two subsamples. The mean log of audit fees is statistically different at the .05 level which suggests that on a univariate basis that firms' without consistency modifications on average have pay higher audit fees. This evidence is consistent with possible impairment of auditor independence from high audit fees.

The descriptive statistics also reveal that approximately 24% of firms without consistency modification versus only 5% of firms receiving consistency modifications made prior disclosure or adoption of expenses of stock options under SFAS No. 123, this difference is statistically significant at the $p < 0.01$ level. This result is not surprising since one would anticipate that prior adoption or disclosure of fair value reporting would not result in an audit report modification in the initial year of application of SFAS No. 123R. Another statistical difference between the two groups is that the mean debt to equity ratio is significantly different at $p < 0.05$, such that firms' not receiving consistency modifications had higher levels of debt.

Finally, 82% of firms receiving consistency modifications had net income effects of the change in accounting principles greater than 4% of net income while only 62% of firms not receiving consistency modification had net income effects greater than 4%, the difference being statistically different at $p < 0.01$. The untabulated means of the raw net income effect of change in accounting principle was 18% and 4% for the modified and unmodified subsamples, respectively. This difference is statistically different that the $p < 0.01$ level.

Table 3 provides Pearson (Spearman) correlation coefficients above (below) the diagonal for variables included in the audit report modification logistic regression. The correlations reveal moderate levels of associations between the independent variables with several of the correlations being significant. For example, there are strong positive and significant correlations between the audit fee metrics; audit fees, non-audit fees, and total fees. The audit fee metrics are highly correlated with debt levels and equity as predicted since equity (debt level) proxy for size (risk) and prior research suggests that these variables are typically associated with auditor pricing. In addition, debt level is significantly negatively associated with net income level and the earnings trend variable. This suggests that firms with higher levels of income and positive earnings trends tend to have less debt. A positive and significant association is also noted

between equity and prior disclosure/adoption of fair value expensing of shared-based expense. This finding suggests that larger firms are more likely to have previously adopted/disclosed fair value expensing of share-based compensation expense.

Overall, the correlations suggest that multicollinearity is not severe and although the various audit fee metrics are highly correlated, these measures in separate regressions. Inspection of the variance inflation factors (VIFs) also reveals that the independent variables are all within acceptable limits. The regression results do not appear to be influenced by the effects of multicollinearity.

To investigate the changes in reporting judgment across materiality level, the frequencies of modified and unqualified opinions are compared at income levels suggested by prior research to be associated with auditor materiality and reporting judgments. Net income effects of greater than 10% are used for extreme materiality levels, net income effects of between 4% and 10% for moderate materiality levels, and net income effects of 0% to 4% as low level materiality. This design choice is consistent with Chewning et al. (1989) and allows for comparison of the results with prior empirical evidence.

Panel A of Table 4 indicates that the tendency to issue modified opinions increases with the net income effect of the change in accounting principle. This relationship is significant at $p < 0.001$ using a Chi-Square test. A high percentage (87%) in the 10%+ category received modified opinions, in the moderate income effect category (4% to 10%) approximately 79% of audit reports were modified, while 63% of audit reports were modified in the low level effect category. Panel B of Table 4 compares the percentages of firms, from the sample, receiving modified audit opinions to comparable summary percentages presented in Chewning et al. (1989). Overall and at low levels of materiality, the percentage of modifications are similar between the sample and this prior evidence. A chi-square test indicates that overall and at low levels of materiality that modification rates are not significantly different than those found by Chewning et al. (1989).

At moderate and extreme materiality levels; however, the percentages of modifications change dramatically. This change is most evident at traditionally high materiality levels. Prior empirical evidence suggests that at high materiality levels (10% +) almost all audit opinions were modified for changes in accounting principles. In the sample of high materiality level firms, only 87% received modified audit opinions. This difference is significant at $p < 0.001$. Consistency modifications are also significantly different at $p < 0.001$ between the sample and prior evidence at moderate levels of materiality (4% to 10%). Taken together, these results suggest an increase in auditor judgment variability over moderate and high levels of materiality, despite an overall increase in the regulatory environment facing auditors.

RESULTS

Table 5 reports the logistic regression parameter estimates together with their significance level for the three metrics used for audit fees (AUDIT, NONAUDIT, and TOTAL). The Hosmer and Lemshow test statistics, which are untabulated, for all three regressions are not significant which suggests that the model provides good fit for the data. The Pseudo r-squares range from 14% and 17%, with the regression including the log of audit fees providing the highest pseudo r-square.

The findings suggest a significant negative association between prior disclosure/adoption of fair value expensing of share-based expense and auditor modification decisions across all

three regressions at $p < 0.001$. This result suggests that firms previously disclosing or adopting fair value reporting of share-based expenses are less likely to receive an auditor consistency modification. The fact that this control variable has the correct sign and is statistically significant suggests that design properly controls for this factor and that the results of the primary tests are robust to this control. Other control variables are of generally consistent with their predicted signs, but are not significant. Finally, a positive and statistically significant association is found between the effect of the change in accounting principle on net income and auditors' propensity to modify for consistency at $p < 0.001$ across all three audit fee metrics. The fact that materiality is significant suggests that the results are not associated with the materiality of the event.

Audit fees are negatively and significantly associated with consistency modifications at the $p < 0.05$ level. This result suggests that after controlling for factors associated with auditors' modification decisions, that firms paying higher audit fees are less likely to receive audit report modifications relative to firms paying lower audit fees. This evidence is consistent with the economic bonding theory rather than the auditor reputation theory since auditor reporting decisions are associated with the level of audit fees, while controlling for the materiality of the accounting principle change.

In contrast to the evidence on audit fees, non-audit fees are not significantly associated with auditors' propensity to issue consistency modifications. This is consistent with the second hypothesis which predicts no association between non-audit fees and consistency modifications. The results on non-audit fees are consistent with the extant literature and also with recent changes in the regulatory environment which prohibit auditors from providing most non-audit services to their attest clients.

As predicted, the results on total fees are negative and significant and consistent with the third hypothesis which posits that total fees capture the economic bond between the auditor and client because clients may withhold profitable non-audit fees from their primary auditor as leverage. The evidence suggests that the propensity for auditor report modification is declining in firms that pay higher total fees, which is consistent again with the economic bonding argument. The results suggest no evidence consistent with the auditor reputation theory, which would suggest that auditors reject management's request for favorable reporting.

SENSITIVITY TESTS

In the primary tests, the natural log of audit fees and the natural log of the sum of audit fees and non-audit fees are used as proxies for the economic bond between the firm and its auditor. In as much as these may be a noisy proxy for the actual economic bond, the sensitivity of the results to alternate measures is tested. The alternative measure used is audit engagement profitability as proxied by the residual from a regression predicting audit fees. Prior literature (see for example, Higgs and Skantz, 2006; Francis and Wang, 2005) provides support for using the residual from an audit fee regression as a proxy for audit engagement profitability. The untabulated results using the residuals from an audit fee model are virtually identical to those results presented in table 5.

Also tested is the sensitivity of the logistic regression results to alternative measures of the effect of net income and alternative measures of prior disclosure or adoption of fair value reporting of share-based compensation expense under SFAS. No. 123. In the primary tests, a dichotomous variable was used equal to one if the absolute value of the effect on net income is

greater than 4%. This design choice was based on the extant literature which generally suggests that net income effects of greater than 4% are considered material by most auditors. To test this assumption, the percentage is reduced to 2% and the results remain robust to this specification at the $p < 0.10$ level. Below 2%, net income effect becomes insignificant. Also tested is the upper limit and find that net income effects up to 12% of net income are still significant at $p < 0.10$. Combined these alternative measures suggest that for firms with net income effects of below 2% that materiality is not significantly associated with auditor modification decisions and that above 12% that materiality is less important in auditor reporting decisions. This finding suggests that materiality levels have decreased since the late 1980s when the lower bound of materiality was estimated to be around 4% of net income.

CONCLUSIONS

Do firm audit fees affect auditor decisions to modify audit reports for consistency in the application of GAAP? The primary results suggest that audit fees and total fees are negatively associated with auditor propensity to issue modified audit reports and that this relationship exists even after controlling for materiality of the effect on income, firm size, leverage, corporate governance and other determinants of auditor modification decisions. This result is consistent with the economic bonding theory rather than auditor reputational theory.

The study contributes to the accounting and auditing literature in several distinct respects. First, much of the extant literature on auditor materiality thresholds is from the late 1980s and the accounting profession and capital markets dynamics have changed considerably since this time; therefore, the results provide current evidence on auditor materiality and reporting decisions. Second, in addition to the primary findings discussed above, the evidence also suggests that materiality levels have decreased since the mid-1980s while auditor judgment variability has increased over this same time period. The findings will be of use to market regulators considering methods of improving auditor independence. The findings will also be of interest to investors and other market participants when considering the independence of firms' auditors when making informed decisions based on accounting reports. Finally, academics may find the setting interesting because the extant literature has focused on ex-post measures to examine auditor independence, whereas this study does not rely on a subsequent accounting failure occurring or not occurring.

REFERENCES

- Acito, A. A., Burks, J. J. and Johnson, W.B. (2008), "Materiality decisions and the correction of accounting errors." Working paper – University of Iowa and University of Notre Dame
- American Institute of Certified Public Accountants. 1988. *Reports on Financial Statements*, Statement on Auditing Standards No. 58. New York, NY: AICPA.
- Ashbaugh, H., LaFond, R. and Mayhew, B.W. (2003), "Do nonaudit services compromise auditor independence? Further evidence." *The Accounting Review* 78 (X): 611-639.

- Chewning, G., Pany, K. and Wheeler, S. (1989) "Auditor reporting decisions involving accounting principle changes: Some evidence on materiality thresholds." *Journal of Accounting Research* 27 (1): 78-96.
- Chewning, G., Pany, K. and Chan, K.C. (1998), "Evidence on auditor and investor materiality thresholds resulting from equity-for debt swaps." *Auditing: A Journal of Practice & Theory* 17 (1): 39-53.
- Costigan, M. L. and Simon, D. T. (1995), "Auditor materiality judgment and consistency modifications: Further evidence from SFAS No. 96." *Advances in Accounting* 13: 207-222.
- Craswell, A., Stokes, D.J. and Laughton, J. (2002), "Auditor independence and fee dependence." *Journal of Accounting and Economics* 33: 253-275
- DeFond, M. L., Raghunandan, K. and Subramanyam, K.R. (2002), "Do nonaudit service fees impair independence? Evidence from going concern audit opinions." *Journal of Accounting Research* 40 (4): 1247-1274.
- DeAngelo, L. (1981), "Auditor size and audit quality." *Journal of Accounting and Economics* 3: 183-199.
- Fesler, R. D. and Hagler, J.L. (1989), "Litigation disclosures under SFAS No. 5: A study of actual cases." *Accounting Horizons* 3 (1): 10-21.
- Financial Accounting Standards Board (FASB). 2003. *Shared Based Payments*. Statement of Financial Accounting Standard No. 123R Stamford, CT: FASB.
- Francis, J. R. (2006), "Are auditors compromised by nonaudit services? Assessing the evidence." *Contemporary Accounting Research* 23 (3): 747-760.
- Francis, J.R. and Wang, D. (2005), "Impact of the SEC's public fee disclosure requirement on subsequent period fees and implications for market efficiency." *Auditing: A Journal of Practice & Theory* 24 (Supplement): 145-160.
- Frankel, R. M., Johnson, M.F. and Nelson, K.K. (2002), "The relation between auditors' fees for nonaudit services and earnings management." *The Accounting Review* 77 (Supplement): 71-105.
- Gleason, C. A. and Mills, L.F. (2002), "Materiality and contingent tax liability reporting." *The Accounting Review* 77 (2): 317-342.
- Higgs, J. L. and Skantz, T.R. (2006), "Audit and nonaudit fees and the market's reaction to earnings announcements." *Auditing: A Journal of Practice & Theory* 25 (1): 1-26.
- Holstrum, G. L. and Messier, Jr., W.F. (1982), "Review and integration of empirical research on materiality." *Auditing: A Journal of Practice & Theory* 2 (1): 45-63.
- Keune, M. B. and Johnstone, K.M. (2008), "Staff accounting bulletin no. 108 disclosures: Inferences from the revelation of accounting misstatements." Working paper – University of Wisconsin-Madison
- Liu, C-S. and Mittelstaedt, H.F. (2002), "Materiality judgments and disclosure of retiree health care costs under SFAS No. 81." *Review of Accounting Studies* 7: 405-434.
- Messier Jr., W. F, Martinov-Bennie, N. and Eilifsen, A. (2005), "A review and integration of empirical research on materiality: Two decades later." *Auditing: A Journal of Practice & Theory* 24 (2): 153-187.
- Morris, M. H., Nichols, W.D. and Pattillo, J.W. (1984), "Capitalization of interest, materiality judgment divergence and users' information needs." *Journal of Business Finance & Accounting* 11 (4): 547-555.

- Morris, M.H. and Nichols, W.D. (1988), "Consistency exceptions: Materiality judgments and audit firm structure." *The Accounting Review* 77 (Supplement): 175-211.
- Plumlee, M. and Yohn, T. L. (2008), "An analysis of the underlying causes of restatements." Working paper – University of Utah and Indiana University
- Schatzberg, J.W. 1990. A laboratory market investigation of low balling in audit pricing. *The Accounting Review* 65 (2): 337-362.
- Wheeler, S., Pany, K. and Chewning, E. (1993), "Inter-firm differences in propensities to modify audit opinions for pre-SAS No. 58 accounting principle changes." *Accounting Horizons* 7 (3): 46-54.
- Whisenant, S., Sankaraguruswamy, S. and Raghunandan, K. (2003), "Evidence on the joint determination of audit and non-audit fees." *Journal of Accounting Research* 41:721-744.
- Zmijewski, M. E. 1984. Methodological issues related to the estimation of financial distress prediction models. *Journal of Accounting Research* 22: 59-82.

Table 1 – Sample Selection Summary

	Total Obs.	
Hand-collected audit report data (S&P 500)	500	
Less:		
Firms missing audit and non-audit fee data	(17)	
Financial services (SIC 6000-6999) and utilities (4900-4999)	(131)	
Firms with missing Compustat data	(24)	
Firms missing governance score measure	(13)	
Firms used in auditor materiality analysis	<u>315</u>	
# Modified audit opinions	247	78%
# Unmodified audit opinions	68	22%
	<u><u>315</u></u>	

Table 2 – Descriptive statistics

Variables	<i>Firms with consistency modifications</i> N = 247					<i>Firms without consistency modification</i> N = 68				
	Mean	Standard Deviation	Percentile 25 th	Median	Percentile 75 th	Mean	Standard Deviation	Percentile 25 th	Median	Percentile 75 th
NI_EFFECT	0.82	0.39	1.00	1.00 [^]	1.00	0.62	0.49	0.00	1.00 [^]	1.00
DEBT/EQUITY	0.47 **	0.50	0.18	0.34	0.60	0.88 **	2.38	0.31	0.47	0.78
NI/EQUITY	0.05	0.05	0.03	0.05	0.06	0.04	0.15	0.05	0.06	0.08
TREND	-0.10	2.50	-0.16	0.08	0.32	-0.68	5.17	-0.05	0.12	0.35
EQUITY	9.42	1.06	8.74	9.29	10.01	9.44	1.88	8.65	9.53	10.25
AUDIT FEE	15.32 *	0.89	14.73	15.32	15.85	15.61 *	1.23	14.91	15.67	16.57
NONAUDIT	13.50	2.05	12.75	13.85	14.56	13.60	2.32	12.70	14.02	14.80
TOTAL	15.55	0.92	15.01	15.53	16.09	15.81	1.27	15.08	15.85	16.82
G_SCORE	9.72	2.40	8.00	10.00	11.00	9.37	2.74	7.00	9.00	11.00
DISCLOSE	0.05	0.22	0.00	0.00 [^]	0.00	0.24	0.43	0.00	0.00 [^]	0.00

*, ** The mean is significantly different between groups at the 0.05, 0.01, respectively.

[^] The median is significantly different at the 0.01 level using Wilcoxon rank sum test.

Variables are defined as follows: NI_EFFECT is an indicator variable equal to one if the net income effect of the initial application of SFAS NO. 123R is greater than 4% of net income and zero if otherwise; DEBT/EQUITY is the ratio of total debit (#181) to market capitalization (#25) times (#199); NI/EQUITY is the ratio of net income (#172) to market capitalization (#25) times (#199); TREND is the percentage change in net income (#172) from the previous year; EQUITY is the natural log of the market capitalization (shares outstanding (#25) times closing stock price (#199)); AUDIT is the natural log of audit fees; NONAUDIT is the natural log of non-audit fees; TOTAL is the natural log of total fees; G_SCORE is the corporate governance index score from Gompers et al. (2003); and DISCLOSE is an indicator variable equal to one if the firm adopted or made disclosure of fair value reporting under SFAS No. 123.

Table 3 – Pearson/Spearman Correlation Coefficients

(N = 315)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1) OPINION	1.00	0.20 (0.00)	-0.14 (0.01)	0.06 (0.26)	0.07 (0.20)	0.01 (0.89)	-0.12 (0.03)	-0.02 (0.71)	-0.11 (0.06)	0.06 (0.30)	-0.27 (0.00)
2) NI EFFECT	0.20 (0.00)	1.00	-0.15 (0.01)	-0.08 (0.16)	-0.03 (0.55)	0.00 (0.97)	0.02 (0.76)	0.09 (0.09)	0.02 (0.70)	0.01 (0.85)	-0.15 (0.01)
3) DEBT/EQUITY	-0.19 (0.00)	-0.20 (0.00)	1.00	-0.65 (0.00)	0.18 (0.00)	-0.07 (0.24)	0.19 (0.00)	0.11 (0.06)	0.19 (0.00)	-0.05 (0.37)	0.19 (0.00)
4) NI/EQUITY	-0.15 (0.01)	-0.40 (0.00)	0.22 (0.00)	1.00	0.21 (0.00)	0.20 (0.00)	-0.01 (0.80)	0.00 (0.99)	-0.01 (0.80)	0.10 (0.09)	-0.07 (0.25)
5) TREND	-0.04 (0.45)	-0.12 (0.02)	-0.11 (0.05)	0.42 (0.00)	1.00	0.09 (0.11)	0.00 (0.97)	0.03 (0.58)	0.00 (0.98)	0.04 (0.53)	-0.14 (0.01)
6) EQUITY	-0.05 (0.42)	-0.06 (0.33)	-0.15 (0.00)	0.06 (0.31)	0.14 (0.01)	1.00	0.67 (0.00)	0.54 (0.00)	0.67 (0.00)	-0.18 (0.00)	0.20 (0.00)
7) AUDIT FEE	-0.15 (0.01)	-0.00 (0.95)	0.32 (0.00)	0.05 (0.35)	-0.00 (0.99)	0.55 (0.00)	1.00	0.69 (0.00)	0.99 (0.00)	-0.07 (0.22)	0.17 (0.00)
8) NONAUDIT	-0.04 (0.50)	0.02 (0.71)	0.23 (0.00)	0.03 (0.57)	0.01 (0.82)	0.40 (0.00)	0.70 (0.00)	1.00	0.76 (0.00)	0.02 (0.76)	0.10 (0.08)
9) TOTAL	-0.13 (0.02)	0.00 (0.99)	0.32 (0.00)	0.05 (0.38)	0.00 (0.90)	0.53 (0.00)	0.98 (0.00)	0.82 (0.00)	1.00	-0.07 (0.24)	0.16 (0.00)
10) G SCORE	0.05 (0.35)	0.00 (0.99)	0.15 (0.00)	0.11 (0.05)	0.04 (0.43)	-0.14 (0.01)	-0.03 (0.60)	0.01 (0.90)	-0.02 (0.70)	1.00	-0.08 (0.15)
11) DISCLOSE	-0.27 (0.00)	-0.15 (0.01)	0.12 (0.03)	0.08 (0.18)	-0.05 (0.40)	0.18 (0.00)	0.13 (0.02)	0.09 (0.10)	0.12 (0.03)	-0.09 (0.12)	1.00

Variables are defined as follows: OPINION is an indicator variable equal to one if the audit report is modified for consistency and zero if otherwise; NI_EFFECT is an indicator variable equal to one if the net income effect of the initial application of SFAS NO. 123R is greater than 4% of net income and zero if otherwise; DEBT/EQUITY is the ratio of total debt (#181) to market capitalization (#25) times (#199); NI/EQUITY is the ratio of net income (#172) to market capitalization (#25) times (#199); TREND is the percentage change in net income (#172) from the previous year; EQUITY is the natural log of the market capitalization (shares outstanding (#25) times closing stock price (#199)); AUDIT is the natural log of audit fees; NONAUDIT is the natural log of non-audit fees; TOTAL is the natural log of total fees; G_SCORE is the corporate governance index score from Gompers et al. (2003); and DISCLOSE is an indicator variable equal to one if the firm adopted or made disclosure of fair value reporting under SFAS No. 123.

Table 4 – Frequencies of Modified/Unmodified Opinions by Income Effects**Panel A**

	Effect on Income (Absolute Value)				
	10%+	4-10%	0-4%	Total	
Modified opinion	101	101	45	247	78%
Unmodified opinion	15	27	26	68	22%
Total	116	128	71	315	100%
% of column modified	87%	79%	63%	78%	

Chi-Square Statistic with Two *d.f.* = 14.63 $p < 0.001$

Panel B

	Effect on Income (Absolute Value)			
	10%+	4-10%	0-4%	Total
% modified from above	87%	79%	63%	78%
Results from Chewning et al. 1989 Table 4	98%	89%	64%	79%
Chi-Square Statistic	70.72	13.32	0.011	0.065
p-value	0.001	0.001	0.913	0.798

Table 5 – Logistic Regression Results

$$\text{Prob}_{i,t}(\text{OPINION}=1) = F(\alpha_{0i,t} + \alpha_1\text{NI_EFFECT}_{i,t} + \alpha_2\text{DEBT/EQUITY}_{i,t} + \alpha_3\text{NI/EQUITY}_{i,t} + \alpha_4\text{TREND}_{i,t} + \alpha_5\text{EQUITY}_{i,t} + \alpha_6\text{FEE}_{i,t} + \alpha_7\text{G_SCORE}_{i,t} + \alpha_8\text{DISCLOSE}_{i,t}) \quad (2)$$

Variable ^b (N=315)	Predicted Sign	Coefficient <i>p-value</i> ^a	Coefficient <i>p-value</i> ^a	Coefficient <i>p-value</i> ^a
Intercept		5.07 0.04	0.06 <i>0.97</i>	4.37 0.08
NI_EFFECT	+	0.93 0.00	0.87 0.01	0.92 0.01
DEBT/EQUITY	-	-0.05 <i>0.82</i>	-0.27 <i>0.33</i>	-0.07 <i>0.76</i>
NI/EQUITY	+	-0.12 <i>0.96</i>	0.12 <i>0.96</i>	-0.12 <i>0.96</i>
TREND	+	0.01 <i>0.72</i>	0.02 <i>0.63</i>	0.02 <i>0.70</i>
EQUITY	+	0.36 0.03	0.11 <i>0.45</i>	0.33 0.05
AUDIT FEE	H1: -	-0.53 0.02		
NONAUDIT	H2: ?		-0.05 <i>0.59</i>	
TOTAL	H3: -			-0.46 0.05
G_SCORE	+	0.06 <i>0.32</i>	0.05 <i>0.37</i>	0.06 <i>0.33</i>
DISCLOSE	-	-1.66 0.00	-1.62 0.00	-1.66 0.00
Pseudo R ²		0.1655	0.1411	0.1482

^a Chi-square p-values of the estimated parameters are reported in italics.

^b Variables are defined as follows: OPINION is an indicator variable equal to one if the audit report is modified for consistency and zero if otherwise; NI_EFFECT is an indicator variable equal to one if the net income effect of the initial application of SFAS NO. 123R is greater than 4% of net income and zero if otherwise; DEBT/EQUITY is the ratio of total debit (#181) to market capitalization (#25) times (#199); NI/EQUITY is the ratio of net income (#172) to market capitalization (#25) times (#199); TREND is the percentage change in net income (#172) from the previous year; EQUITY is the natural log of the market capitalization [shares outstanding (#25) times closing stock price (#199)]; AUDIT is the natural log of audit fees; NONAUDIT is the natural log of non-audit fees; TOTAL is the natural log of total fees; G_SCORE is the corporate governance index score from Gompers et al. (2003); and DISCLOSE is an indicator variable equal to one if the firm adopted or made disclosure of fair value reporting under SFAS No. 123.